Department of Pharmaceutics Graduate Review Schedule
March 18-20th 2008
Jeff’s Cell Phone # 352 219-6603

March 18th (Travel and check in the hotel)

Dr. Juliano will be driving up from Tampa and should be here about 5pm
Dr. Khan is flying in on Delta Flight 4627 and should be here about 2pm
Dr. Zimmerman is flying in on Delta Flight 4338 and should be here about 4:25pm

Jeff Hughes will transport Dr. Khan and Zimmerman from the Airport to the Hotel

Dinner 7 pm  meet in the Hotel Lobby

March 19th

8:00 AM  Jeff Hughes will transport review panel from hotel to the College of Pharmacy

8:30  Meet with Dr. Millard and Palmieri  (Dean’s Conference Room)

9:45  Meeting with Graduate Faculty (p4-20)

11:00  Tour of Pharmaceutics Facilities

11:30  Tour of Pharmacy Practice Facilities

12:00-1:30  Lunch with Graduate Students and Post-Doctoral Fellows (p4-20)

1:30-2:00  Break

2:00-4:00  Graduate Student Presentations  (p4-20)

4:00-5:00  Dr. Johnson and Dr. Derendorf  (p3-04)

Transport to Hotel

7 pm  Meet in hotel lobby for dinner
March 20th

8:30  Panel Report  Preparation Time

10:00  Transport to UF (Jeff Hughes)  Meet in Hotel Lobby

10:30  Dean Henry Frierson, Room 164  Graduate School 392-6622

11:30  Dean Millard and Dr. Palmieri (Dean’s Conference Room)

12:00  Lunch or Departure

Departure Times
Dr. Zimmerman flight 2:25
Dr. Kahn  Delta 4338 4:55 pm
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   Graduate Review

B) Pharmaceutics Self Study Report

Appendixes

1) Faculty CV’s
2) Adjunct Faculty Listing
3) Departmental Graduate Courses
4) Description of the Pharmaceutics Graduate Program
5) Description of the Clinical Pharmaceutical Sciences Ph.D Program
6) Survey Results of Currently Enrolled Graduate Students
7) Survey results of Alumni of Pharmaceutics Graduate Program

Other Items
Link to 2008 Research Showcase
This is a online video showcasing a few of our students to give you an introduction to
some of the exciting research in the graduate program.

http://pharm.digiscript.net/B33/550054/player.HTM#
History of Program Reviews of University of Florida, College of Pharmacy Graduate Programs:

Although graduate education was first established in the College in the mid 1920’s (see below: Graduate Programs in the College of Pharmacy), it was not until 1989 that the first comprehensive, self-study with external review of graduate programs within the College was initiated. The initial review was completed in 1990 whereby overall assessment of graduate faculty, students and physical resources in the College, Health Science Center and University of Florida were reviewed. The external review committee met with each program in April of 1990 and prepared a single summary report that was sent to the Dean of the College. Briefly, this report noted that overall the graduate programs in the college were of good quality. However, the college needed to pay particular attention to five areas: (1) interdepartmental interactions and multidisciplinary activities; (2) acquisition of additional research space; (3) improvement of College/graduate School interactions; (4) support of graduate students; and (5) recruitment of faculty into areas of research strength and emerging areas of research with in the Pharmaceutical Sciences.

The Dean appointed a Faculty Task Force to study the issues raised by the 1990 external report. The Faculty Task Force prepared a brief report that was presented at the College’s 1990 summer faculty retreat.

In 1993 the College conducted a second “internal” self study process of the graduate programs. The overall charge of this review was four-fold (1) review each of their departmental mission statements; (2) review respective graduate programs since the 1990 review; (3) appraise departmental graduate program strengths and weaknesses; and (4) describe their respective vision of their graduate programs for the year 2000 and outline a plan to achieve that vision. A summary of the internal review was prepared and submitted to the College faculty in October 1993.

Graduate programs within the College have not undergone any organized self-study with either external or internal review since 1993.

Process, Guidelines and Timelines for the Current Review of Graduate Programs in the College:

In 2006, the Florida Board of Governors mandated that the University of Florida and all 10 other SUS Universities in Florida conduct program reviews every seven years to provide continuous quality improvement of programs and to meet accreditation cycles of the respective institution. Both undergraduate (baccalaureate) and professional degree programs were targeted by this initial 2006 mandate. However, in 2007, SUS Universities were notified that the seven-year review of programs was extended to graduate programs as well, thus requiring UF colleges to conduct the current review. The UF-College of Pharmacy was sent Guidelines to incorporate as they see fit into their individual program reviews.

The Dean of the College of Pharmacy, Dr. William H. Riffee, required that each graduate program review should be independent of each other and conducted by external committees consisting of a minimum of three external reviewers. The respective departments were charged with selecting and inviting faculty from peer institutions to serve in this capacity. Dr. Anthony Palmieri, Assistant Professor in Pharmaceutics was asked to serve as the coordinator of the Graduate program reviews. In this capacity, Dr Palmieri established the program review timeline and was involved in preparing program surveys for:

- current graduate faculty/departmental
- current graduate students
- graduate alumni (dating back as far as 10-12 years)

The goal was to make each survey as comprehensive as possible, but to minimize the number of questions and restrict answer format to maximize brevity for the person asked to complete the respective survey. In following, each of the surveys generated were web-based and synthesized from survey templates from multiple sources, including the American Association of Colleges of Pharmacy; peer institutions and health center colleges within the University of Florida. Departments and members of the College’s Graduate Studies Committee reviewed the surveys multiple times through out survey development to prepare the final formats.
All surveys were submitted to the respective groups in early October, 2007 with a target completion date of November 15, 2007 to allow time for the respective departments to prepare their self study reports.

In addition to the surveys, each department was given a 10-11 year history file prepared by the College’s Office for Research and Graduate Studies (ORGS) containing respective graduate student information, including entering credentials, stipend levels, and graduation statistics. Department’s were also recommended to gather pertinent and any additional student information from ORGS annual report website to complete their self-study document.

Information from the above two sources (surveys and student informational data) as well as a narrative of the history of graduate program reviews in the college including peer institutional date were used to complete the final self study report from each department.

The finalized departmental self-study report was sent to the outside review teams in mid January with March/early April dates established by the respective departments for the respective site visit teams to visit UF to conduct their two-day review.

Review teams were asked to submit their final 3-5 page reports to the College by mid-May so that college can prepare and submit the final report for all graduate programs to University Administration and the State of Florida Board of Governors by July 1, 2008.

Overview of Administrative Structure of the University of Florida with Respect to Graduate Education:

An abbreviated University of Florida Administrative Organizational Chart is outlined below (Figure 1).

**Figure 1: Administrative Flow Chart for the University of Florida**

![Administrative Flow Chart for the University of Florida](image)

A detailed description of the organizational structure for the University can be found at: Statement of Organization and Operation. Briefly, the UF Board of Trustees (BOT) sets policy for the University and serves as the Institution’s legal owner and final authority. The President is appointed by the BOT and the institution’s chief executive officer and is responsible for the general administration of all university activities. Reporting to the President are four Senior Vice-Presidents: (1) the Provost and Senior Vice President for Academic Affairs; (2) Senior Vice President for Agriculture and Natural Resources; (3) Senior Vice president for Health Affairs and (4) Senior Vice President for Administration.

As the College of Pharmacy is one of the six professional degree colleges within the Heath Science Center at UF, its Dean, Dr. William H. Riffée reports directly to the Senior Vice President for Health Affairs for all matters relating to the academic mission of the professional degree programs in the College.

Graduate education at the University of Florida is administered through the Graduate School. The organizational chart of the Graduate School is found on the following page (please see, Figure 2). Because research is a primary foundation upon which graduate education is built, the Graduate School is, in fact, a major component of the Office of Research at the University of Florida.
Dr. Henry Frierson, Associate Vice-President and Dean of the Graduate School is responsible for administration of all graduate degree programs and reports directly to the Provost and Senior Vice President for Academic Affairs.

The Mission, Vision and Organization of the University of Florida Graduate School are outlined below:

**Graduate School Mission:**

Graduate education is an integral component of a major research university that impacts education at all levels. The mission of graduate education at UF is to produce individuals with advanced knowledge in their fields, who appreciate learning and are constant learners, and who are prepared to address creatively issues of significance to the local and global community for improving the quality of life. Essential to this mission is an environment that fosters

- Effectively transmitting knowledge for future generations.
- Inquiry and critical analysis.
- Assimilation and creation of new knowledge.
- Skills contributing to success and leadership in academic and creative arenas and in the world of practice.
- Applying that knowledge in service to Florida, the nation, and the international community.

**Graduate School Vision**

The vision is a university internationally recognized for its graduates, Graduate Faculty, and scholarly achievements. This university produces intellectually energized individuals who excel at future careers in diverse settings, and who provide bold leadership in new directions. Important signs of this recognition include:
Graduates recognized for strength of preparation in their chosen discipline, for abilities to solve problems in new environments, and for high standards of excellence in scholarly activity and professional practice.

- Significant scholarly, creative achievements and service that contribute to improvement of human society and the natural environment.
- A highly qualified, diverse student population.
- Strong disciplinary and interdisciplinary programs that prepare graduates to assume their roles in a changing world.
- Evidence of service in their disciplines by students and faculty at state, national, and international levels.

Graduate School Organization:

The Graduate School consists of the Dean, Associate Deans, Graduate Council, Council of Graduate Deans, and the Graduate Faculty (see above Figure 2). General policies and standards of the Graduate School are established by the Graduate Faculty. Any policy change must be approved by the graduate dean(s) and the Graduate Council. The Graduate School is responsible for enforcing minimum general standards of graduate work in the University and for coordinating the graduate programs of the various colleges and divisions of the University. Responsibility for detailed operation of graduate programs is vested in individual colleges, schools, divisions, and academic units. In most colleges an associate dean or other administrator is directly responsible for graduate study in that college. The Graduate Council helps the Dean in being the agent of the Graduate Faculty for executing policy related to graduate study and associated research. The Graduate Council (chaired by the graduate dean) considers petitions and policy changes. The Council of Graduate Deans has also been established by the Dean as an advisory group and forum by which respective graduate deans can discuss graduate education policies in an open, university-wide setting.

A graduate program’s academic unit appoints members of the Graduate Faculty, with approval of the graduate dean. All faculty members who serve on supervisory committees or who direct master’s theses and doctoral dissertations must first be appointed to the Graduate Faculty. The academic unit determines the level of duties for each Graduate Faculty member.

Graduate Programs in the College of Pharmacy

The College of Pharmacy (COP) was established in 1923 as a school to train future practitioners in the profession of Pharmacy for the State of Florida. In 1925, the College initiated the graduate program for the Master of Science in Pharmacy (MSP). Subsequently, in 1930, the COP admitted the University of Florida’s first doctoral (PhD) degree student into their Doctor of Philosophy with a Major in Pharmacy program. The Doctor of Philosophy with a Major in Pharmacy degree program was subsequently changed to a doctoral program in Pharmaceutical Sciences in 1932. Both the PhD in Pharmaceutical Sciences and Master of Science in Pharmacy programs and degrees remain in effect to this day. Noteworthy is that in 1934, the first PhD degree awarded by the University of Florida was in Pharmaceutical Sciences and was awarded to Dr. I.J. Klotz.

Graduate Education remains a core function of the University of Florida, College of Pharmacy as outlined in the college’s Mission Statement:

Mission Statement of the College of Pharmacy

- The University of Florida, College of Pharmacy promotes the health and welfare of the citizens of Florida and the Nation by preparing graduates in Pharmacy to take independent professional responsibility for the outcome of drug therapy in patients. Graduates have the scientific and cultural background necessary to assume leadership roles in the profession and the community.
- The College promotes and fosters graduate education in the Pharmaceutical, Clinical, Administrative and Psychosocial sciences. The College educates students to be distinguished contributors to Pharmacy and related disciplines.
- The College provides faculty members the opportunity to develop fully as teachers and scholars.
The College supports development of quality research programs, which serve to advance the knowledge and skills of pharmacists, other health care professionals and the associated scientific community.

- The College provides leadership for the continuing professional growth and development of Pharmacy in Florida, nationally, and internationally.
- The College cooperates in a service capacity with other institutions in the provision of specialty advanced training, as well as with the state and the profession in areas where the College Faculty possess unique expertise.
- The College provides opportunities for practicing pharmacists to maintain and enhance their competencies for professional practice.

Under the umbrella of the PhD in Pharmaceutical Sciences there are currently four graduate concentrations that are recognized in the College of Pharmacy by the Graduate School. These graduate concentrations are: Medicinal Chemistry (recognized in 1978), Pharmacodynamics (recognized in 1989), Pharmacy Health Care Administration (recognized in 1996), and Pharmaceutics (recognized in 1998).

Because of the growing need to have clinically-trained individuals who also have sufficient research training to conduct bench–to-bedside (translational) research, the Departments of Pharmaceutics and Pharmacy Practice developed a collaborative Clinical PhD track within the Pharmaceutics graduate program in the fall of 2004. This Clinical Pharmaceutical Sciences Program is geared to prepare motivated individuals to pursue independent clinical research careers in academia, industry or government.

Tied to each of the PhD programs in the College is an associated Master of Science in Pharmacy (MSP) Program. The MSP program in the departments of Medicinal Chemistry, Pharmaceutics, and Pharmacodynamics requires each student to prepare and defend a thesis as part of their degree. The Pharmacy Health Care Administration Department has the option of a thesis or non-thesis M.S. degree. In general, students are discouraged from entering directly into an MSP program; instead, students are strongly encouraged to enter into one of the PhD programs. However, students may opt for the MSP degree in their discipline if they find that the PhD degree is not what they desire (see below: Graduate Degrees Awarded in the College).

During FY 1991/1992 all Graduate Studies/Programs were decentralized in the College from the Office of Research and Graduate Studies (ORGS) and into each of the individual departments. With this decentralization the review or setting of graduate policies and graduate student recruitment is now in the hands of the individual departments. To assist the ORGS in the management of graduate activities in the College, the Graduate Studies Committee (GSC) was established.

Office of Research and Graduate Studies in the College.

The Office of Research and Graduate Studies (ORGS) was established in the College of Pharmacy (COP) in 1989 as the major unit within the College responsible for the oversight of all aspects of the graduate programs as well as research activities. Within the purview of these two major activities are a number of functions that are coordinated by ORGS personnel and make up the daily operations of the office.

The structure of the ORGS is outlined in Figure 3 (please next page). Dr. William Millard, Professor in the Department of Pharmacodynamics, accepted the role as Associate Dean for Research and Graduate Studies on an acting basis in January 1995, and then on a permanent basis in August 1997. On January 1, 1999, Dr. Millard accepted the permanent position as Executive Associate Dean for the College of Pharmacy and as part of this position maintains oversight of the ORGS and reports all ORGS activities directly to the Dean of the College.

The Executive Associate Dean is responsible for monitoring all graduate student applications, quality of graduate students and the progression of students through the graduate programs in the College. The Executive Associate Dean’s role also includes monitoring of the quality of graduate programs and seeking ways to expand or improve graduate education within the COP. The Executive Associate Dean also acts as the major liaison between the Office of Research (see below) at the University of Florida and the COP faculty and graduate students. To facilitate this activity the Executive Associate Dean sits on the Council of graduate Deans that is integral in facilitating policy within the Graduate School at the University of Florida (see above: Organization of Graduate Education at the University of Florida).
Information concerning graduate programs and education within the COP is communicated from the Executive Associate Dean to faculty or graduate students through the Departmental Chairs and Graduate Coordinators. The Graduate Studies Committee and COP Graduate Student Organization assist the Executive Associate Dean in the responsibility of governing graduate education in the COP (see below: Graduate Studies Committee and College of Pharmacy Graduate Student Organization).

The Executive Associate Dean is assisted in the ORGS by a Program Assistant. Since June 2001 the ORGS Program Assistant has been Ms. Deborah Stowell. The Program Assistant’s role is to handle the daily operations of the ORGS. This includes the submission of needed reports to the COP, University and outside agencies. Communication of informational items to the faculty and graduate students related to issues of graduate education is also a responsibility of the Program Assistant as well as dealing individually with graduate students and assisting them with various problems and graduate course registration.

Graduate Studies Committee (GSC)

The primary goal for the GSC is to be a medium through which graduate and research programmatic goals are reviewed on a continual basis and aligned with the goals of the College and the University (i.e., continuous quality improvement, CQI). The primary charge of the GSC is to review and make recommendations on graduate programs in the College of Pharmacy. This would include both new and existing graduate programs. The GSC is involved in considering how the College can attract/fund more graduate students with an emphasis on bringing in more U.S. students and professional (pharmacy) students. This committee is also involved in reviewing any future major mandate(s) from the Graduate School that may impact the functioning of the overall graduate program within the College (i.e., stipends; tuition waivers). The committee continues to select finalists in the College’s Spring Research Competition and also makes recommendations on how to improve this College function.

The makeup of the GSC includes graduate coordinator representatives from each of the departments and the President of the COP Graduate Student Organization. Beginning April 2007, Dr. Anthony Palmieri, Clinical Assistant Professor in the Department of Pharmaceutics, was asked to join the GSC to head-up the College's graduate program review. The Executive Associate Dean serves as the non-voting chair, and the Dean as ex-officio member of the committee. The Program Assistant sits in on all committee meetings as the recording secretary. Representatives on the Graduate Studies Committee are:
Non-voting Chair: Dr. William Millard  
Office of Research and Graduate Studies  

Non-voting Secretary: Ms. Deborah Stowell  
Office of Research and Graduate Studies  

Voting Members:  
Dr. Raymond Bergeron  Medicinal Chemistry  
Dr. Joanna Peris  Pharmacodynamics  
Dr. Carole Kimberlin  Pharmacy Health Care Administration  
Dr. Jeffrey Hughes  Pharmaceutics  
Dr. Tony Palmieri  Pharmaceutics  
Dr. Reginald Frye  Pharmacy Practice  
Ms. Matthias Fueth  President of COP Graduate Student Organization  

Ex-officio Member: Dr. William Riffee  Dean  

The GSC meets monthly throughout the academic year. Some of the issues that are routinely deliberated include:

- Selection of the new Alumni Scholarship Awardees.  
- Review of the use of Liberty Award monies for graduate students in each of the 4 Ph.D. granting departments.  
- Use of State Line OPS monies for graduate student stipends.  
- Establishment of TA assignments for each of the semesters.  
- Establishment of goals and objectives for each graduate program within the College.  
- Selection of finalists for the College’s Annual Research Showcase and Awards Recognition Day.  
- Preparation for external review of each of the four graduate specialties in the College.

College of Pharmacy Graduate Student Organization.

The COP Graduate Student Organization (GSO) is an avenue by which graduate students can discuss common issues related to graduate education and bring their concerns to the attention of the Executive Associate Dean for Research and Graduate Studies. The COP GSO elects a president on an annual basis. The president of the organization coordinates and runs the meetings (1-2 per year) and also sits in on the Graduate Studies Committee as a voice for the graduate students. Mr. Matthias Fueth, from the department of Pharmaceutics, currently serves as president of the organization.

At the beginning of each Fall and Spring term, the ORGS sponsors a luncheon for COP graduate students to promote a forum for exchange of information between each other and the ORGS.

College’s Strategic Plan and Graduate Education

In response to the recommendations of the Accreditation Council for Pharmacy Education (ACPE) based on the College’s self-study of its Professional Degree Programs in January 2007, the College has begun to update its Strategic Plan. In following, the faculty and staff of the College met in St. Augustine, FL on May 17-18, 2007 to begin the process. The Research and Graduate studies focus group identified two goals for the short- and long-term improvement of the College’s graduate program.

1. Increase critical mass of graduate students in graduate programs and  
2. Increase graduate student stipend levels.

Although we are still at a preliminary stage in the overall process, we have identified steps and specific targets for each of the two goals. For Goal #1, the primary target is to reach a level of 3-6 students per tenure track research-intensive faculty; or a total of 110 graduate students in the college graduate programs. The College’s faculty and administration realize that we will have to take active steps to increase the number and funding levels of the endowed graduate student and post-doc lines. The
second goal is related to the first in that to increase the critical mass, we will need to increase graduate student stipends to become competitive with peer colleges and universities (see below Peer Institutional Comparisons). The College will need to increase our efforts in philanthropic giving, extramural support dollars, and developing legislative budget requests for specific activities that would support graduate students during their education.

Graduate Degrees Awarded in the College

The total number of graduate degrees (Masters of Science in Pharmacy (MSP) and PhD) awarded by decade in the College can be found in Table 1. It is evident that over time the PhD degree has been the primary degree awarded in the college with 67.7% of all graduate degrees awarded a doctorate in Pharmaceutical Sciences. Doctoral training has become very active in the college since 1990 with over half (162 of 314; 51.6%) of all PhD degrees awarded in the college during this period. Over this same time-period, the number of MS degrees (29 of 150; 19.3%) has diminished, owing to the fact that each of College’s graduate programs recruits students only into their respective PhD programs. In general, MSP degrees are awarded to those students who opt out of the PhD track while in a given graduate program.

<table>
<thead>
<tr>
<th>Decade</th>
<th>MSP</th>
<th>PhD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920-1929</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1930-1939</td>
<td>12</td>
<td>5</td>
<td>17</td>
</tr>
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<td>1940-1949</td>
<td>11</td>
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<td>15</td>
</tr>
<tr>
<td>1950-1959</td>
<td>22</td>
<td>43</td>
<td>65</td>
</tr>
<tr>
<td>1960-1969</td>
<td>14</td>
<td>21</td>
<td>35</td>
</tr>
<tr>
<td>1970-1979</td>
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</tr>
<tr>
<td>1980-1989</td>
<td>26</td>
<td>57</td>
<td>83</td>
</tr>
<tr>
<td>1990-1999</td>
<td>15</td>
<td>74</td>
<td>89</td>
</tr>
<tr>
<td>2000-2007</td>
<td>14</td>
<td>88</td>
<td>102</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>150</td>
<td>314</td>
<td>464</td>
</tr>
</tbody>
</table>

*Academic year = begins July 1 and ends June 30 of following year

Table 2 illustrates further the numbers of MSP and PhD students awarded by year in the College since Academic Year (AY) 1996-1997. Again, the PhD degree is the preferred degree awarded in the College during this time period with 87% of the degrees conferred being doctoral degrees.

<table>
<thead>
<tr>
<th>Academic Year*</th>
<th>MS</th>
<th>PhD</th>
<th>Total</th>
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<td>1996-1997</td>
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<td>12</td>
</tr>
<tr>
<td>1998-1999</td>
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</tr>
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<td>14</td>
</tr>
<tr>
<td>2006-2007</td>
<td>1</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
<td>121</td>
<td>139</td>
</tr>
</tbody>
</table>
**Graduate Survey**

To assess the quality of the graduate programs in each department, two surveys were constructed; one for graduates where there was a valid e-mail address and one for currently enrolled graduate students. College wide, there were 59 responses total for alumni. Thirty percent are currently in a faculty position. Forty-five percent of the alumni entered a post-doc experience upon graduation. Of those responding the positives of their UFCOP experience they mentioned included mentoring, publishing, advising and the research environment. The major lack in their education, as they view it, is that lack of opportunity to learn about grant writing and how to be successful in writing grant applications. They believed that obtaining a graduate degree made a significant difference in their career. Almost ninety percent of the respondents were satisfied with their education and that enrolling at UFCOP was a good decision.

Sixty-three currently enrolled graduate students responded to the survey. The average time in the program was two years. Half of the students are most interested in an industrial position. Ninety percent chose UFCOP because of the academic reputation of the programs. Almost seventy percent thought that the level and breadth of the academic offerings were high as well as the level of instruction. The only area of disappointment appears to be the level of the stipend. This is not surprising given the comparator school data.

**Peer Institutional Comparisons**

To discern where the University of Florida, College of Pharmacy is positioned with regard to other comparable institutions, graduate program data from 14 other schools having comprehensive doctoral (PhD) programs. The schools and programs identified were geographically diverse, and usually do compete for similar students to those that attend UF. The summative data presented in Table 3 represent for academic years 2002-2003 through 2005-2006 (4-year comparisons) for all indices except for # of graduate students and average graduate student stipends. The number of graduate students and student stipends are identified for academic years 2004-2005 and 2005-2006 only. Also please note that not all data was provided by all schools as indicated by the yellow-shaded cells.

The University of Florida, College of Pharmacy compared very favorably in nearly all academic categories noted in the Table (student qualifications, number of students, student-faculty ratios, time-to-degree (TTD), and placement of graduates). The one area of concern is that of the average graduate stipend. The UF-COP average stipend is second to the lowest of all comparator schools. While it is admirable that UF COP compared favorably with the other schools, it is critical that the University do all that is possible to increase the average stipend amount. If this stipend does not compare favorably with other schools, we may find that we are loosing students to other comparable institutions.
<table>
<thead>
<tr>
<th>Grad Student/Grad faculty</th>
<th>UF</th>
<th>Arizona</th>
<th>Colorado</th>
<th>Georgia</th>
<th>UIC</th>
<th>Iowa</th>
<th>Kentucky</th>
<th>Maryland</th>
<th>UNC</th>
<th>OSU</th>
<th>Purdue</th>
<th>Tenn</th>
<th>Texas</th>
<th>VCU</th>
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<td>2.1</td>
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<tr>
<td>2005-2006</td>
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</tr>
<tr>
<td>FTE Fac Res/Teach</td>
<td>2003-2004</td>
<td>62.1</td>
<td>52.7</td>
<td>52.5</td>
<td>52.1</td>
<td>52.1</td>
<td>52.1</td>
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<td>2004-2005</td>
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<td>TTD (PhD only)</td>
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<td># students</td>
<td>2004-2005</td>
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<td>average stipend</td>
<td>2004-2005</td>
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</table>
Self-Study of the Pharmaceutics Graduate (Ph.D.) Program,
Spring 2008

The objectives of the Ph.D. program in the Department of Pharmaceutics are:

1. To provide a foundation in the pharmaceutical sciences in general, as well as in the specific tracks identified, with emphasis on pharmacokinetics, biopharmaceutics, pharmaceutical analysis, pharmaceutical technology/drug delivery, pharmacodynamics, pharmaceutical biotechnology, pharmacogenomics, translational research, and drug design and discovery.

2. To educate individuals capable of conducting independent research and with in-depth specialized knowledge in one of the above areas and to provide a solid educational, technical, and experiential foundation for students in the industrial, academic, governmental, or other arenas.

3. To provide an environment that nurtures and stimulates the research interests and the intellectual advancement of students and faculty, including a forum for scientific and professional discussion.

Department of Pharmaceutics
The Department of Pharmaceutics is located in the University of Florida, J. Hillis Miller Health Center, 1600 SW Archer Rd., a complex that includes the Colleges of Pharmacy, Medicine, Nursing, Health Related Professions, Dentistry, and Veterinary Medicine, Shands Hospital, and is in close proximity to the Veterans Administration Medical Center. The variety of disciplines in the health science complex guarantees a stimulating scientific environment.

The Department of Pharmaceutics at the University of Florida has an extensive, externally supported research program. Research in the Pharmaceutics Department encompasses basic, applied, and clinical investigations in (i) pharmacokinetics/pharmacodynamics, (ii) pharmaceutical analysis, (iii) gene and drug delivery, and (iv) herbal medicine. The Department has the responsibility for teaching Pharmaceutics to first through fourth year pharmacy students. The Department has a Ph.D. degree-granting graduate program in Pharmaceutics. Its Faculty members participate in several interdisciplinary Ph.D. programs. Faculty of the Department train and teach Residents and Fellows and offer required and elective courses for pharmacy and Ph.D. graduate students. In addition to teaching, all faculty members are involved in collaborative research projects with clinical and other basic scientists within the Health Center or on campus. Many maintain collaborative ties with scientists in other universities and the pharmaceutical industry worldwide.
The Department of Pharmaceutics graduate faculty are listed below (CV’s are provided in Appendix 1) and the adjunct faculty are in Appendix 2

**Faculty and Staff**

**Pharmaceutics Graduate Faculty**

<table>
<thead>
<tr>
<th>Faculty Level</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Research Professor</td>
<td>Nicholas Bodor, Ph.D.</td>
</tr>
<tr>
<td>Full Professor</td>
<td>Hartmut Derendorf, Ph.D.</td>
</tr>
<tr>
<td></td>
<td>Julie Johnson, PharmD, FCCP, BCPS</td>
</tr>
<tr>
<td></td>
<td>Leslie Hendeles, PharmD</td>
</tr>
<tr>
<td></td>
<td>Guenther Hochhaus, Ph.D.</td>
</tr>
<tr>
<td></td>
<td>Mike Scwartz, Ph.D.</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>Sihong Song, Ph.D.</td>
</tr>
<tr>
<td></td>
<td>Reggie Frye, PharmD, Ph.D.</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>Veronia Butterweck, Ph.D.</td>
</tr>
<tr>
<td></td>
<td>Amber Beitselshees, Pharm.D.</td>
</tr>
<tr>
<td></td>
<td>Issam Zineh, PharmD</td>
</tr>
<tr>
<td>Research Assistant Professor</td>
<td>Rhonda Cooper-DeHoff, PharmD, MS</td>
</tr>
<tr>
<td></td>
<td>Taimour Langae, MSPH, Ph.D.</td>
</tr>
<tr>
<td>Clinical Associate Professor</td>
<td>Cary Mobley, Ph.D.</td>
</tr>
<tr>
<td></td>
<td>Tony Palmieri, Ph.D.</td>
</tr>
</tbody>
</table>

Dr. Derendorf serves as Department Chair of Pharmaceutics and Dr. Johnson is Department Chair of Pharmacy Practice. Dr. Hughes and Dr. Frye serve as Graduate Coordinators for Pharmaceutics and Pharmacy Practice, respectively.

**Faculty research and scholarly activities**

The faculty members are actively engaged in research and supervision of graduate students. External research funds are obtained from the pharmaceutical industry, research foundations and the federal government funded by external funding agencies including NIH, the American Diabetes Foundation, American Heart Association, Florida Department of Health and the Pharmaceutical Industry, Table 1.

**Table 1. Departmental Research Dollars**

<table>
<thead>
<tr>
<th>Year</th>
<th>Pharmaceutics</th>
<th>Pharmacy Practice</th>
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<tr>
<td>2006-2007</td>
<td>$1,426,989</td>
<td>$2,752,560</td>
</tr>
<tr>
<td>2006-2005</td>
<td>$1,532,052</td>
<td>$3,241,370</td>
</tr>
<tr>
<td>2005-2004</td>
<td>$1,099,022</td>
<td>$1,348,430</td>
</tr>
</tbody>
</table>
Departmental faculty actively participate in multiple professional activities including serving on review panels for national and international grant review panels. One faculty member is a full member of NIH study sections and other faculty members have served as ad-hoc members of study sections in the past five years. Several faculty members are currently or have recently been members of the editorial boards of journals in the biomedical or pharmaceutical sciences (Derendorf, Palmieri, Hochhaus, Butterweck, and Hughes). All faculty members publish their research and are well cited.

All of the departmental faculty members teach in the professional pharmacy curriculum and all faculty members participate in didactic graduate courses. (The courses are listed in Appendix 3

**Facilities**

The departments occupy laboratories in the P-wing in the Health Science Center. The department has state of the art bioanalytical instruments including a LC-MS-MS, pharmacogenomics instruments, along with facilities for conducting synthetic chemistry, molecular biology and animal studies. Each research faculty also has specialized instruments for his or her own research.

**Ph.D. program description.**

The admission policies and general description of the graduate program is given in Appendix 4. The Ph.D. in the Clinical Pharmaceutical Sciences is provided in Appendix 5.

**Sources of stipend funding**

All students in the Pharmaceutics pre-doctoral program are awarded a stipend and tuition waiver. The College of Pharmacy currently (2007-8) provides the department with funds for 16 teaching assistantships. The base stipend is $14,500. Well qualified students are eligible to compete for an additional $3,000 per year for the first three years through the Grinter scholarship program. Extremely well qualified students can compete for an Alumni scholarship, which in 2007 carried a stipend of $22,500 + tuition. In addition we have six industrial supported graduate lines from Pfizer and Merck. In the past five years some students have been supported (tuition and stipend) through a training core funded by NIH Training grant. Graduate students in the Clinical Sciences program have the option of working part time at UF/Shands hospital for higher stipends.
Graduate Student Recruitment Activity.
Table 2 provides a snapshot of recent recruitment activity of the department. The average GRE score of accepted students was 1220 for the past 5 years.

<table>
<thead>
<tr>
<th>Department</th>
<th># of Requests</th>
<th>Applications</th>
<th>Accepted</th>
<th>Accepted</th>
<th>Entered</th>
<th>Entered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmaceutics 07/08</td>
<td>N/A</td>
<td>83</td>
<td>8</td>
<td>9.6%</td>
<td>8</td>
<td>100.0%</td>
</tr>
<tr>
<td>Pharmaceutics 06/07</td>
<td>N/A</td>
<td>100</td>
<td>5</td>
<td>5.0%</td>
<td>3</td>
<td>60.0%</td>
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<tr>
<td>Pharmaceutics 05/06</td>
<td>186</td>
<td>111</td>
<td>21</td>
<td>18.9%</td>
<td>16</td>
<td>76.2%</td>
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<tr>
<td>Pharmaceutics 04/05</td>
<td>169</td>
<td>98</td>
<td>9</td>
<td>9.2%</td>
<td>6</td>
<td>66.7%</td>
</tr>
<tr>
<td>Pharmaceutics 03/04</td>
<td>315</td>
<td>134</td>
<td>5</td>
<td>3.7%</td>
<td>3</td>
<td>60.0%</td>
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<tr>
<td>Pharmaceutics 02/03</td>
<td>431</td>
<td>96</td>
<td>9</td>
<td>9.0%</td>
<td>6</td>
<td>67.0%</td>
</tr>
</tbody>
</table>

Careers of graduates
The department does not offer formal career guidance, but leaves it up to each faculty member to advise his or her students of the opportunities available. The department does not formally track the careers of our graduates, but faculty mentors encourage them to keep in touch. Table 3 provides information concerning some of our recent graduates and their first position.
Table 3

<table>
<thead>
<tr>
<th>LAST</th>
<th>FIRST</th>
<th>Date Left</th>
<th>WORKNAME</th>
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</thead>
<tbody>
<tr>
<td>Arya</td>
<td>Vikram</td>
<td>9/1/2003</td>
<td>FDA</td>
</tr>
<tr>
<td>Coowanitwong</td>
<td>Intira</td>
<td>12/30/2003</td>
<td>Chrysalis Technologies Incorporated</td>
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<tr>
<td>Driessen</td>
<td>Wouter</td>
<td>5/1/2007</td>
<td>M.D. Anderson Cancer Center</td>
</tr>
<tr>
<td>Gong</td>
<td>Yan</td>
<td>5/1/2004</td>
<td>Pharmacogenomics, UF,</td>
</tr>
<tr>
<td>Grundmann</td>
<td>Oliver</td>
<td>12/14/2007</td>
<td>University of Arizona</td>
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<tr>
<td>Hirko</td>
<td>Aaron</td>
<td>8/1/2006</td>
<td>University of Pittsburg</td>
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<tr>
<td>Iyengar</td>
<td>Adarsh</td>
<td>8/4/2004</td>
<td>Dismissed</td>
</tr>
<tr>
<td>Khunvichai</td>
<td>Ariya</td>
<td>12/30/2003</td>
<td>Hoffmann La Roche</td>
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<tr>
<td>Liu</td>
<td>Ping</td>
<td>12/30/2002</td>
<td>Groton Laboratories, Pfizer Inc.</td>
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<td>Liu</td>
<td>Qi</td>
<td>5/1/2004</td>
<td>FDA</td>
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<td>Napaporn</td>
<td>Jintana</td>
<td>6/1/2002</td>
<td>Professor, Thailand</td>
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<td>Nguyen</td>
<td>Vien</td>
<td>6/1/2006</td>
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<td>Phebus</td>
<td>Kathrynn</td>
<td>7/1/2002</td>
<td>Withdrawn</td>
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<td>Ren</td>
<td>Ke</td>
<td>12/31/2005</td>
<td>FDA</td>
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<td>Sahasranaman</td>
<td>Srikumar</td>
<td>8/1/2004</td>
<td>Novartis Pharmaceuticals Corp.</td>
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<td>Sarawek</td>
<td>Sasiporn</td>
<td>9/30/2007</td>
<td>Lexicon</td>
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<td>Schuck</td>
<td>Virna Josiane Aurelio</td>
<td>12/30/2004</td>
<td>Astrazenica</td>
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<td>Edgar</td>
<td>12/30/2004</td>
<td>Eisai</td>
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<td>Mei</td>
<td>8/30/2006</td>
<td>Merck</td>
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<td>Tiab</td>
<td>Zia</td>
<td>9/30/2006</td>
<td>Dismissed</td>
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<tr>
<td>Toussaint</td>
<td>Nathalie Y</td>
<td>5/1/2007</td>
<td>Bristol Meyers Squibb</td>
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<tr>
<td>Wang</td>
<td>Yaning</td>
<td>8/30/2003</td>
<td>FDA</td>
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<td>Winkler</td>
<td>Julia</td>
<td>7/1/2004</td>
<td>Jerini AG</td>
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<tr>
<td>Wu</td>
<td>Kai</td>
<td>12/30/2006</td>
<td>Novartis</td>
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<td>Yadava</td>
<td>Preeti</td>
<td>5/1/2007</td>
<td>Philadelphia College of Pharmacy</td>
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<tr>
<td>Zhu</td>
<td>Hao</td>
<td>8/4/2004</td>
<td>FDA</td>
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</table>

Survey Assessment of Current Students and Alumni

A survey was also conducted of all current students and alumni. The response to these general questions are provided in Appendix 6 for the current students and in Appendix 7 for the Alumni.
Program assessment

The department faculties meet and discussed our current graduate program and where we see us progressing over the next few years.

The department perceives the following strengths. We continue to have an excellent reputation in the area of pharmacokinetics and pharmacodynamic modeling. The majority of the current students are working in these disciplines. The department continues to grow its recognition in the fields of drug delivery, herbal medicine and gene delivery. The department decided that new faculty hires and resources should be deployed in these research areas to continue to grow and national and international reputation. A recent new strength is also the Ph.D. in clinical sciences while this is a relative new program it has already grown to be one of the largest. The program recruits from students in our own Professional Pharmacy Program as well as external students. A description of this program is provided in Appendix 4.

Ability to recruit students continues to be a major strength of the department. We consistently have 80-90 applicants for around 4 openings per year. A high number of applicants allows for the selection of outstanding students to grow our program. The applicant pool is very diverse with 70% coming from international students and about 50% of the applicants having a pharmacy degree.

The infrastructure of the University of Florida continues to be a major strength of the department both for research efforts of the faculty and the recruitment of students. New University initiatives will continue to strengthen our graduate program. In particular the Genetics institute (www.ufgi.edu), the Particle Engineering (www.perc.ufl.edu) Research Center, Nano technology center, the Biomedical Engineering (www.bme.ufl.edu) and the clinical research center (www.gcrc.ufl.edu) all play important roles in the departmental research focus.

The alumni from the department remain a strength of the department. They are an unexpected source of recruitment of new students; they also provide industrial rotation sites for our current students as well as financial support for conducting research within the department.

Departmental Weaknesses

We also discussed weakness of the department both internal and external. External weaknesses have resulted from budgetary restraints. Currently, we have two open faculty lines. These vacancies have limited our potential to grow over the past few years. To offset a portion of this problem the college has increased support for the teaching mission of the department (hiring new faculty for teaching) which has maintained the current lecture load to around 40 hours per year of pharmacy education and about 20 hours of graduate classes per
year. This teaching intensive faculty has allowed the more research based faculty to continue their high productivity. The increased difficulty in obtaining Federal research funds in the current environment will continue to face the department over the next few years and will continue to be a potential weakness.
CURRICULUM VITAE

NICHOLAS BODOR

Date of Birth:  
February 1, 1939

Address:  
10225 Collins Avenue, Apt. 1002/1004  
Bal Harbour, FL  33154

Telephone:  
(305) 868-8250 (residence)  
(305) 575-6028 (office)

Married To:  
Sheryl Lee Bodor

Children:  
Nicole, Erik

Education:  
Diploma in Science (B.S., M.S., Organic Chemistry) with special honors; straight A's throughout the five years, Bolyai University, Cluj, Romania, 1959

Doctor in Chemistry  
Babes-Bolyai University, and Supreme Council of Scientific Titles of the Romanian National Academy of Science, 1965

R.A. Welch Postdoctoral Fellow  
University of Texas at Austin, 1968-1969; 1970-1972

Employment Positions:

Present:  
Chief Scientific Officer  
IVAX Corporation  
4400 Biscayne Blvd.  
Miami, Florida  33137  
(April 2003-present)

Managing Director  
IVAX Drug Research Institute, Ltd.  
47-49 Berlinit Street, H-1045  
Budapest, HUNGARY  
(October 1999-present)
President
IVAX Research Institute, Inc.
4400 Biscayne Blvd.
Miami, Florida  33137
(September 2002-present)

Senior Vice President
Basic Research and Drug Discovery
IVAX Research, Inc.
4400 Biscayne Blvd.
Miami, Florida  33137
(February 2000-present)

Executive Director
Center for Drug Discovery
College of Pharmacy, P.O. Box 100497
J. Hillis Miller Health Center
University of Florida, Gainesville, FL, 32610
1990-present

Graduate Research Professor Emeritus (active)
Department of Pharmaceutics
College of Pharmacy
University of Florida, Gainesville, FL  32610

Affiliate Graduate Research Professor
Department of Ophthalmology
College of Medicine
J. Hillis Miller Health Center
University of Florida, Gainesville, FL, 32610, 1991-present

Former:
Graduate Research Professor
Departments of Medicinal Chemistry (1983-2003) and
College of Pharmacy
University of Florida, Gainesville, FL, 32610

V Ravi Chandran PhD Professor in Drug Design and Targeting
College of Pharmacy
University of Florida, Gainesville, FL, 32610
2000-2003
Vice President and Director, Pharmatec, Inc.
Alachua, FL, 32615, 1983-1992

Director
Center for Drug Design and Delivery
Box J-497, J. Hillis Miller Health Center

Chairman
Department of Medicinal Chemistry
College of Pharmacy
J. Hillis Miller Health Center

Professor (1979-1983) and Chairman (1979-1984)
Department of Medicinal Chemistry
J. Hillis Miller Health Center
University of Florida, Gainesville, FL, 32610

Associate Director of Medicinal Chemistry
INTERx Research Corporation, Lawrence, KS, 1973-1979

Adjunct Professor of Pharmaceutical Chemistry
University of Kansas, Lawrence, KS, 1978-1980

Adjunct Professor of Medicinal Chemistry
University of Kansas, Lawrence, KS, 1974-1978

Senior Research Scientist
ALZA Corporation, Lawrence, KS, 1972-1973

University of Texas at Austin, TX

Principal Investigator and Group Leader
Chemical-Pharmaceutical Research Institute

Research Investigator and Group Leader
"1 September" Factory, Satu Mare, Romania, 1959-1961

**Honors, Fellowships:**
National Scholarship for Outstanding Achievement, 1954-1959

Various honors and awards for undergraduate research
Diploma of Honor (straight A's for five years)


The Nagai Foundation Tokyo Fellowship 1994

**Listed in:**

*Who's Who in America*
*Who's Who in Science and Technology*
*Who's Who in Frontiers of Science*
*Who's Who in Technology Today*
*Who's Who Worldwide (Platinum Edition)*
*Ki Kicsoda (Who's Who Worldwide--Hungarian Edition)*
*American Scientist*

**Elected to:**

Fellow, Academy of Pharmaceutical Research and Science, 1983

Fellow, American Association of Pharmaceutical Scientists, 1986

Fellow, American Association for the Advancement of Science, 1989

Honorary Member, Hungarian Chemical Society, 1988

Honorary Member, Panhellenic Association of Pharmacists, 1989

Fellow, American College of Clinical Pharmacology, 1991

Hungarian Academy of Sciences, 1995

Elected Member, Dermatology Advisory Board, Glaxo Wellcome, 1997

Fellow, the World Innovation Foundation, 2002

**Name Lectureships:**

Hoechst-Rousell Lectureship in Chemistry, Somerville, NJ, 1983;
Hoshi University Diploma, Tokyo, Japan, 1983; Bombay College of Pharmacy Silver Medal, Bombay, India, 1984; Nichols Distinguished Symposium, American Chemical Society, Tarrytown, NY, 1986; Sigma Xi Lectureship, 1987; The Högyes Lecture, Semmelweis Univ. of Medicine, Budapest, Hungary,
Awards:

University of Florida Graduate Research Professor in 1983

"The 1984 Florida Scientist of the Year"

AAPS Research Achievement Award (the first) in Medicinal and Natural Product Chemistry, 1988

APhA Research Achievement Award in Pharmaceutical and Medicinal Chemistry, 1989

University of Florida Research Achievement Award, 1990

Doctor Honoris Causa, Technical University of Budapest, Hungary, 1989

Doctor Honoris Causa, Medical University of Debrecen, Hungary, 1990

University of Florida Research Achievement Award, 1991

Leo Friend Award, American Chemical Society, 1996

Professorial Excellence Program Award, Univ. of FL, 1996

Volwiler Research Achievement Award, AACP, 1997

Gold Cross of Merit of the Hungarian Republic, awarded by Ferenc Madl, President of Hungary, on March 31, 2004

Other:

Visiting Professor, Assiut University, Assiut, Egypt, 1984

Visiting Professor, Hoshi University, Tokyo, Japan, 1995

Principal Investigator of numerous National Institutes of Health research grant awards

Member, Board of Trustees, ARKAT-USA

Chairman, Policy Committee of the Florida Center for Heterocyclic Compounds
Consultant, advisor, or Board of Directors member for numerous major pharmaceutical companies (Schering-Plough, ALCHEM Laboratories, ONO Pharmaceutical Co., Otsuka Pharmaceutical Co., Xenon Vision, Inc., Helene Curtis, Inc., etc.)

Invited speaker of over 400 international and national symposia and special lectures

**Editorial Boards:**

* AAPS Journal
* Burger’s Medicinal Chemistry, 6th Edition
* Drug Design & Discovery
* Pharmaceutical Research
* Advanced Drug Delivery Reviews
* Pharmaceutical Science Communications
* Magyar Kemiai Folyoirat
* Journal of Ocular Pharmacology and Therapeutics
* Current Medicinal Chemistry
* Pharmacy and Pharmacology Communications
* Current Drugs
* Journal of Pharmacy and Pharmacology
* STP Pharma Sciences
* American Journal of Drug Delivery
* Expert Opinion on Drug Delivery

**Languages:**

Speak: English, Hungarian, and Romanian
Read and Write: French, Russian, and German

**Publications:**

500+

**Patents:**

180+

**Memberships:**

American Chemical Society
American Pharmaceutical Association
Academy of Pharmaceutical Sciences
American Association of Colleges of Pharmacy
American Association of Pharmaceutical Scientists
American Association for the Advancement of Science
American Epilepsy Society
Association for Ocular Pharmacology and Therapeutics
New York Academy of Sciences
International Union of Pure and Applied Chemistry
Sigma Xi
Controlled Release Society
American College of Clinical Pharmacology
International Scientific Advisory Panel of Oxford Molecular Group, PLC
Worldwide Hungarian Medical Academy
Hungarian National Academy of Sciences
International Council of Scientific Unions

Graduate and Postdoctoral Supervision:

Supervised more than 50 doctoral students and 100 postdoctoral research associates/fellows
PUBLICATIONS


236. M. Brewster, M. Huang and N. Bodor, "Reactivity of Biologically Important Reduced Pyridines IX. Effects of Substitution on Rotational Barriers in 1-Phenyl-1,4-dihydropyridine


276. N. Bodor, M. Huang, C, Szantay and C. Szantay, Jr., "On the Reactivity of CF$_n$H$_{3-n}$CH$_2$X (n = 0,1,2, and 3, and X = H or Halogen Atom)," *Tetrahedron*, **48**(28), 5823-5830 (1992).


290. M. Huang and N. Bodor, "Structure Studies of Bitetrahedryl Molecule C₈H₆₄, Coupled
Tricyclo[3.1.0.0]Hexyl Molecule C₁₂H₂₄, and Coupled Bicyclo[1.1.0]Butane Derivatives,"

and Preliminary Pharmacological Evaluation of Some Chemical Delivery Systems of 2,6-

Fluoro-5-Methylarabinosyluracil," (Improved Delivery Through Biological Membranes.

293. E. Pop and N. Bodor, "Chemical Systems for Delivery of Antiepileptic Drugs to the Central

294. E. Pop, M. Brewster, W. Anderson and N. Bodor, "Biodistribution of Azidothymidine

295. E. Pop, M. Huang, M. Brewster and N. Bodor, "A Theoretical Study of the Hydrolysis of

296. K. Raghavan, T. Loftsson and N. Bodor, "Improved Delivery Through Biological
Membranes XLV: Synthesis, Physical-Chemical Evaluation, and Brain Uptake Studies of

297. M. Rahimy, N. Bodor and J. Simpkins, "Evaluation of a Novel Redox-Based Estrogen
Chemical Delivery System for the Brain," Trends in Medicinal Chemistry '90, S. Sarel, R.

298. A. Simay and N. Bodor, "Site- and Stereospecific Drug Delivery to the Eye," Trends in
Medicinal Chemistry '90, S. Sarel, R. Mechoulam and I.Agranat, Eds., Blackwell Scientific

299. J. Simpkins and N. Bodor, "Brain-Enhanced Drug Delivery Systems for the Treatment of
Dementia," Chapter 4 in Alzheimer's Disease, Z. Khachaturian and J. Blass, Eds., Marcel

300. J. Simpkins and N. Bodor, "Brain Targeted Delivery of Neurotransmitters: Use of a Redox
Based Chemical Delivery System," chapter in The Treatment of Dementias, A New


Last Updated: February 2, 2005
## INVITED LECTURES GIVEN BY NICHOLAS BODOR

*March, 1978- November, 1999*

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<tr>
<th>Location</th>
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<td>11th Higuchi Research Seminar</td>
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<td>Osaka</td>
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<td>Otsuka Pharmaceutical Co.</td>
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<td>Honolulu, HI</td>
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<td>Raleigh, NC</td>
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<tr>
<td>London</td>
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<td>Bloomfield, NJ</td>
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## Curriculum Vitae--Presentations
Nicholas Bodor

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<td>Skokie, IL</td>
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<td>APhA National Meeting</td>
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<tr>
<td>Las Vegas, NV</td>
<td>8/24-29/80</td>
<td>ACS Symposium, &quot;Soft Drugs: Strategies for Design of Safer Drugs&quot;</td>
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<td>Gordon Conference Research Conference on Medicinal Chemistry</td>
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<td>Reston, VA</td>
<td>11/3-15/80</td>
<td>ARO Conference on Defense Against Chemical Agents, &quot;Acceleration of Deactivation of Chemical Agents&quot;</td>
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<td>Washington, DC</td>
<td>2/23/81</td>
<td>National Institute for Aging, &quot;Soft Drugs&quot;</td>
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<td>3/15-18/81</td>
<td>14th Higuchi Research Seminar</td>
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<td>Atlanta, GA</td>
<td>4/12-17/81</td>
<td>FASEB Symposium on Drug Carrier Systems, &quot;The Prodrug Approach to Controlled Delivery&quot;</td>
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<td>New London, NH</td>
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<td>Montpellier, FRANCE</td>
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<td>Groton, Ct</td>
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<td>College Station, TX</td>
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<td>Gainesville, FL</td>
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<td>University of Florida Frontiers of Science, &quot;Strategies to Design Safe Drugs&quot;</td>
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Curriculum Vitae--Presentations
Nicholas Bodor

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<tr>
<th>Country</th>
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<td>Boston, MA</td>
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<td>Assiut, EGYPT</td>
<td>1/84</td>
<td>University of Assiut, Lecture Series</td>
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</table>
Curriculum Vitae--Presentations
Nicholas Bodor

Milan, ITALY 1/84 Recordati
Pharmaceutica e Chimica

Basel, SWITZERLAND 1/84 Sandoz, Inc.

INDIA:

Bombay 1/28/84 Bombay College of Pharmacy, International Symposium Celebrating 25th Anniversary

New Delhi 2/1/84 Indian Pharmaceutical Association Satellite Seminar on Advances in Drug Delivery Systems

JAPAN:

Osaka 2/84 Ono Pharmaceuticals
Osaka 2/84 Yoshitomi Company
Osaka 2/84 Fujisawa Pharmaceutical Co.

Lake Ozark, Mo 3/11-14/84 17th Higuchi Research Seminar

Arlington, VA 4/19/84 NIH Special Study Section on "Borionate, Redox and Related Compounds as Vital Reagents"

Boston, MA 5/15/84 American Chemical Society, NE Section, Invited Lecture

Miami, FL 7/26/84 Key Pharmaceuticals
Curriculum Vitae--Presentations
Nicholas Bodor

New London, NH  7/30-8/3/84  Gordon Conference on Medicinal Chemistry

Philadelphia, PA  8/26-31/84  American Chemical Society Symposium on Drug Design and Discovery

Gainesville, FL  9/27/84  University of Florida Department of Chemistry


West Chester, PA  11/1/84  SmithKline and Beckman Corporation

Gainesville, FL  11/9/84  Engineering Advisory Council

Austin, TX  2/21-22/85  University of Texas

Lake Ozark, Mo  3/10-13/85  18th Higuchi Research Seminar
Curriculum Vitae--Presentations
Nicholas Bodor

JAPAN:

Tokyo 3/18/85  
Tokyo University-Pharmaceutical Society of Japan (Divisional)

Tsukuba 3/19/85  
Eisai Company

Osaka 3/20/85  
Takeda Pharmaceutical Co.

Osaka 3/21/85  
Sumitomo Pharmaceutical Co.

Hiroshima 3/22/85  
Hiroshima University-Pharmaceutical Society of Japan (Divisional)

Osaka 3/23/85  
Ono Pharmaceuticals

Tokushima 3/25/85  
Otsuka Pharmaceutical Co.

Kyoto 3/26/85  
Biwako Research Institute

Osaka 3/27/85  
Nihon Medi-Physics

Anaheim, CA 4/21-25/85  
FASEB

Cincinnati, OH 5/7/85  
Proctor & Gamble

Raleigh-Durham, NC 5/8/85  
Burroughs-Wellcome

Magnolia, AR 5/30/85  
Medicinal Chemistry Symposium

Budapest, HUNGARY 6/10/85  
National Academy of Science

Milan, ITALY 6/20/85  
Recordati Industria Chimica e Farmaceutica S.P.A.

Geneva, SWITZERLAND 6/24/85  
Arcopharma
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<td>Budapest, HUNGARY</td>
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<td>Conference on the Role of Hungarians in Science and Technology in the World; National Academy of Science of Hungary; Central Research Institute for Drug Research;</td>
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<td>West Berlin, GERMANY</td>
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<td>11/18-21/86</td>
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<td>1/12-015/87</td>
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<td>2/10/87</td>
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Curriculum Vitae--Presentations
Nicholas Bodor

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<tr>
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Curriculum Vitae--Presentations
Nicholas Bodor

JAPAN:

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<td>Edgewood, MD</td>
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<td>1987 Scientific Conference on Chemical Defense Research</td>
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<td>Honolulu, HI</td>
<td>12/2-7/87</td>
<td>JUC PHARM SCI '87</td>
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<td>Raleigh, NC</td>
<td>12/10/87</td>
<td>Burroughs-Wellcome and Glaxco</td>
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<td>Chicago, IL</td>
<td>2/3-4/88</td>
<td>Hayes &amp; Griffith</td>
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<td>Lake Ozark, MO</td>
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<td>Lexington, KY</td>
<td>3/16-18/88</td>
<td>University of Kentucky</td>
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Curriculum Vitae--Presentations
Nicholas Bodor

CALIFORNIA:

Palo Alto 4/26/88 Syntex
Palo Alto 4/27/88 Alza
San Francisco 4/28/88 Genentech


ISRAEL:


Philadelphia, PA 6/22/88 HGP, Inc.

Newark, NJ 7/14/88 Johnson & Johnson

HUNGARY:

Budapest 8/12-19/88 Xth International Symp. on Medicinal Chemistry

Debrecen 8/19-26/88

JAPAN:

Tokyo 10/7-13/88

Tokushima 10/14/88

INDIA:

Newark, NJ 10/24-25/88 Johnson & Johnson

Orlando, FL 10/30-11/3/88 AAPS
Curriculum Vitae--Presentations
Nicholas Bodor

Miami, FL  1/27/89  Schering-Plough Corporation
Lake Ozark, MO  3/12-15/89  22nd Higuchi Research Seminar
Anaheim, CA  4/8-11/89  APhA Annual Meeting

GREECE:
Thessaloniki  5/11-16/89  Aristotelian University
            Postgraduate Seminar on Medicinal Chemistry

JAPAN:
Osaka  5/29-5/30/89  Ono
Tokushima  5/31-6/1/89  Otsuka Pharmaceutical Co., Ltd.
Tokyo  6/2/89  Upjohn
## INVITED LECTURES GIVEN BY NICHOLAS BODOR

**July 1, 1989-Present**

<table>
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<tr>
<th>Location</th>
<th>Date</th>
<th>Conference or Institution</th>
<th>Title</th>
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<tr>
<td>Budapest</td>
<td>8/12-19/89</td>
<td>Xth International Symposium on Medicinal Chemistry</td>
<td>&quot;Recent Advances in the Design of Safer Drugs&quot;</td>
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<tr>
<td>Budapest</td>
<td>8/21-25/89</td>
<td>The Role of Hungarians in the Scientific &amp; Technological</td>
<td>&quot;Chemically Designed Targeted Drug Delivery System&quot;</td>
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<tr>
<td>Bethesda, MD</td>
<td>9/14-15/89</td>
<td>APhA End-of-Summer Symposium</td>
<td>&quot;Site-Specific Chemical Delivery Systems&quot;</td>
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<td>Morgantown, WV</td>
<td>9/20-21/89</td>
<td>Department of Chemistry Symposium</td>
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<td>Atlanta, GA</td>
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<td>Phoenix, AZ</td>
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<td>Preuss Foundation Seminar</td>
<td>&quot;Role of the BBB in the Therapy of Brain Tumors&quot;</td>
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<td>Japan Tobacco Company</td>
<td>&quot;Novel Strategies in Drug Design&quot;</td>
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<td>London, ENGLAND</td>
<td>12/1/89</td>
<td>IBC Conference on Recent Advances in Site-Specific Chemical</td>
<td>&quot;Role of Prodrugs and Soft Drugs in Drug Delivery and Targeting</td>
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<td>Medical University of Debrecen</td>
<td>&quot;Redox Delivery Systems of Drugs to the Brain&quot;</td>
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<td>Maui, HI</td>
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<td>American College of Neuro-psychopharmacology</td>
<td>&quot;Clinical Utilization of Redox Drug Combinations&quot;</td>
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<td>Memphis, TN</td>
<td>2/12-14/90</td>
<td>College of Pharmacy University of Tennessee</td>
<td>&quot;Novel Strategies to Design Safer Drugs&quot;</td>
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<td>Cleveland, OH</td>
<td>2/15-16/90</td>
<td>College of Pharmacy Case Western Reserve University</td>
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<td>Reno, NV</td>
<td>2/25-28/90</td>
<td>AAPS Western Regional Compounds Meeting</td>
<td>&quot;Brain-Specific Delivery of Peptides and Related Compounds&quot;</td>
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<td>Higuchi Research Seminar</td>
<td>&quot;Delivery of Peptides to the Brain&quot;</td>
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<td>Bath, ENGLAND</td>
<td>3/31-4/8/90</td>
<td>The Biochemical Society</td>
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<td>Amsterdam, THE NETHERLANDS</td>
<td>7/1-6/90</td>
<td>XIth International Congress of Pharmacology</td>
<td>&quot;Drug Targeting by Site-Specific Chemical Drug Delivery Systems&quot;</td>
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<td>Tokyo</td>
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<td>Fifth Japanese-American Conference on Pharmacokinetics and Biopharmaceutics</td>
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<td>&quot;Brain Delivery of Peptides&quot;</td>
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Curriculum Vitae--Presentations
Nicholas Bodor

Tokushima 7/22-23/90 Otsuka Pharmaceutical Co. "Brain Delivery of Neuropeptides and Related Compounds"

Osaka 7/25-26/90 Fujisawa Pharmaceutical Co. "Delivery of Peptides to the Brain"

Tokyo 7/26/90 Nihon Medi-Physics "Technetium Chelates"

HUNGARY:

Debrecen 8/22/90 Hungarian Pharmaceutical Society "Recent Advances in the Design of Safer Drugs"

Budapest 8/23/90 Federation of European Biochemical Societies "Recent Advances in Site-Specific Chemical Delivery Systems"

Las Vegas, NV 11/4-8/90 AAPS Annual Meeting "Pharmacological Evaluation of Alprenolone Oxime--A New Potential Antiglaucoma Agent"

Gainesville, FL 2/6/91 Division of Cardiovascular Medicine, UF College of Medicine Roundtable discussion on: "A New Site-Specific Endovascular Drug Delivery Catheter System"

Charleston, SC 4/4/91 AAPS Regional Meeting "Topical Drug Targeting by Chemical Delivery Systems and Soft Drugs"

JAPAN:

Osaka 4/9/91 Takeda Chemical Industries, Inc. "Recent Advances in Chemical-Enzymatic Targeting of Drugs"

Osaka 4/10/91 Otsuka Pharmaceutical Co., Ltd.
Curriculum Vitae--Presentations
Nicholas Bodor

Osaka 4/11-12/91 ONO Minase Research Institute

Tokyo 4/15/91 Eisai Tsukuba Research Laboratories

Tokyo 4/16/91 Japan Tobacco Company "Novel Soft Drugs"

KOREA:

Suwon 4/18/91 Ajou University "Design of Soft Drugs"

Suwon 4/19/91 Korean Drug Delivery Symposium "Brain-Specific Drug Delivery"

Suwon 4/22/91 Korea Research Institute of Chemical Technology "Design of Soft Drugs"

Dallas, TX 5/6/91 Alcon Laboratories, Inc. "Enzymes in the Eye"

Gainesville, FL 5/10/91 Florida School on Applied Molecular Orbital Theory "Molecular Orbitals and Drug Design"

Jamaica, NY 5/21/91 St. John's University College of Pharmacy and Health Related Professions "Chemical-Enzymatic Drug Targeting"

San Diego, CA 6/6/91 Gensia Pharmaceutical Co. "Metabolism-Based Drug Design"

La Jolla, CA 6/7/91 Agouron Pharmaceutical Co. "Rational Design of Drugs Based on Metabolic Considerations"

Amsterdam, THE NETHERLANDS 7/8-13/91 Controlled Release Society Symposium "Chemical Delivery Systems for Brain Targeting of Drugs"

Basel, SWITZERLAND 7/12/91 F. Hoffmann-La Roche AG "Strategies to Design Safer Drugs"
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<td>&quot;Drug Discovery by Retrometabolism--Concepts and Applications&quot;</td>
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<td>Budapest, HUNGARY</td>
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<td>33rd IUPAC Congress</td>
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<td>East Brunswick, NJ</td>
<td>9/30-10/1/91</td>
<td>Technology Management Group Conference on &quot;Pharmaceutical Markets in Imaging Agents and Related Products&quot;</td>
<td>&quot;Targeted Chemicals for Imaging (Brain and Heart)&quot;</td>
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<td>American College of Clinical Pharmacology Meeting</td>
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<td>College of Pharmacy Honors Seminar Course in Pharmaceutical Research</td>
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<td>IBC Conference--Drug Delivery III</td>
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<td>Short Course on Surface Science in Pharmaceutical Technology</td>
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<td>&quot;Chemistry by Design&quot;</td>
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<td>Baltimore, MD</td>
<td>3/26-27/92</td>
<td>Johns Hopkins Oncology Center</td>
<td>&quot;Novel Methods of Drug Design&quot;</td>
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Curriculum Vitae--Presentations
Nicholas Bodor

JAPAN: 5/14-22/92

Tokushima  5/15/92 Otsuka Pharmaceutical Co.  "Recent Advances in Retrometabolic Drug Design"

Osaka  5/18/92 Japan Tobacco Company

Itami  5/19/92 Senju Research Company

Kyoto  5/20/92 ONO Pharmaceutical Company

ISRAEL:

Jerusalem,  5/24-29/92 Second Jerusalem Conference on Pharmaceutical Sciences and Clinical Pharmacology  "Chemical-Enzymatic Approaches to Drug Targeting: Retrometabolism Concepts"

Rehovot  5/25/92 Pharmos, Ltd.

Budapest,  6/1-4/92 Hungarian Academy of Sciences  "Recent Results in HUNGARY Retrometabolic Drug Design"

Tarrytown, NY  6/8-10/92 Conference on Topical Glucocorticoids with Increased Benefit/Risk Ratio  "Chemical Variability of Glucocorticoid Molecules: Application of the Soft Drug Concept to Topical Anti-inflammatory Agents"

Washington, DC  7/22-24/92 NIH/Drug Discovery Groups for Alzheimer's Disease  "Brain Targeting of Peptides"

Miami, FL  8/12/92 IVAX  "Novel Soft Drugs"

Madrid, SPAIN  9/10/92 12th World Computer Congress (Presenter: Dr. Alan Harget)  "Computer Aided Drug Design: A Neural Network Approach"

Washington, DC  9/15-17/92 American College of Clinical Pharmacology  "Development of New Corticosteroids"
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<td>Frontiers of Human Knowledge (University-Wide Honors Course)</td>
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<td>10/26, 28/92</td>
<td>Faculty Honors Course University of Florida</td>
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<td>Chicago, IL</td>
<td>12/1/92</td>
<td>Helene Curtis, Inc</td>
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<td>Miami, FL</td>
<td>2/20-22/93</td>
<td>IVAX</td>
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<td>2/24/93</td>
<td>Cato Research, Ltd. Treatment of Colitis</td>
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<td>Amelia Island, FL</td>
<td>3/5-8/93</td>
<td>Pharmos</td>
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<td>Garden City, NY</td>
<td>4/20-21/93</td>
<td>35th Annual Pharmacy Congress</td>
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<td>Washington,</td>
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- "Drug Design and Discovery Based on Retrometabolism Concepts"  
- "The Application of Chemical Delivery Systems for Brain Targeting of Drugs"  
- "Phosphate and Phosphonate Delivery Systems"  
- "In Search of Magic Bullets"  
- "Brain Targeting of Peptides"  
- "Chemical Delivery Systems for the Eye"  
- "Novel Soft Anticholinergic Compounds"  
- "Soft Drugs for the Treatment of Asthma"  
- "Soft Steroids for the NC"  
- "Soft Ophthalmic Drugs"  
- "Application of Retrometabolic Approaches for Design of Novel Ophthalmic Drugs"  
- "Novel Anionic Delivery DC"
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<td>6/20-25/93</td>
<td>13th American Peptide Symposium                                                   &quot;Delivery of Peptides into the Central Nervous System by Sequential Metabolism&quot;</td>
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<td>Szeged, HUNGARY</td>
<td>7/23-24/93</td>
<td>International Workshop on Molecular Mechanism Regulating the Permeability of the Blood-Brain Barrier</td>
<td>&quot;Strategies for Opening the Gateway to the Brain&quot;</td>
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<td>Rockville, MD</td>
<td>7/28-29/93</td>
<td>NIDA Technical Review Meeting on Opiate Pharmacotherapy                           &quot;Targeting Drugs to the Brain by Sequential Metabolism&quot;</td>
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<td>Bethesda, MD</td>
<td>8/6/93</td>
<td>NIH Drug Discovery Group Meeting                                                   &quot;Discovery of Novel Drugs for Alzheimer’s Disease: Project 3--Neuropeptides&quot;</td>
<td></td>
</tr>
<tr>
<td>Novi, MI</td>
<td>8/8-10/93</td>
<td>Symposium on Ocular Pharmacology                                                   &quot;The Application of Soft Drug Concepts to the Design of Ophthalmic Drugs&quot;</td>
<td></td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>8/22-27/93</td>
<td>206th ACS National Meeting                                                        &quot;Brain Targeting of Peptides via Sequential Metabolism&quot;</td>
<td></td>
</tr>
<tr>
<td>JAPAN:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kyoto</td>
<td>9/2-4/93</td>
<td>International Symposium on Delivery of Protein Drugs - The Next 10 Years          &quot;Peptide Delivery to the Brain by Sequential Metabolism&quot;</td>
<td></td>
</tr>
<tr>
<td>Kobe</td>
<td>9/6/93</td>
<td>Senju Pharmaceuticals</td>
<td></td>
</tr>
<tr>
<td>Tokyo</td>
<td>9/7/93</td>
<td>Japan Tobacco Company</td>
<td></td>
</tr>
<tr>
<td>Tsukuba</td>
<td>9/10/93</td>
<td>Upjohn Pharmaceuticals Ltd.                                                        &quot;Soft Drugs Concept&quot;</td>
<td></td>
</tr>
<tr>
<td>Bethesda, MD</td>
<td>9/28-29/93</td>
<td>NIDA Technical Review Meeting on Membranes and Barriers: Targeted Drug Delivery    &quot;Retrometabolic Approaches to Drug Targeting&quot;</td>
<td></td>
</tr>
</tbody>
</table>
## Curriculum Vitae--Presentations

**Nicholas Bodor**

### Gainesville, FL
- **10/22, 25, 27/93**
  - Frontiers of Human Knowledge University of Florida
  - "Drug Design and Discovery Based on Retrometabolism Concepts"

### London, ENGLAND
- **11/22-24/93**
  - IBC Drug Delivery 4
  - "Site-Specific Drugs by Chemical Transformations"

### Washington, 12/2-3/93
- **IBC Allergic Disease and Asthma**
  - "Soft Drugs: A DC Retrometabolic Drug Design Concept"

### JAPAN:
- **Tokyo**
  - **4/23/94**
    - Hoshi University Lecture Meeting on Comprehensive Cyclodextrins
    - "Recent Studies on Cyclodextrins and Their Use in Drug Delivery and Targeting"
  - **4/25-28/94**
    - 7th International Cyclodextrins Symposium
    - "Optimization of Drug Targeting by Combinations of Chemical Delivery Systems and Cyclodextrins"

### Edmonton, Alberta, CANADA
- **6/20-25/93**
  - 13th American Peptide Symposium
  - "Delivery of Peptides into the Central Nervous System by Sequential Metabolism"

### Rockville, MD
- **7/28-29/93**
  - NIDA Technical Review Meeting on Opiate Pharmacotherapy
  - "Targeting Drugs to the Brain by Sequential Metabolism"

### Chicago, IL
- **8/22-27/93**
  - 206th ACS National Meeting
  - "Brain Targeting of Peptides via Sequential Metabolism"

### Kyoto, JAPAN
- **9/2-4/93**
  - International Symposium on Delivery of Protein Drugs - The Next 10 Years
  - "Peptide Delivery to the Brain by Sequential Metabolism"

### Rockville, MD
- **9/28-29/93**
  - NIDA Technical Review Meeting on Membranes and Barriers: Targeted Drug Delivery
  - "Retrometabolic Design MD Approaches to Drug Targeting"
<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Event</th>
<th>Title</th>
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<tbody>
<tr>
<td>Tokyo, JAPAN</td>
<td>4/25-28/94</td>
<td>7th International Cyclodextrins Symposium</td>
<td>&quot;Optimization of Drug Targeting by Combinations of Chemical Delivery Systems and Cyclodextrins&quot;</td>
</tr>
<tr>
<td>Buenos Aires, ARGENTINA</td>
<td>11/14-19/94</td>
<td>XV Panamerican Congress of Pharmacy and Biochemistry</td>
<td>&quot;Retrometabolic Drug Design Concepts&quot;</td>
</tr>
<tr>
<td>HUNGARY:</td>
<td>12/7-13/94</td>
<td>National Academy</td>
<td>&quot;Retrometabolic Drug Design Concepts&quot;</td>
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<tr>
<td>Debrecen</td>
<td></td>
<td>Technical University</td>
<td>&quot;Computer-Assisted Drug Design&quot;</td>
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<td>Debrecen</td>
<td></td>
<td>Gedeon Richter Works</td>
<td>&quot;Soft Steroids&quot;</td>
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<tr>
<td>New Orleans, LA</td>
<td>1/26-29/95</td>
<td>AOPT Annual Meeting</td>
<td>&quot;Sequential Bioactivation of Methoxime Analogs of β-Adrenergic Antagonists in the Eye&quot;</td>
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<tr>
<td>Amelia Island, FL</td>
<td>4/10-13/95</td>
<td>3rd Suncoast Workshop on the Neurobiology of Aging</td>
<td>&quot;The Application of the Molecular Packaging Method to Brain Targeting of TRH Analogs&quot;</td>
</tr>
<tr>
<td>San Diego, CA</td>
<td>4/28-30/95</td>
<td>Houghten Pharmaceutical Co.</td>
<td></td>
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Curriculum Vitae--Presentations
Nicholas Bodor

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Event Description</th>
<th>Title/Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birmingham, AL</td>
<td>5/5/95</td>
<td>U. of Alabama Vision Research Ctr. Visiting Scholar Program</td>
<td>&quot;Retrometabolic Approaches for the Design of Novel Ophthalmic Drugs&quot;</td>
</tr>
<tr>
<td>Thessaloniki, GREECE</td>
<td>5/19-20/95</td>
<td>4th Conference in Advanced Medicinal Chemistry</td>
<td>&quot;Retrometabolic Drug Design Concepts in Drug Targeting&quot;</td>
</tr>
<tr>
<td>Hiroshima, JAPAN</td>
<td>7/6-7/95</td>
<td>11th Annual Meeting of Japan Drug Delivery Systems Society Eye</td>
<td>&quot;Drug Targeting by Chemical and Enzymatic Retrometabolic Approaches to the Brain and Eye&quot;</td>
</tr>
<tr>
<td>Heidelberg, GERMANY</td>
<td>7/17/95</td>
<td>BioResearch, BASF Pharma/ Knoll Pharmaceuticals</td>
<td>&quot;Chemical-Enzymatic Targeting of Drugs&quot;</td>
</tr>
<tr>
<td>JAPAN:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Tokyo</td>
<td>9/1-3/95</td>
<td>Hoshi University Visiting Professorship</td>
<td>Several Lectures on Drug Design</td>
</tr>
<tr>
<td>Tokyo</td>
<td>9/3-8/95</td>
<td>AFMC International Medicinal Chemistry Symposium, Plenary Session</td>
<td>&quot;Targeted Drug Delivery to the Brain Using Chemical Delivery Systems&quot;</td>
</tr>
<tr>
<td>Kobe</td>
<td>9/11-13/95</td>
<td>Academy of Pharmaceutical Science and Technology, Plenary Session</td>
<td>&quot;Computer-Assisted Design of Targeted Drugs Based on Retrometabolic Concepts&quot;</td>
</tr>
<tr>
<td>Osaka</td>
<td>9/14/95</td>
<td>Fujisawa Pharmaceutical Co., Ltd.</td>
<td>&quot;Optimal Combination of Chemical-Enzymatic and Physical Drug Targeting Approaches&quot;</td>
</tr>
<tr>
<td>Osaka</td>
<td>9/20/95</td>
<td>Ono Pharmaceutical Co., Ltd.</td>
<td>&quot;Retrometabolic Drug Design Approaches and Computer Assisted Design of New Drugs on Retrometabolic Concepts&quot;</td>
</tr>
<tr>
<td>Osaka</td>
<td>9/22/95</td>
<td>Takeda Chemical Industries, Ltd.</td>
<td>&quot;Retrometabolic Drug Design Approaches&quot;</td>
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</tbody>
</table>
Curriculum Vitae--Presentations  
Nicholas Bodor

**SWITZERLAND:**

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Event Details</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>Milan, ITALY</td>
<td>10/02/95</td>
<td>BioResearch, BASF Pharma/ Knoll Pharmaceutical Co.</td>
<td>&quot;Brain Targeting of Drugs&quot;</td>
</tr>
<tr>
<td>SINGAPORE</td>
<td>10/06/95</td>
<td>The National University of Singapore</td>
<td>&quot;Design and Development of Soft Drugs&quot;</td>
</tr>
<tr>
<td>Ako, JAPAN</td>
<td>10/12/95</td>
<td>Ostuka Pharmaceutical Co., Ltd.</td>
<td>&quot;Design of Safer Ophthalmic Drugs&quot;</td>
</tr>
<tr>
<td>Gainesville, FL</td>
<td>11/01/95</td>
<td>Frontiers Of Science</td>
<td>&quot;Designing Targeted Drugs for the Brain and Eye&quot;</td>
</tr>
<tr>
<td>Budapest, HUNGARY</td>
<td>11/14/95</td>
<td>Induction into the Hungarian Academy of Sciences, Plenary Session</td>
<td>&quot;The Chemical and Enzymatic Basis of the Retrometabolic Drug Design Approaches&quot;</td>
</tr>
<tr>
<td>Ann Arbor, MI</td>
<td>12/04-05/95</td>
<td>Parke-Davis</td>
<td>&quot;Retrometabolic Drug Design Approaches&quot;</td>
</tr>
<tr>
<td>Frankfurt, GERMANY</td>
<td>02/09/96</td>
<td>Drug Targeting Symposium, German Chemical Society</td>
<td>&quot;Drug Targeting Based on Retrometabolic Drug Design Approaches&quot;</td>
</tr>
<tr>
<td>Budapest, HUNGARY</td>
<td>02/05/96</td>
<td>Gedeon Richter, Ltd.</td>
<td>&quot;Brain Targeting Chemical Works of Gedeon Richter, Ltd.&quot;</td>
</tr>
<tr>
<td>Budapest, HUNGARY</td>
<td>04/01/96</td>
<td>8th International Cyclodextrin Symposium</td>
<td>&quot;Recent Studies on the Use and Structure of Cyclodextrin Complexes&quot;</td>
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<tr>
<td>Gainesville, FL</td>
<td>04/19/96</td>
<td>Department of Neuroscience University of Florida</td>
<td>&quot;Retrometabolic Approaches to Drug Design and Targeting&quot;</td>
</tr>
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</table>
## Curriculum Vitae--Presentations

**Nicholas Bodor**

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<tr>
<th>Location</th>
<th>Date</th>
<th>Institution/Event</th>
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</thead>
<tbody>
<tr>
<td>SINGAPORE</td>
<td>07/04/96</td>
<td>The National University of Singapore</td>
<td>&quot;Recent Advances In Retrometabolic Drug Design&quot;</td>
</tr>
<tr>
<td>Osaka, JAPAN</td>
<td>07/09/96</td>
<td>Senju Pharmaceutical Co.</td>
<td>&quot;Novel Antiglaucoma Drugs&quot;</td>
</tr>
<tr>
<td>New York, NY</td>
<td>08/28/96</td>
<td>Forest Laboratories</td>
<td>&quot;Soft Drugs&quot;</td>
</tr>
<tr>
<td>Budapest, HUNGARY</td>
<td>09/05-12/96</td>
<td>Institute for Drug Research</td>
<td>&quot;Issues in Drug Development&quot;</td>
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<tr>
<td>Seattle, WA</td>
<td>10/27-31/96</td>
<td>American Association of Pharmaceutical Scientists</td>
<td>&quot;Drug Targeting Based On Retrometabolic Drug Design Approaches&quot;</td>
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<td></td>
<td></td>
<td>Annual Meeting &amp; Exposition</td>
<td></td>
</tr>
<tr>
<td>Gainesville, FL</td>
<td>11/18-20/96</td>
<td>Pharmacy Honors Seminar, &quot;In Search of Magic Bullets&quot;</td>
<td>&quot;Retrometabolism-Based Drug Design&quot;</td>
</tr>
<tr>
<td>Ispra, ITALY</td>
<td>01/20-22/97</td>
<td>&quot;Data Management in Computer-Aided Drug Design&quot; Workshop Joint Research Centre</td>
<td>&quot;Computer-Assisted Design of New Drugs Based on Retrometabolic Concepts&quot;</td>
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<tr>
<td>Brussels, BELGIUM</td>
<td>01/23-25/97</td>
<td>Janssen Pharmaceutica</td>
<td>&quot;The Application of Chemical Delivery Systems For Brain Targeting of Drugs&quot;</td>
</tr>
<tr>
<td>Gainesville, FL</td>
<td>03/20/97</td>
<td>Univ. of FL Coll of Pharmacy Nat'l. Devel. Advisory Board</td>
<td>&quot;Issues in Drug Discovery and Targeting&quot;</td>
</tr>
<tr>
<td>Austin, TX</td>
<td>04/03/97</td>
<td>University of Texas at Austin College of Pharmacy</td>
<td>&quot;Design of Safer Drugs Using Retrometabolic Approaches&quot;</td>
</tr>
<tr>
<td>San Francisco, CA</td>
<td>04/13-17/97</td>
<td>National Meeting of the Amer. Chemical Society</td>
<td>&quot;Design of Biologically Safer Chemicals&quot;</td>
</tr>
<tr>
<td>Amelia Island, FL</td>
<td>05/06-09/97</td>
<td>&quot;1st Drug Optimization via Retrometabolism Conference&quot; Center for Drug Discovery, University of Florida</td>
<td>&quot;Retrometabolic Drug Design Concepts&quot;</td>
</tr>
<tr>
<td>Location</td>
<td>Date</td>
<td>Organization</td>
<td>Presentation Title</td>
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<tr>
<td>St. Petersburg, FL</td>
<td>05/23-24/97</td>
<td>Glaxo Dermatology Advisory Board Meeting</td>
<td>&quot;Overview of the Soft Molecule Concept&quot;</td>
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<tr>
<td>Raleigh, NC</td>
<td>06/17/97</td>
<td>Glaxo Wellcome, Inc.</td>
<td>&quot;Retrometabolic Drug Design Approaches&quot;</td>
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<tr>
<td>Gdansk, POLAND</td>
<td>07/09-12/97</td>
<td>6th Int'l Symp. on Molecular Aspects of Chemotherapy</td>
<td>&quot;Retrometabolic Approaches for Drug Targeting&quot;</td>
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<tr>
<td>Budapest, HUNGARY</td>
<td>9/04/97</td>
<td>Chemical Works of Gedeon Richter</td>
<td>&quot;Design of Soft Drugs&quot;</td>
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<tr>
<td>Frankfurt, GERMANY</td>
<td>9/08/97</td>
<td>ASTA Medica</td>
<td>&quot;Design of Soft Drugs&quot;</td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>9/27-30/97</td>
<td>Abbott Laboratories, Acceptance of Volwiler Research Achievement Award</td>
<td>&quot;Retrometabolic Drug Design and Targeting Concepts&quot;</td>
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<tr>
<td>Bethesda, MD</td>
<td>10/22-24/97</td>
<td>3rd Annual Mtg. of the Asn. for Ocular Pharmacol. and Ther.</td>
<td>&quot;Targeted Drug Delivery to Retina via Systemic Routes&quot;</td>
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<tr>
<td>Arlington, VA</td>
<td>10/27-28/97</td>
<td>IBC's 7th Annual Conf. on Asthma &amp; Allergy</td>
<td>&quot;Design of Soft Corticosteroids&quot;</td>
</tr>
<tr>
<td>Budapest, HUNGARY</td>
<td>11/11/97</td>
<td>Institute for Drug Research</td>
<td>&quot;Drug Development Concepts&quot;</td>
</tr>
<tr>
<td>Gainesville, FL</td>
<td>11/17 &amp; 11/19/97</td>
<td>Honors Seminar in Pharm. Research, College of Pharmacy, University of Florida</td>
<td>&quot;Retrometabolism-Based Drug Design: Making MBs Better and Safer&quot;</td>
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<tr>
<td>Osaka, JAPAN</td>
<td>01/14/98</td>
<td>Santen Pharmaceutical Co., Ltd.</td>
<td>&quot;Design of Safer Ophthalmic Drugs by Retrometabolic Approaches&quot;</td>
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</table>
## Curriculum Vitae--Presentations

Nicholas Bodor

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<tr>
<th>Location</th>
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<tbody>
<tr>
<td>Hiroshima, JAPAN</td>
<td>01/16/98</td>
<td>Hiroshima University School of Medicine</td>
<td>&quot;Design of Safer Ophthalmic Drugs Using Retrometabolic Approaches&quot;</td>
</tr>
<tr>
<td>Gainesville, FL</td>
<td>01/27/98</td>
<td>University of Florida Dep't. of Neuroscience</td>
<td>&quot;Brain Targeting of Neuropharmaceuticals by Chemical Delivery Systems&quot;</td>
</tr>
<tr>
<td>Miami, FL</td>
<td>03/02/98</td>
<td>IVAX Corporation</td>
<td>&quot;Retrometabolic Drug Design and Targeting Approaches&quot;</td>
</tr>
<tr>
<td>Saskatchewan, CANADA</td>
<td>03/26 &amp; 03/27/98</td>
<td>University of Saskatchewan College of Pharmacy</td>
<td>&quot;Retrometabolic Approaches for Drug Design &amp; Targeting&quot;</td>
</tr>
<tr>
<td>Budapest, HUNGARY</td>
<td>5/06/98</td>
<td>Institute for Drug Research</td>
<td>&quot;Recent Advances In Retrometabolic Drug Design&quot;</td>
</tr>
<tr>
<td>Paris, FRANCE</td>
<td>5/25-28/98</td>
<td>2nd World Meeting on Pharmaceutics, Biopharm. and Pharm. Tech.; Inv. Speaker and Session Chair</td>
<td>&quot;Brain Targeting of Basic Amino Acids and Their Redox Analogs Containing Peptides&quot;</td>
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<tr>
<td>Santiago de Compostela, SPAIN</td>
<td>5/31-6/03/98</td>
<td>9th Intl. Symposium on Cyclodextrins; Inv. Speaker and Session Chair</td>
<td>&quot;The Effect of 2-Hydroxypropyl-β-Cyclodextrin on the Solubility, Stability and Brain Targeting of Chemical Delivery Systems for Neuropeptides&quot;</td>
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<tr>
<td>Tokyo, JAPAN</td>
<td>6/09-11/98</td>
<td>Challenges for Drug Delivery and Pharmaceutical Technology; Inv. Speaker and Session Chair</td>
<td>&quot;Retrometabolic Drug Design Approaches&quot;</td>
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<tr>
<td>Budapest, HUNGARY</td>
<td>7/16-20/98</td>
<td>Institute for Drug Research, Ltd.</td>
<td>&quot;Neuropeptide Targeting to the Brain&quot;</td>
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<tr>
<td>Reykjavik, ICELAND</td>
<td>7/28-8/3/98</td>
<td>University of Iceland</td>
<td>&quot;Soft Drug Approach in Drug Design&quot;</td>
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</table>
Curriculum Vitae--Presentations
Nicholas Bodor

Debrecen, HUNGARY 10/19-23/98 Medical Univ. of Debrecen; Scientific Symposium to Celebrate 80th Anniversary
"Retrometabolic Concepts for the Design of Safer Drugs"

Gainesville, FL 10/28/98 Honors Seminar in Pharm. Research, College of Pharmacy University of Florida
"Retrometabolism-Based Drug Design: Making MBs Better and Safer"

Budapest, HUNGARY 1/04-31/99 Institute for Drug Research & the Hungarian Academy of Sciences
"Computer Drug Design" & "Computer Assisted Design of Soft Drugs"

Budapest, HUNGARY 3/23-4/02/99 Institute for Drug Research & the Technical University Of Budapest
"Retrometabolism-Based Drug Design" & "Graduate Education at the University of Florida"

Dresden, GERMANY 4/18-20/99 Technical University of Dresden Invited Speaker
"Chemical Approaches in the Design of Targeted Drugs"

"Drug Targeting Using Retrometabolic Approaches"

Amelia Island, FLORIDA 5/11-14/99 2nd Retrometabolism Based Drug Design and Targeting Conference Founder and Organizer
"Recent Advances in Retrometabolic Drug Design"

Monroe, LOUISIANA 5/20-21/99 AAPS-SRDG 2nd Annual Meeting Keynote Address
"Drug Targeting Using Retrometabolic Approaches"
<table>
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<th>Location</th>
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<tr>
<td>Groton, CONNECTICUT</td>
<td>5/24/99</td>
<td>Pfizer Central Research</td>
<td>&quot;Retrometabolic Drug Design and Targeting&quot; &amp; &quot;Computational Approaches to Retrometabolic Drug Design and Targeting&quot;</td>
</tr>
<tr>
<td>New Brunswick, NEW JERSEY</td>
<td>6/2/99</td>
<td>Bristol-Myers Squibb</td>
<td>&quot;Computer-Assisted Design of New Drugs Based on Retrometabolic Concepts&quot; &amp; &quot;Recent Advances in Retrometabolic Design Approaches&quot;</td>
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<tr>
<td>Beerse, BELGIUM</td>
<td>9/2-7/99</td>
<td>Janssen Pharmaceuticals</td>
<td>&quot;Computational Approaches to Retrometabolic Drug Design And Targeting&quot;</td>
</tr>
<tr>
<td>Tampa, FLORIDA</td>
<td>9/21/99</td>
<td>Bausch and Lomb Pharmaceuticals</td>
<td>&quot;Novel Soft Steroids for Ophthalmic Use&quot;</td>
</tr>
<tr>
<td>Gainesville, FLORIDA</td>
<td>10/25 &amp; 27/99</td>
<td>Honors Seminar in Pharm. Research, College of Pharmacy University of Florida</td>
<td>&quot;Retrometabolic Design&quot;</td>
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<tr>
<td>New Orleans, LOUISIANA</td>
<td>11/14-18/99</td>
<td>AAPS Annual Meeting and Exposition</td>
<td>&quot;Retrometabolic Approaches for Drug Design and Targeting&quot;</td>
</tr>
<tr>
<td>Lisbon, PORTUGAL</td>
<td>2/10-13/00</td>
<td>3rd Intl. Symposium on Ocular Pharmacology &amp; Pharmaceutics (ISOPP); Invited Lecturer</td>
<td>“The Creation of a Site Active (Soft) Steroid.”</td>
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<tr>
<td>London, ENGLAND</td>
<td>2/18/00</td>
<td>Norton Healthcare</td>
<td>“Design of a New Class of Soft Steroids”</td>
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<tr>
<td>Cincinnati, OHIO</td>
<td>4/28/00</td>
<td>Procter &amp; Gamble Pharmaceuticals</td>
<td>“Brain Targeting of Neuropeptides”</td>
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</table>
Curriculum Vitae--Presentations
Nicholas Bodor

Paris, 7/07/00
FRANCE
27th Intl. Symp. On Controlled
Release of Bioactive "Cyclodextrins and
Materials Brain Delivery”

Philadelphia, 8/29/00
Pennsylvania
Rohm and Haas Co. “Retrometabolic Drug
"Retrometabolic Design and Targeting”

Gainesville, 10/23 & 25/00
FLORIDA
Honors Seminar, In Search of "Retrometabolic Design"
Magic Bullets”, Coll. of Pharmacy
University of Florida

Indianapolis, 11/01/00
Indiana
AAPS Annual Meeting “Retrometabolic Appr. to
and Exposition Design of Ophth. Drugs”

Budapest, 11/13-16/00
Hungary
Semmelweiss Univ. of “The Högyes Lecture”
Medicine

Osaka, 11/22/00
Japan
Takeda Chemical “Recent Results in
Industries, Ltd. Retrometabolic Drug Design”

Atlanta, 2/08/01
Georgia
IBC 9th Annual Conf. On “Brain-Targeting of Drugs
Alzheimer’s and Neuropeptides”

Tempe, 3/31/01
Arizona
Muro Asta Medica “Design of Loteprednol
Investigator Meeting on A Soft Corticosterid”
LE Nasal Spray

Basel, 3/28/01
Switzerland
Roche Pharm., Ltd. and “Design of Retrometabolism-
Novartis Pharma Based and Specific Receptor
(two presentations) Oriented Drugs”

Hawthorne, 4/17/01
New York
Taro Pharmaceuticals USA, Inc. “Design of Loteprednol
"Etabonate, A Novel Soft Steroid”

Amelia Island, 5/14/01
Florida
3rd Retrometabolism Based Drug "Design of a New Class of
Design and Targeting Conf. Soft Corticosteroids”

Stockholm, 5/31/01
Sweden
Stockholm University “Recent Advances in
"Retrometabolic Drug Design and Targeting Approaches”
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<td>CALIFORNIA</td>
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<td>Focusing on the Posterior Segment of the Eye”</td>
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<td>Gainesville</td>
<td>11/05 &amp; 07/01</td>
<td>Honors Seminar in Pharm. Research, College of Pharmacy University</td>
<td>“Retrometabolic Design --- Magic Bullets”</td>
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<td>Budapest</td>
<td>2/13/02</td>
<td>Institute for Drug Research Scientific Retreat</td>
<td>“Retrometabolic Drug Design”</td>
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<td>HUNGARY</td>
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<td>Ventura</td>
<td>2/24-3/01</td>
<td>Drug Carriers in Medicine &amp; Biology (Gordon Res. Conf.)</td>
<td>“Brain Drug Delivery via Redox Carriers”</td>
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<td>Gainesville</td>
<td>3/06-08/02</td>
<td>3rd Annual Florida Heterocyclic Conference</td>
<td>“The Use of Dihydropyridine Pyridinium Salt Redox System for Development of Brain-Specific Drugs”</td>
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<td>Taormina</td>
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<td>6th Eilat Conference on New Antiepileptic Drugs</td>
<td>“Talampanel”</td>
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<td>Reykjavik</td>
<td>5/05-08/02</td>
<td>11th International Cyclodextrin Symposium</td>
<td>“Theoretical Insights into the Formation, Structure, and Energetics of Some Cyclodextrin Complexes”</td>
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<td>Gainesville</td>
<td>10/30 &amp; 11/01/02</td>
<td>Honors Seminar in Pharm. Research, College of Pharmacy University</td>
<td>“Retrometabolic Design”</td>
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<tr>
<td>Budapest</td>
<td>2/20/03</td>
<td>Institute for Drug Research Annual Scientific Meeting</td>
<td>“Drug Design and Discovery”</td>
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<td>Palm Coast</td>
<td>5/11-14/03</td>
<td>4th Retrometabolism Based Drug Design and Targeting Conference</td>
<td>“Soft Corticosteroids: Design Considerations and Recent Advances”</td>
</tr>
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</table>
## Curriculum Vitae--Presentations

**Nicholas Bodor**

<table>
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<tr>
<th>Location</th>
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<tr>
<td>Tokyo, 2/05-06/04 JAPAN</td>
<td>Metabolism &amp; Membrane Transport in Drug Discovery and Devel. Conf. (MMT3D)</td>
<td>“Retrometabolic Approaches in Drug Design and Targeting”</td>
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| Osaka, 2/09/04 JAPAN | Takeda Chemical Ind., Ltd. (three lectures) | “Computer Assisted Drug Design”  
“Novel Approaches to Treat Sepsis”  
Use of AMPA Antagonists For Treatment of Neurological Diseases” |
| Budapest, 2/18/04 HUNGARY | Institute for Drug Research Annual Scientific Meeting (two lectures) | “Design of Novel Soft Steroids”  
“Recent Advances in Talampanel” |
| Sardinia, 5/08-13/04 ITALY | Eilat VII Conference on New Antiepileptic Drugs | “Talampanel” |
| Budapest, 5/17-19/04 HUNGARY | Hungarian Biochemical Society Meeting | “Retrometabolic Drug Design, CDS and Soft Drugs” |
| Honolulu, 6/12-17/04 HAWAII | Controlled Release Society 31st Annual Meeting | “Drug Targeting to the Brain by Chemical-Enzymatic Approaches” |
NICHOLAS BODOR, Ph.D., D.Sc.
PATENTS ISSUED


52. N. Bodor and K. Sloan, "1,2-Diphenyl,5-Ditrifluoroacetyloxy-4-Butyl5-Hydroxy-3-Pyrazoline," U.S. Pat. 4,139,709, February 13, 1979.


104. N. Bodor, "Brain-Specific Delivery of Dopamine Utilizing Dihydropyridine/Pyridinium Salt-Type Redox Carriers," U.S. Pat. 4,880,816, November 14, 1989.


159. N. Bodor, "Pharmaceutical Formulations for Parenteral Use," Irish Pat. No. 62095,
December 5, 1994.


185. N. Bodor, “Redox Systems for Brain-Targeted Drug Delivery,” Austria Pat. E164855; European Pat. 0327766; Germany P3856160; April 8, 1998.


PATENTS PENDING

Approximately twenty-five patent applications are pending.
Updated: October 13, 2003
CURRICULUM VITAE

Name: Hartmut Derendorf

Born: August 6, 1953 in Dortmund, Germany

Address: 100494, College of Pharmacy
         University of Florida
         Gainesville, Florida 32610
         Phone (352) 846-2726
         Fax   (352) 392-3249
         E-mail: HARTMUT@COP.UFL.EDU

Home Address: 8708 SW 42nd Place
               Gainesville, Florida 32608
               Phone (352) 335-0074
               Fax   (352) 384-0965

Present Position: Distinguished Professor and Chairman
                  Dept. of Pharmaceutics,
                  College of Pharmacy
                  University of Florida

Previous Positions:

1993 - 2003 Professor
       Dept. of Pharmaceutics
       College of Pharmacy
       University of Florida

1987 - 1995 Chairman
1998 -
       Dept. of Pharmaceutics
       College of Pharmacy
       University of Florida

1987 - 1993 Associate Professor
       Dept. of Pharmaceutics
       College of Pharmacy
       University of Florida

1983 - 1987 Assistant Professor
       Dept. of Pharmaceutics
       College of Pharmacy
       University of Florida
### Education

<table>
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<tbody>
<tr>
<td>1972 - 1976</td>
<td>B.S. in Pharmacy, University of Münster, Germany</td>
</tr>
<tr>
<td>1977</td>
<td>Registered Pharmacist</td>
</tr>
<tr>
<td>1977 - 1979</td>
<td>Graduate Study of Pharmacy at University of Münster, Germany</td>
</tr>
<tr>
<td>1979</td>
<td>Dr. rer. nat. (Ph.D.) with a dissertation on &quot;Biopharmaceutical investigations of weak analgesics&quot; (summa cum laude)</td>
</tr>
<tr>
<td>1979 - 1980</td>
<td>Assistant Scientist Institute for Pharmaceutical Chemistry, University of Münster</td>
</tr>
<tr>
<td>1981 - 1982</td>
<td>Postdoctoral Fellow with E.R. Garrett, College of Pharmacy, University of Florida</td>
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### Awards

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<tr>
<td>1980</td>
<td>Award for the best dissertation University of Münster, Germany</td>
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<tr>
<td>1983</td>
<td>Rottendorf-Award for Outstanding Research in the Area of Pharmaceutical Sciences</td>
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<tr>
<td>1988</td>
<td>Fellow of the American College of Clinical Pharmacology (ACCP)</td>
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<tr>
<td>1994</td>
<td>McKeen-Cattell-Award for best publication in the Journal of Clinical Pharmacology</td>
</tr>
<tr>
<td>1995</td>
<td>Teaching Improvement Award, University of Florida</td>
</tr>
<tr>
<td>1996</td>
<td>Fellow of the American Association of Pharmaceutical Scientists (AAPS)</td>
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<tr>
<td>2000</td>
<td>Honorary Regent, American College of Clinical Pharmacology</td>
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<tr>
<td>2001</td>
<td>Honorary Fellowship, Slovakian Chemotherapy Society</td>
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<tr>
<td>2002</td>
<td>University of Florida Research Foundation Professorship</td>
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<tr>
<td>2003</td>
<td>Nathaniel T. Kwit Distinguished Service Award, American College of Clinical Pharmacology</td>
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2003  Research Achievement Award in Clinical Sciences, American Association of Pharmaceutical Scientists
2004  International Educator of the Year Award
      University of Florida
2005  Faculty Award in Pharmaceutical Sciences
      University of Utrecht, The Netherlands
2005  International Educator of the Year Award
      University of Florida
2007  CVS Professorship, College of Pharmacy, University of Florida
2007  International Educator of the Year Award
      University of Florida

**Teaching Experience**

1983 - present  Teacher for Biopharmaceutics, Pharmacokinetics (undergraduate and graduate courses) and Clinical Pharmacokinetics, University of Florida

1990 - present  Adjunct Professor for Pharmacokinetics at the Federal University of Rio Grande do Sul, Porto Alegre, Brazil

1981 - present  Instructor at more than 20 courses on Pharmacokinetics, Biopharmaceutics and Clinical Pharmacokinetics in Germany, England, Brazil and U.S.A

1983 - 1990  Adjunct Lecturer for Pharmacokinetics and Biopharmaceutics at the University of Münster, Germany

1977 - 1980  Teaching assistant for courses in Medicinal Chemistry, Pharmacology for Pharmacists, Biochemistry for Pharmacists and Analytical Chemistry at University of Münster; Teacher for Pharmacology for Pharmacists at University of Münster; Teacher for Pharmacology and Toxicology at Schools for Pharmacy Technicians in Münster and Osnabrück

**Textbooks**
1983  H. Derendorf, Drugs - Applied Pharmacology for Pharmacists and Pharmacy Technicians (in German), 280 p., Deutscher Apotheker-Verlag, Stuttgart, Germany

1987  H. Derendorf and E.R. Garrett, Pharmacokinetics - Introduction into Theory and Practice" (in German), 175 p., Deutscher Apotheker-Verlag, Stuttgart, Germany


1995  E. Mutschler and H. Derendorf, Drug Actions (in English), 799 p., Deutscher Apotheker Verlag, Stuttgart, Germany


1997  J. Framm, M. Schäfer, H. Derendorf, Pharmaceutical Care (in German), 118 p., Deutscher Apotheker Verlag, Stuttgart, Germany


Present Research Interest

Pharmacokinetics and pharmacodynamics of glucocorticoids and antibiotics drugs.
Use of pharmacokinetic/pharmacodynamic modeling in drug development.

Affiliations

American College of Clinical Pharmacology
American Association of Pharmaceutical Scientists
American Pharmaceutical Association
Florida Pharmacy Association
German Pharmaceutical Society
American Society for Clin. Pharmacology and Therapeutics
American Association of Colleges of Pharmacy
American Society for Microbiology
European Society for Biomodulation and Chemotherapy
International Society for Anti-infective Pharmacology
Phi Lambda Sigma

Other Activities

President, American College of Clinical Pharmacology (2006-2008)

Member, Scientific Organizing Committee, 2\textsuperscript{nd} Symposium on Antimicrobial resistance in Animals and the Environment, Tours (2007)

Co-Chair, EUFEPS Conference on Optimizing Drug Discovery and Development- Integrating Systems Approaches into Pharmaceutical Sciences, Basel (2007)

Member, Program Committee, Pharmaceutical Sciences World Congress, Amsterdam (2007)

Member, Advisory Committee for Pharmaceutical Science Clinical Pharmacology Subcommittee, FDA (2002-2006)

Member, Scientific Advisory Board, Bavarian Academy of Clinical Pharmacy (2006-present)

Program Chairman, National Meeting of the American College of Clinical Pharmacology (2003)

Member of the International Pharmaceutical Education Advisory Committee of the American Association of Colleges of Pharmacy (2001-03)

Chair, AAPS Microdialysis Focus Group (2003)

Secretary, American College of Clinical Pharmacology (1996-00)

Council Member, International Society for Anti-infective Pharmacology (1999-02)

Member of the Board of Regents, American College of Clinical Pharmacology (1991-00)

Member of the FDA Expert Panel on Oral Inhalation and Nasal Drug Products (OINDP) (1999-00)

Member of AAPS/PPDM Program Committee (1996/97)

Member, National RCMI Advisory Board, Florida A&M University (1992-05).

Member of Credentials Committee, American College of Clinical Pharmacology (1990-00).

Member of the Nutrition and Therapeutics Integrated Project Team of the NASA-JSC Space Medicine Program (1997-04).

Member of the AAPS Globalization Committee (1995)
National Chair of the AACP Meeting of Department Chairs of Pharmaceutics (1992).

Member of the Graduate Education and Research Committee (PDD) of the American Association of Pharmaceutical Scientists (1992-1993).


President of the Southeastern Chapter of the American College of Clinical Pharmacology (1990-91).

Member of Scientific Excellence Committee, American Association of Pharmaceutical Scientists (1990-91).


Member of several ad-hoc NIH Study Sections (NCI, NIAID). Grant-Reviewer for the National Science Foundation. Grant Reviewer for the Italian Ministry for University and Research.


**Editorial Advisory Boards**

Editor, International Journal of Clinical Pharmacology and Therapeutics

US-Editor, Editorial Board, Die Pharmazie.

Associate Editor, Journal of Clinical Pharmacology.

Member, Honorary Editorial Board, Clinical Pharmacokinetics.

Member, Editorial Board, Journal of Pharmacokinetics and Pharmacodynamics.
Member, Editorial Advisory Board, European Journal of Pharmaceutical Sciences.

Member, Editorial Board, Journal of Pharmaceutical Sciences

Member, Editorial Board, Antimicrobial Agents and Chemotherapy

Member, Editorial Board, Planta Medica

Member, Executive Editorial Board, Research Communications in Pharmacology and Toxicology.

Member, Editorial Board, Clinical Research and Regulatory Affairs.

**Patents**

List of Publications

1. P. Rohdewald, H. Derendorf, C.E. Elger, O. Knoll
Quantification of the attenuation of pain sensation through evoked potentials after the application of mild analgesics.
Z. EEG-EMG 11, 199-204 (1980).

2. H. Derendorf
Electroencephalography in drug research.

3. H. Derendorf, P. Rohdewald
Pharmaceutical availability of analgesic derivatives of salicylic acid.

4. H. Derendorf, P. Rohdewald
Pharmaceutical availability of analgesic derivatives of pyrazolone.

5. H. Derendorf, P. Rohdewald
Measurement of analgesic action by subjective and objective parameters.

6. H. Derendorf, P. Rohdewald
Pharmaceutical availability of analgesic derivatives of p-aminophenol in tablets.

7. P. Rohdewald, H. Derendorf, C.E. Elger, O. Knoll
Evoked potentials as objective parameters for the analgesic response of weak analgesics.

Changes in cortical evoked potentials as correlates of the efficacy of weak analgesics.

9. H. Derendorf, G. Drehsen, P. Rohdewald
Cortical evoked potentials and saliva levels as basis for the comparison of pure analgesic to analgesic combinations.
10. H. Derendorf
Phencyclidine – angel dust or devil's drug?

11. H. Derendorf, E.R. Garrett
HPLC-Assay of methadone, phencyclidine and metabolites
by post-column ion-pair extraction and "on-line"
fluorescence detection of the counter-ion with
applications.

12. P. Rohdewald, G. Drehsen, E. Milsmann, H. Derendorf
Relationship between saliva levels of metamizol
metabolites, bioavailability and analgesic efficacy.
Arzneimittelforschung (Drug Research) 33(II), 985-988
(1983).

13. H. Derendorf, G. Drehsen, P. Rohdewald
In vivo- in vitro- correlations of salicylate saliva
levels and continuous flow cell dissolution rates.
Int. J. Pharm. 15, 167-175 (1983).

Electrochemical chromatographic determination of
morphine - antagonists in biological fluids with
applications.

15. H. Derendorf, G. Drehsen, P. Rohdewald
Antipyrine – new light on an old drug.

16. P. Rohdewald, G. Drehsen, H. Derendorf
Phenazone, the underestimated analgesic.

17. G. Drehsen, H. Derendorf, P. Rohdewald
Pain relief- but when?

18. P. Rohdewald, J. Rehder, G. Drehsen, G. Hochhaus, H.
Derendorf, H. Möllmann
Simultaneous determination of glucocorticoid alcohols,
their succinates and hydrocortisone in plasma.
Kinetics of methylprednisolone and its hemisuccinate ester.

20. R.L. Yost, H. Derendorf
Rapid chromatographic determination of cefotaxime and its metabolite in biological fluids.

Pharmacokinetics of prednisolone after high doses of prednisolone hemisuccinate.

22. E.R. Garrett, H. Derendorf, A. Mattha
Pharmacokinetics of morphine and its surrogates VI: HPLC-Analyses and pharmacokinetics of methadone and its derived metabolites in dogs.

Pharmacokinetics of triamcinolone acetonide and its phosphate ester.

The attenuation of experimental pain by pyrazolones.
In "100 years pyrazolones", ed. by K. Brune and R. Lanz, Urban & Schwarzenberg, pg. 61-67 (1985).

25. H. Möllmann, J. Barth, K.M. Müller, P. Rohdewald, A. Grüner, H. Derendorf
Pulmonary complications in intensive care patients-therapeutic approaches for the treatment of ARDS

HPLC determination of glucocorticoid alcohols, their phosphates and hydrocortisone in aqueous solutions and biological fluids.
27. H. Derendorf, G. Mullersman, J. Barth, A. Grüner, H. Möllmann
Pharmacokinetics of diclofenac sodium after intramuscular administration in combination with triamcinolone acetate.

28. G. Mullersman, H. Derendorf
Ranitidine - rapid analysis in biological fluids and determination of erythrocyte partitioning.

29. G. Mullersman, V.P. Gotz, W.L. Russell, H. Derendorf
Lack of clinically significant in vitro and in vivo interactions between ranitidine and sucralfate.

30. R.L. Yost, H. Derendorf
Pharmacokinetics of cefotaxime and its metabolite in normal and morbidly obese patients.
Ther. Drug Monitor. 8, 189-194 (1986).

Pharmacokinetics and pharmacodynamics of glucocorticoid suspensions after intraarticular administration.

32. H. Möllmann, J. Rehder, P. Rohdewald, B.E. Braun, J. Barth, H. Derendorf, B. Holtmann, A. Grüner
Exogenous and endogenous glucocorticoid plasma level after intramuscular administration of diclofenac and triamcinolone diacetate

Comparison of the kinetics and dynamics of intraarticular glucocorticoid suspensions.
Akt. Rheumatol. 11, 55-60 (1986).

34. H. Derendorf, M. Kaltenbach
Coulometric high-performance liquid chromatographic-analysis morphine in biological fluids.
35. P. Rohdewald, H. Möllmann, J. Barth, J. Rehder, H. Derendorf
Pharmacokinetics of dexamethasone and its phosphate ester.

36. S.A. Stout, H. Derendorf
Local treatment of respiratory infections with antibiotics.

37. H. Derendorf
Erythrocyte - binding of cephalosporins.

38. P. Rohdewald, J. Rehder, H. Möllmann, J. Barth, H. Derendorf
Pharmacokinetics and pharmacodynamics of prednisolone after extremely high doses of prednisolone hemisuccinate.

39. G. Mullersman, S. Toufflin, H. Derendorf
HPLC analysis of buprenorphine in plasma and urine using coulometric detection.

40. S.A. Stout, C.M. Riley, H. Derendorf
The correlation between the pharmacokinetics of melphalan and the pharmacodynamic response of neuroblastoma cells treated in vitro.

41. H. Derendorf
Pharmacokinetic evaluation of cefotaxime in normal and obese subjects.

42. H. Möllmann, P. Rohdewald, J. Barth, H. Derendorf
Effect of high doses of glucocorticoids on the kinetics of human white blood cells in vivo.

43. G. Mullersman, H. Derendorf, M.E. Brewster, K.S. Estes, N. Bodor
HPLC-Assay of a CNS directed estradiol chemical delivery system and its application after intravenous administration to rats.


52. M.E. Brewster, T. Loftsson, K.E. Estes, G. Mullersman, H. Derendorf, N. Bodor
Water soluble complexes of a brain-targeted drug delivery system.

53. H. Möllmann, P. Rohdewald, J. Barth, M. Verho, H. Derendorf
Pharmacokinetics and dose linearity testing of methylprednisolone phosphate.

54. H. Derendorf, H. Möllmann, P. Rohdewald, D. Strohband, J. Barth, G. Hochhaus
Pharmacokinetic aspects of intra-articular administration of glucocorticoids.

55. J. Barth, H.W. Möllmann, H. Derendorf, G. Hochhaus
Pharmacodynamic interactions in systemic glucocorticoid therapy.

56. J. Barth, A. Möllmann, G. Hochhaus, H. Derendorf, H.W. Möllmann
Absorption and transfer of water-soluble glucocorticoids through pulmonary membranes.

57. E.W. Schmidt, H. Derendorf, B. Rasche, H.W. Möllmann
Clinical and pharmacokinetic evaluation for the replacement therapy of \( \alpha_1 \)-protease-inhibitor in patients with congenital \( \alpha_1 \)-protease-inhibitor deficiency and lung emphysema.

58. H.G. Schaefer, D. Harrison, M.P. Hocking, J. Limberg, H. Derendorf
Effect of truncal vagotomy and partial gastrectomy on the pharmacokinetics of propranolol enantiomers in dogs.

59. H. Schreier, G. Hochhaus, R.J. Prankerd, H. Derendorf, M.E. Brewster, R.A. Baughman
Pharmaceutical Biotechnology: A new graduate course at the University of Florida College of Pharmacy.
60. J. Limberg, M. LeBel, H. Derendorf
Evaluation of free tissue concentrations of fleroxacin
after oral administration.

61. E. Brunt, J. Limberg, H. Derendorf
High performance liquid chromatographic-assay and
erthrocyte partitioning of fleroxacin, a new
fluoroquinolone antibiotic.

62. H. Derendorf, H. Möllmann, J. Barth
Comparative pharmacokinetic evaluation of
glucocorticoids after intraarticular administration.

Lopez, H. Derendorf
Simultaneous HPLC-assay of propranolol, diltiazem and
diltiazem-metabolites in human plasma with application.

64. P. Adland-Davenport, M.P. Brown, J.D. Robinson, H.
Derendorf
Pharmacokinetics of amikacin in critically ill neonatal
foals treated for presumed or confirmed sepsis.

65. H. Derendorf, H. Möllmann, G. Voortman, F.A. van den
Ouweland, L.B.A. van de Putte, G. Gevers, J. Dequeker,
E. van Vliet-Daskalopoulou
Pharmacokinetics of rimexolone after intra-articular
administration.

66. K. Dietzel, V. Keuth, K.S. Estes, M.E. Brewster, R.
Clemmons, R. Vistelle, N.S. Bodor, H. Derendorf
A redox-based system that enhances delivery of
estradiol to the brain: Pharmacokinetic evaluation in
the dog.

Simultaneous determination of propranolol and 4-
hydroxypropranolol enantiomers after chiral
derivatization using reversed phase high-performance
liquid chromatography.
68. J. Limberg, D. Harrison, M.P. Hocking, H. Derendorf
Theophylline absorption and gastric emptying after partial gastrectomy in dogs.

69. M. Kaltenbach, S.H. Curry, H. Derendorf
Extent of drug absorption at the time of peak plasma concentration in an open one-compartment body model with first-order absorption.

70. K. Dietzel, K.S. Estes, M.E. Brewster, N.S. Bodor, H. Derendorf
The use of hydroxypropyl-β-cyclodextrin as a vehicle for intravenous administration of dexamethasone in dogs.

71. J. Barth, H. Fett, M. Pörtner, B.E. Braun, H. Möllmann, P. Rohdewald, J. Krämer, H. Derendorf
Exogenous and endogenous glucocorticoid levels after epidural administration of glucocorticoid crystal suspensions in different volumes.

Distribution and aggregation of crystals in glucocorticoid suspensions.

73. C.D. Hepler, L.M. Strand, H. Derendorf
The pharmacist and pharmaceutical care - future opportunities and responsibility.

74. K.S. Estes, V. Keuth, K. Dietzel, M.E. Brewster, N.S. Bodor, H. Derendorf
A redox-based chemical delivery system that enhances estradiol to the brain: Disposition studies in the rat.

75. O. Makil, M. Kaltenbach, J. Limberg, D. Harrison, M.P. Hocking, H. Derendorf
Pharmacokinetics of ranitidine after partial gastrectomy in dogs.
76. H. Derendorf, H. Möllmann, J. Barth, C. Möllmann, S. Tunn, M. Krieg
Pharmacokinetics and oral bioavailability of hydrocortisone.

77. H. Möllmann, J. Barth, C. Möllmann, S. Tunn, M. Krieg, H. Derendorf
Pharmacokinetics and rectal bioavailability of hydrocortisone acetate.

78. H. Derendorf, H. Möllmann, M. Krieg, S. Tunn, C. Möllmann, J. Barth, H.J. Röthig
Pharmacodynamics of methylprednisolone phosphate after single intravenous administration to healthy
volunteers.

79. B. Wichert, H. Schreier, H. Derendorf
Sensitive HPLC-assay for the determination of amikacin in human plasma.

80. C.D. Page, M. Mautino, H. Derendorf, W. Mechlinski
Multiple-dose pharmacokinetics of ketoconazole administered orally to gopher tortoises (Gopherus polyphemus).

81. T. Loftsson, M.E. Brewster, H. Derendorf, N. Bodor
2-Hydroxypropyl-β-cyclodextrin: Properties and usage in pharmaceutical formulations.

82. C.D. Page, M. Mautino, H. Derendorf, J.P. Anhalt
Comparative pharmacokinetics of trimethoprim-sulfamethoxazole administered intravenously and orally
to captive elephants.

83. K.H. Rand, K. Gibbs, H. Derendorf, J. Graham-Pole
Pharmacokinetics of intravenous immunoglobulin in bone marrow transplant patients.
84. K.S. Estes, P. Dewland, M.E. Brewster, H. Derendorf, N. Bodor
A redox-based chemical delivery system (CDS) applied to estradiol.

85. G. Hochhaus, H. Derendorf, H. Möllmann, J. Barth
A selective HPLC/RIA for dexamethasone and its prodrug
dexamethasone-21-isonicotinate in biological fluids.

86. M.A. Longer, H.G. Schaefer, H. Derendorf
Fundamentals of assessing bioequivalence studies.

Pharmacokinetic characterization and tissue
distribution of the new glucocorticoid soft drug
loteprednol etabonate in rats and dogs.

88. H. Schreier, K.J. McNicol, M. Ausborn, D.M. Soucy, H.
Derendorf, A.A. Stecenko, R.J. Gonzalez-Rothi
Pulmonary delivery of amikacin liposomes and acute
liposome toxicity in the sheep.

89. S. Tunn, H. Möllmann, J. Barth, H. Derendorf, M. Krieg
Simultaneous measurement of cortisol in serum and saliva after different forms of cortisol administration.

90. G. Hochhaus, R. Hochhaus, G. Werber, H. Derendorf, H.
Möllmann
A selective HPLC/RIA for dexamethasone and its prodrug
dexamethasone-21-sulphobenzoate sodium in biological fluids

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pomegranate (Punica granatum L.) polyphenols after
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volunteers

Nunan, G.A. Pianetti, L.M. Moreira-Campos, S.U.
Mertens-Talcott, H. Derendorf
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288. O. Burkhardt, H. Derendorf, D. Jäger, V. Kumar, R.
Madabushi, K. Rohl, J. Barth
Moxifloxacin distribution in the interstitial space of
infected decubitus ulcer tissue of patients with spinal
cord injury measured by in vivo microdialysis

289. E.O. Meltzer, H. Derendorf
The systemic safety of inhaled corticosteroid therapy:
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290. H. Derendorf, R. Nave, A. Drollmann, F. Cerasoli, W.
Wurst
Relevance of pharmacokinetics and pharmacodynamics of
inhaled corticosteroids to asthma

291. S.U. Mertens-Talcott, I. Zadezensky, W.V. De Castro, H.
Derendorf, V. Butterweck
Grapefruit-Drug Interactions: Can Interactions with
drugs be avoided?
292. V. Kumar, S. Mostafa, M.W. Kayo, E.P. Goldberg, H. Derendorf
HPLC Determination of dexamethasone in human plasma and its application to an in vitro release study from endovascular stents
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293. J.A. Manthey, K Myung, S. Mertens-Talcott, H. Derendorf, V. Butterweck, W.W. Widmer
The isolation of minor-occurring furanocoumarins in grapefruit and analysis of their inhibition of CYP3A4 and P-glycoprotein transport of talinolol from Caco-2 cells

294. O. Burkhardt, V. Kumar, D. Katterwe, J. Majcher-Peszynska, B. Drewelow, H. Derendorf, T. Welte
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Biowaiver monographs for immediate release solid oral dosage forms: Prednisolone

297. O. Burkhardt, H. Derendorf, T. Welte
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298. H. Derendorf
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299. J. Xu, J. Winkler, H. Derendorf
A pharmacokinetic/pharmacodynamic approach to predict total prednisolone concentrations in human plasma


307. Y. Li, H. Nguyen, H. Derendorf, S. Cheng, C.J. Clancy
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309. H. Derendorf, K.S. Estes
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310. C. Scheerans, H. Derendorf, C. Kloft
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A pharmacokinetic/pharmacodynamic mathematical model
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312. J.W. Mouton, U. Theuretzbacher, W.A. Craig, P.MM.
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Tissue concentrations: Do we ever learn?

Kliegel, P. Jilma-Stohlawetz, H. Derendorf, B. Jilma
Duffy antigen modifies the chemokine response in human
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314. S. Schmidt, R. Banks, V. Kumar, K.H. Rand, H. Derendorf
Clinical microdialysis in skin and soft tissues: an
update.
List of Papers Presented at Meetings

1. H. Derendorf, P. Rohdewald
   Measurement of the analgesic action by subjective and objective parameters.
   4th Meeting on the Pain Society of Germany, Austria and Switzerland, Munich, October 1979

2. P. Rohdewald, H. Derendorf, C.E. Elger, O. Knoll
   Evoked potentials as objective parameters of the analgesic response of weak analgesics.
   Clinical Applications of Evoked Potentials in Neurology, Lyon, October 1980

3. H. Derendorf, E.R. Garrett
   HPLC of methadone, its major metabolite and cocaine using a post-column extraction of a fluorescent ion-pair.
   31st National Meeting of the American Pharmaceutical Association Academy of Pharmaceutical Sciences, Orlando, November 1981

4. H. Derendorf, E.R. Garrett
   Determination of morphine-antagonists in biological fluids using HPLC with electrochemical detection.
   31st National Meeting of the American Pharmaceutical Association Academy of Pharmaceutical Sciences, Orlando, November 1981

5. H. Derendorf, G. Drehsen, P. Rohdewald
   Relative potency of over-the-counter analgesics estimated by somatosensory evoked potentials.
   83rd Annual Meeting of the American Society of Clinical Pharmacology and Therapeutics, Lake Buena Vista, March 1982

6. H. Derendorf, G. Drehsen, P. Rohdewald
   Drug release, saliva levels and efficacy of weak analgesics.
   1st General Conference on Pharmaceutical Sciences, Munich, April 1983

   Influences of high doses of water-soluble glucocorticoids on the cortisol-level in humans.
   1st General Conference on Pharmaceutical Sciences Munich, April 1983

   Electrochemical determination of erythrocyte partitioning and protein binding of naloxone and naltrexone.
   1st General Conference on Pharmaceutical Sciences, Munich, April 1983

   Attenuation of pain by over-the-counter analgesics.
   Sertturner-Symposium, Paderborn, June 1983

10. H. Derendorf, G. Hochhaus, H. Möllmann, P. Rohdewald
    Determination of glucocorticoids and their water soluble esters in biological fluids.
    35rd National Meeting of the American Pharmaceutical Association Academy of Pharmaceutical Sciences, Miami, November 1983

11. H. Derendorf, G. Drehsen, P. Rohdewald
    Analgesic activity of antipyrine in humans.
    85th Annual Meeting of the American Society for Clinical Pharmacology and Therapeutics, Atlanta, March 1984

12. H. Derendorf, H. Möllmann, P. Rohdewald
    Pharmacokinetics and pharmacodynamics of methylprednisolone and its hemisuccinate ester.
    131st Annual Meeting of the American Pharmaceutical Association, Montreal, May 1984

    Pharmacokinetics of water soluble glucocorticoids.
    Annual Meeting of the German Pharmaceutical Association, Dusseldorf, September 1984

14. H. Derendorf, R.L. Yost
    Determination of cephalosporins and their metabolites in biological fluids.
    37th National Meeting of the American Pharmaceutical Association Academy of Pharmaceutical Sciences, Philadelphia, October 1984
15. H. Derendorf, H. Möllmann, P. Rohdewald
   Pharmacokinetics of glucocorticoids following the application of high doses of
   water soluble glucocorticoids.
   7th European Workshop on Inflammation, Capri, April 1985

16. R.L. Yost, H. Derendorf, M.B. Affrime
   Pharmacokinetics of cefotaxime and its metabolite in normal and morbidly obese
   subjects.
   Annual meeting of the American College of Clinical Pharmacy, Orlando, July 1985

17. H. Derendorf, H. Möllmann, P. Rohdewald
   Pharmacokinetics of high dose glucocorticoids
   45th International Congress of Pharmaceutical Sciences of F.I.P., Montreal,
   September 1985

18. H. Derendorf, M. Kaltenbach
   Coulometric HPLC analysis of morphine in biological fluids.
   International Symposium on Drug Analysis, Ottawa, September 1985

   HPLC - Determination of free and conjugated estrogens in tablets.
   133rd Annual Meeting of the American Pharmaceutical Association, San Francisco,
   March 1986

20. H. Derendorf, H. Möllmann, P. Rohdewald, G. Gyselby
   Pharmacokinetics and pharmacodynamics of glucocorticoid suspensions after
   intraarticular administration.
   133rd Annual Meeting of the American Pharmaceutical Association, San Francisco,
   March 1986

21. H. Derendorf
   Pharmacokinetics and pharmacodynamics of high-dose glucocorticoids.
   19th Annual Higuchi Research Seminar, Lake Ozark, March 1986

22. H. Derendorf, M. Kaltenbach, G. von der Lippe
   Coulometric HPLC-analysis of morphine-surrogates in biological fluids.
   2nd International Symposium on Drug Analysis, Brussels, May 1986

23. G. Mullersman, V.P. Gotz, W.L. Russell, H. Derendorf
   In vitro and in vivo interactions between ranitidine and sucralfate.
   Annual Meeting of the American College of Clinical Pharmacy, Chicago, July 1986

24. G. Mullersman, H. Möllmann, A. Gruner, H. Derendorf
   Influence of triamcinolone acetate on the pharmacokinetics of diclofenac after
   i.m. - administration.
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   September 1986

25. G. Mullersman, V. Gotz, H. Derendorf
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   Meeting of the Austrian and German Pharmaceutical Association, Innsbruck,
   September 1986

26. G. Mullersman, S. Toufflin, H. Derendorf
   Coulometric HPLC-Analysis of buprenorphine
   Meeting of the Austrian and German Pharmaceutical Association, Innsbruck,
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27. M. Butschkau, J.H. Perrin, H. Derendorf
   HPLC - determination, erythocyte binding and relative bioavailability of codeine.
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   September 1986

   HPLC - determination of conjugated estrogens.
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   September 1986

   Pharmacokinetics and pharmacodynamics of a brain-specific estradiol chemical
   delivery system.
   Meeting of the Austrian and German Pharmaceutical Association, Innsbruck,
   September 1986
30. H. Derendorf, M. Burschak, J.H. Perrin
HPLC-assay, erythrocyte binding and relative bioavailability of codeine.
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31. G. Mullersman, V. Gotz, H. Derendorf
In vitro and in vivo interactions between ranitidine and sucralfate.
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32. G. Mullersman, H. Möllmann, A. Grüner, H. Derendorf
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with triamcinolone acetate.
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33. G. Mullersman, S. Toufflin, H. Derendorf
Coulometric HPLC-Analysis of buprenorphine.
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34. S.A. Stout, D. Worthington-White, C.M. Riley, H. Derendorf
Comparison of a short term assay and a clonogenic assay for the determination of
anticancer drug effects.
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Therapeutics, Orlando, March 1987

35. H. Derendorf, H. Möllmann, P. Rohdewald
Pharmacokinetics and pharmacodynamics of high-dose glucocorticoid esters.
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Therapeutics, Orlando, March 1987

36. H. Derendorf
Pharmacokinetics and pharmacodynamics of a chemical delivery system for estradiol.
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37. H. Derendorf
Pharmacokinetics of glucocorticoids.
Workshop on Glucocorticoids in Rheumatology and Orthopedics, Rottach-Egern, April
1987

38. S. A. Stout, C. M. Riley, H. Derendorf
The correlation between the pharmacokinetics of melphalan and the pharmacodynamic
response of neuroblastoma cells treated in vitro.
3rd European Congress of Biopharmaceutics and Pharmacokinetics, Freiburg, April
1987

39. H. Derendorf
Pharmacokinetic evaluation of cefotaxime in normal and obese subjects.
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40. S.A. Stout, C.M. Riley, H. Derendorf
In vitro pharmacokinetics and pharmacodynamics of melphalan.
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Munich, April 1987

41. H. Derendorf
Estimation of free tissue levels for the pharmacokinetic evaluation of
antibiotics.
Biennial Conference on Chemotherapy of Infectious Diseases and Malignancies,
Munich, April 1987

42. H. Derendorf
Pharmacokinetic significance of free tissue levels.
Interscience Conference on Antimicrobial Agents and Chemotherapy, New York,
October 1987

43. H. Derendorf
Pharmacokinetic criteria for the evaluation of beta-lactam antibiotics.
American Association of Pharmaceutical Scientists Western Regional Meeting, Reno,
February 1988
44. H. Derendorf, H. Möllmann, P. Rohdewald
Pharmacokinetics and pharmacodynamics of methylprednisolone phosphate and hemisuccinate.
89th Annual Meetings of the American Society of Clinical Pharmacology and Therapeutics, San Diego, March 1988

45. H. Derendorf
Estimation of free tissue levels of antibiotics.
21st Annual Higuchi Research Seminar, Lake Ozark, March 1988

Chemical and biological properties of a 2-hydroxy-propyl-β-cyclodextrin complex of an estradiol chemical delivery system.
4th International Symposium on Cyclodextrins, Munich, April 1988

47. K.S. Estes, H. Derendorf, M.E. Brewster, N. Bodor
Buccal administration of a brain-targeted redox-based chemical delivery system for estradiol in rats.
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48. H. Derendorf, H. Möllmann, P. Rohdewald, C. Möllmann, J. Barth
Clinical pharmacodynamics of methylprednisolone phosphate.
Annual Meeting of the American Association of Pharmaceutical Scientists, Orlando, November 1988

49. J. Barth, A. Fett, M. Pörtner, B.E. Braun, H.W. Möllmann, J. Krämer, P. Rohdewald, H. Derendorf
Pharmacokinetics of two glucocorticoid suspensions after epidural administration.
Annual Meeting of the American Association of Pharmaceutical Scientists, Orlando, November 1988

50. H. Derendorf, K.S. Estes, R. Vistelle, M.E. Brewster, R. Clemmons, N. Bodor
Pharmacokinetics of an estradiol chemical delivery system in dogs.
Annual Meeting of the American Association of Pharmaceutical Scientists, Orlando, November 1988

51. H. Möllmann, P. Rohdewald, J. Barth, C. Möllmann, H. Derendorf
Comparison of pharmacokinetic and pharmacodynamic properties of high doses of methylprednisolone prodrugs.
Annual Meeting of the American Association of Pharmaceutical Scientists, Orlando, November 1988

52. E. Brunt, J. Limberg, H. Derendorf
HPLC-assay, protein binding and red blood cell partitioning of fleroxacin.
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53. H. Derendorf, H. Möllmann, P. Rohdewald, D. Stroband
Comparison of pharmacokinetic properties of several glucocorticoids after intraarticular administration.
Annual Meeting of the American Association of Pharmaceutical Scientists, Orlando, November 1988

54. C.J. Betlach, A. Cohen, W. Huang, H. Derendorf, M.A. Gonzalez
The multiple dose pharmacokinetics of two 24 hour theophylline tablets in normal subjects.
45th Annual Congress of the American College of Allergy and Immunology, Los Angeles, November 1988

55. H. Möllmann, H. Derendorf, G. Hochhaus, J. Barth
Biopharmaceutical and pharmacological aspects of locally and systemically administered glucocorticoids.
4th Annual Meeting of the German Society for Osteology, Göttingen, February 1989

56. H. Möllmann, H. Derendorf, G. Hochhaus, J. Barth
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57. J. Barth, H. Möllmann, H. Derendorf, G. Hochhaus
Pharmacodynamic interactions of systemic glucocorticoid therapy.
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60. H. Derendorf, J. Limberg, E. Brunt
Erythrocyte uptake and protein binding of fleroxacin.
4th European Congress on Clinical Microbiology, Nice, April 1989

61. H. Derendorf, H. Möllmann, P. Rohdewald, C. Möllmann, M. Krieg, S. Tunn, J. Barth,
H.J. Röthig
Clinical pharmacokinetics and pharmacodynamics of methylprednisolone phosphate.
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Heidelberg, July 1989

62. G. Hochhaus, H. Derendorf, H. Möllmann, C. Möllmann, M. Krieg, S. Tunn, J. Barth,
H.J. Röthig
Comparison of the clinical pharmacodynamics of dexamethasone, methylprednisolone
and triamcinolone acetonide.
4th World Conference on Clinical Pharmacology and Therapeutics, Mannheim-
Heidelberg, July 1989

63. H. Möllmann, J. Barth, H. Derendorf, G. Hochhaus
Time course of bronchospasmyotic effects after injection of different water-
soluble glucocorticoids.
4th World Conference on Clinical Pharmacology and Therapeutics, Mannheim-
Heidelberg, July 1989

64. F.F.T. Ververs, L Lopez, H.G. Schaefer, S. Freyer, H. Derendorf
Simultaneous HPLC-assay of propranolol, diltiazem and diltiazem-metabolites in
human plasma with applications.
49th International Congress of Pharmaceutical Sciences of F.I.P., Munich,
September 1989

65. H. Derendorf, Y.L. Kan, J. Perrin
Effect of lovastatin on the pharmacokinetics of glipizide.
49th International Congress of Pharmaceutical Sciences of F.I.P., Munich,
September 1989

66. J. Limberg, J. Sastry, N. Bodor, H. Derendorf
Analysis, stability and receptor binding studies on a chemical delivery system for
enkephalins.
49th International Congress of Pharmaceutical Sciences of F.I.P., Munich,
September 1989

Improved bioavailability of dexamethasone administered intravenously as a water
soluble cyclodextrin inclusion complex.
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68. K. Dietzel, V. Keuth, K.S. Estes, M. Brewster, N. Bodor, H. Derendorf
Pharmacokinetics of a chemical delivery system for estradiol in dogs.
49th International Congress of Pharmaceutical Sciences of F.I.P., Munich,
September 1989

69. H.G. Schaefer, H. Spahn, J. Limberg, H. Derendorf
Effects of partial gastrectomy on the pharmacokinetics of propranolol-enantiomers.
49th International Congress of Pharmaceutical Sciences of F.I.P., Munich,
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70. H. Derendorf, H. Möllmann
Clinical pharmacokinetics and pharmacodynamics of methylprednisolone phosphate.
Annual Meeting of the Southeastern Chapter of the American College of Clinical

71. K. Dietzel, K.S. Estes, M.E. Brewster, N.S. Bodor, H. Derendorf
Dose linearity testing for a chemical delivery system for estradiol in dogs.
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Atlanta, October 1989.
72. K. Dietzel, K.S. Estes, M.E. Brewster, N.S. Bodor, H. Derendorf
Pharmacokinetics of dexamethasone after intravenous administration of an inclusion
complex in ß-hydroxypropylcyclodextrin.
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Atlanta, October 1989.

73. H. Derendorf, J. Limberg, J. Sastry, N. Bodor
Stability and receptor binding of chemical delivery systems for enkephalins.
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Effects of partial gastrectomy on the pharmacokinetics of propranolol-enantiomers
and theophylline in dogs.
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75. H. Möllmann, J. Barth, E.W. Schmidt, P. Rohdewald, H. Derendorf, G. Hochhaus
Bronchospasmyolytic activity of methylprednisolone in patients with severe
pulmonary obstruction.
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Atlanta, October 1989.

76. E.W. Schmidt, B. Rasche, H. Möllmann, J. Barth, W.T. Ulmer, H. Derendorf
Plasma-levels of α-protease inhibitor, trypsin inhibitor and elastase-inhibitor
in patients with long emphysema.
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Atlanta, October 1989.

77. H. Derendorf
Dose optimization based on pharmacokinetic/pharmacodynamic modelling.
23rd Annual Higuchi Research Seminar, Lake Ozark, March 1990.

78. H. Derendorf
The role of pharmacokinetics in clinical trials.
7th Symposium on Chemotherapeutics, Munich, March 1990.

79. B. Wichert, H. Derendorf, R.J. Gonzalez-Rothi, H. Schreier
Anti-TB drug liposome aerosols: formulation, characterization, stability and
uptake by pulmonary alveolar macrophages (AM) in vitro.
36th Annual Congress of the International Association for Pharmaceutical
Technology (APV), Kiel, March 1990.

80. H. Derendorf
Estimation of free tissue levels as predictors of antibiotic activity.

81. J. Barth, H. Möllmann, H. Derendorf, G. Hochhaus
Pharmacokinetic-pharmacodynamic optimization of systemic glucocorticoid therapy of
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Ulmer Symposium on Colitis, Ulm, March 1990.

82. H. Möllmann, J. Barth, H. Derendorf, G. Hochhaus
Clinical significance of pharmacokinetics, intrinsic activity and
biopharmaceutical properties of glucocorticoids after oral and intravenous
administration.
Ulmer Symposium on Colitis, Ulm, March 1990.

83. H. Möllmann, J. Barth, D. Hüppe, H. Derendorf, G. Hochhaus
Clinical pharmacology of rectally administered glucocorticoids for Crohn's Disease
and colitis ulcerosa.
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84. H. Möllmann, J. Barth, S. Tunn, M. Krieg, H. Derendorf, C.R. Möllmann
Pharmacokinetics and bioavailability of hydrocortisone after rectal administration
of hydrocortisone acetate foam in comparison to oral or intravenous administration
of hydrocortisone.
Ulmer Symposium on Colitis, Ulm, March 1990.

85. H. Derendorf, H. Möllmann, G. Hochhaus
Free peripheral compartment levels as interface between pharmacokinetics and
pharmacodynamics of glucocorticoids.
3rd Symposium Frontiers of Pharmacokinetics and Pharmacodynamics, Baltimore, April
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86. H. Derendorf, H. Möllmann, J. Barth, G. Hochhaus
Dose optimization of glucocorticoids based on pharmacokinetic-pharmacodynamic
modelling.
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87. J. Barth, H. Möllmann, H. Derendorf, C. Möllmann, G. Hochhaus, K.H. Lehr, T.
Höhler
Systemic absorption of prednicarbamate after dermal, oral and pulmonary
administration.
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The oxidized metabolite of a redox-based chemical delivery system for estradiol is
rapidly eliminated in bile and urine of dogs.

89. K.S. Estes, K. Dietzel, M.E. Brewster, N. Bodor, H. Derendorf
Dexamethasone administered intravenously as a water soluble cyclodextrin inclusion
complex.
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90. H. Derendorf, G. Hochhaus, H. Möllmann, J. Barth
Dose optimization of corticosteroids.
Annual Meeting of the Southeastern Chapter of the American College of Clinical
Pharmacology, Johnson City, September 1990.

91. H. Derendorf, G. Hochhaus, H. Möllmann, J. Barth
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pharmacodynamic modelling.
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Vegas, November 1990.

92. P. LaBelle, P.D. Ronca, R.V. Zupkis, S. Schwartz, J. Perrin, H. Derendorf, Y.L.
Kan
The short-term effects of lovastatin on glipizide pharmacokinetics and glycemic
control in hypercholesterolemic diabetics.
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Vegas, November 1990.

93. H. Derendorf, G. Hochhaus, H. Möllmann, J. Barth
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Vegas, November 1990.

94. G. Hochhaus, L.S. Chen, H. Derendorf, P. Druzgala
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Fifth Annual Meeting of the American Association of Pharmaceutical Scientists, Las
Vegas, November 1990.

Pharmacokinetic interaction of diltiazem and propranolol enantiomers.
Fifth Annual Meeting of the American Association of Pharmaceutical Scientists, Las
Vegas, November 1990.

96. S.S. Mohamed, H. Derendorf
Binding of codeine to healthy and sickle erythrocytes.
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Vegas, November 1990.

97. H. Derendorf, H. Möllmann, J. Barth, S. Tunn, M. Krieg
Saliva levels as predictors for free corticosteroid levels in plasma.
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Vegas, November 1990.

Rapid biliary elimination of the oxidized metabolite of a redox-based chemical
delivery system for estradiol in dogs.
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Vegas, November 1990.

99. H. Derendorf
The role of the pharmacist today and tomorrow.
100. H. Derendorf  
Pharmacokinetic aspects of drug evaluation.  
5th Symposium of the Section Pharmaceutical Chemistry of the German Pharmaceutical  

101. H. Derendorf, H. Möllmann, J. Barth  
Treatment of pulmonary diseases with corticosteroids on the basis of  
pharmacokinetic-pharmacodynamic relationships.  

102. H. Derendorf  
Dose optimization of corticosteroids based on pharmacokinetic-pharmacodynamic  
modelling.  
International Workshop on Differential Corticosteroid Therapy of Chronically  
Inflamed Bowel Diseases, Köln, March 1991.

103. H. Derendorf  
Twin peaks - stereoselective pharmacokinetics of propranolol.  

104. G. Hochhaus, R. Hochhaus, H. Möllmann, C. Barmeyer, H. Derendorf  
A sensitive assay for the simultaneous measurement of dexamethasone and  
dexamethasone-21-isonicotinate.  
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105. H. Derendorf, G. Hochhaus, H. Möllmann, J. Barth  
Prediction of clinical potency of corticosteroids by pharmacokinetic-  
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107. S. Freyer, L. Lopez, H. Derendorf  
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108. M.L. Kaltenbach, A.P. Mauderli, F. Bauman, B.L. Grundy, H. Derendorf  
Tooth-pulp evoked potentials in human pain research: Methods and apparatus.  
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110. K.H. Rand, K. Gibbs, H. Derendorf, J. Graham-Pole  
Pharmacokinetics of intravenous immunoglobulin in bone marrow transplant patients.  
Fifth International Conference on Immunopharmacology, Tampa, May 1991.

111. H. Derendorf, G. Hochhaus, H. Möllmann, J. Barth  
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activity.  
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112. H. Derendorf  
Relevant pharmacokinetic parameters for antibiotics.  

Sustained estradiol in CSF with a chemical delivery system.  

114. J. Barth, H. Möllmann, S. Tunn, T. Wagner, H. Derendorf, G. Hochhaus  
Systemic absorption from hydrocortisone acetate rectal foam after single and  
multiple administration in healthy volunteers and patients with ulcerative colitis  
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September 1991.
115. H. Derendorf
Significance of pharmacokinetic parameters for drug evaluation.
First Pharmacy Congress of the South Cone, Gramado, September 1991.

116. H. Derendorf
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124. C.D. Page, M. Mautino, H. Derendorf, J.P. Anhalt
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133. J. Barth, H. Möllmann, H. Derendorf, G. Hochhaus
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144. A. Nolting, J. Limberg, M. Lebel, H. Derendorf
Free tissue levels as predictors of antibiotic activity

Pharmacokinetics of codeine in sickle cell patients and healthy controls.

146. K.S. Estes, M.E. Brewster, H. Derendorf, R.M. Clemmons, N. Bodor
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What exactly is "tissue concentration"?
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160. A. Nolting, J. Limberg, M. Lebel, H. Derendorf
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163. A. Suri, H. Derendorf, R.J.M. Mies, M. Kaltenbach, J. van der Aa, N. Gravenstein
Use of a spreadsheet program for the determination of variable infusion rates to produce stepwise changes of morphine steady state levels

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165. H. Derendorf
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166. K.S. Estes, M. Brewster, H. Derendorf, P.M. Clemmons, N. Bodor
A chemical delivery system (CDS) enhances estradiol in CSF vs. plasma of dogs

167. C. Vivas, L. Panton, M. Gonzalez, D. Lowenthal, J. Graves, H. Derendorf
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168. A. Nolting, H. Derendorf
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169. S. Rohatagi, H. Möllmann, J. Barth, A. Soldner, G. Hochhaus, H. Derendorf
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170. A. Suri, V. Srinivasan, M. Kaltenbach, B. Grundy, H. Derendorf
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172. A. Tromm, H. Möllmann, U. Schwengler, B. May, J. Barth, H. Derendorf, G. Hochhaus
Pharmacokinetics and pharmacodynamics of budesonide after oral topical administration
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174. H. Derendorf
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183. H. Derendorf
Pharmacodynamic aspects of oral, buccal and nasal systemic drug delivery
184. A. Tromm, H. Möllmann, U. Schwengler, B. May, J. Barth, H. Derendorf, G. Hochhaus
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187. A. Nolting, H. Derendorf, K. Rand
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188. S. Rohatagi, H. Möllmann, J. Barth, A. Soldner, G. Hochhaus, H. Derendorf
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192. J. Barth, G. Hochhaus, H. Derendorf, K.H. Lehr, T. Hoehler, H. Möllmann
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H. Derendorf, G. Hochhaus, S. Rohatagi, J. Barth, H. Möllmann
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S. Rohatagi, E. Galia, G. Hochhaus, H. Derendorf
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212. P. Froehlich, H. Derendorf, H. Möllmann, G. Hochhaus
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213. A. Suri, H. Derendorf
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214. S. Rohatagi, E. Galia, G. Hochhaus, H. Derendorf
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216. S. Rohatagi, E. Galia, G. Hochhaus, H. Derendorf
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   Free tissue levels of piperacillin measured by microdialysis as indicators of
   antibacterial activity
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218. H. Derendorf
   Introduction to PK/PD modelling

219. H. Derendorf
   Tissue pharmacokinetics
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220. H. Derendorf
   Combination of pharmacokinetics and pharmacodynamics
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   A novel method for analysis of budesonide and its metabolites in biological fluids
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222. S. Rohatagi, G. Hochhaus, H. Möllmann, J. Barth, M. Erdmann, H. Sourgens, H.
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223. S. Rohatagi, E. Galia, G. Hochhaus, H. Möllmann, J. Barth, M. Erdmann, H.
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224. S. Rohatagi, H. Möllmann, J. Barth, G. Hochhaus, H. Derendorf
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225. A. Tromm, H. Möllmann, J. Barth, G. Hochhaus, H. Derendorf
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226. J. Barth, G. Hochhaus, R. Hochhaus, H. Derendorf, H. Möllmann
Pharmacokinetics and pharmacodynamics of the water-soluble dexamethasone-21-sulfobenzoate and dexamethasone phosphate

227. H. Möllmann, J. Barth, M. Krieg, T. Wagner, H. Derendorf, G. Hochhaus
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228. J. Barth, H. Möllmann, H. Derendorf, C. Möllmann, G. Hochhaus, K.H. Lehr, T. Höhler
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229. A. Möllmann, H. Möllmann, A. Tromm, G. Hochhaus, J. Barth, C. Bigalke, H. Derendorf, B. May
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230. J. Barth, H. Möllmann, H. Derendorf, G. Hochhaus
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231. H. Derendorf
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232. H. Derendorf
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233. H. Derendorf
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234. A. Tromm, H. Möllmann, J. Barth, B. May, G. Hochhaus, H. Derendorf
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235. H. Derendorf
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236. H. Derendorf
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237. S. Rohatagi, G. Hochhaus, H. Derendorf
Correlation of in vitro and in vivo corticosteroid receptor affinity
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238. A. Suri, H. Derendorf
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239. S. Rohatagi, A. Bye, A. Mackie, H. Derendorf
Mathematical modeling of cortisol circadian rhythm and cortisol suppression
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240. S. Rohatagi, H. Derendorf
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241. S. Rohatagi, H. Derendorf
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243. S. Suarez, G. Hochhaus, R. Gonzalez-Rothi, A. Lukyanov, H. Derendorf, H. Schreier,
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244. A. Suri, H. Derendorf
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245. A. Kovar, T. Dalla Costa, H. Derendorf
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249. S. Rohatagi, A. Bye, A. Mackie, H. Derendorf
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250. S. Rohatagi, G. Hochhaus, H. Derendorf
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251. S. Rohatagi, H. Möllmann, J. Barth, G. Hochhaus, H. Derendorf
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252. S. Rohatagi, H. Möllmann, J. Barth, G. Hochhaus, H. Derendorf
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253. H. Derendorf, A. Nolting, T. Dalla Costa, K. Rand
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254. A. Suri, B. Grundy, H. Derendorf
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255. S. Rohatagi, Y.L. Kan, H. Derendorf
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256. S. Rohatagi, U. Täuber, H. Derendorf
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257. T. Dalla Costa, H. Derendorf
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258. H. Derendorf
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264. S. Rohatagi, H. Möllmann, J. Barth, G. Hochhaus, H. Derendorf
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265. A. Suri, B.L. Grundy, H. Derendorf
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266. S. Rohatagi, H. Möllmann, J. Barth, G. Hochhaus, H. Derendorf
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Dr. George Henderson (Post-doc)
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Ping Liu (Graduate Student)
Julia Winkler (Graduate Student)
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Antina Barger (Graduate Student)
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Tessa Ververs (Pharmacist, Research Associate)
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Herbert Schmidt (Pharmacist, Research Associate)
Hanneke Schreurs (Pharmacist, Research Associate)
Bettina Goldberg (Pharmacist, Research Associate)
Myriam Damoiseaux (Pharmacist, Research Associate)
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Eric Galia (Pharmacist, Research Associate)
Bart Metselaar (Pharmacist, Research Associate)
Heike Bauer (Pharmacist, Research Associate)
Christine Schäfer (Pharmacist, Research Associate)
Ulrike Gräfe (Biologist, Research Associate)
Andrea Hämmerlein (Pharmacist, Research Associate)
Christine Wellsow (Pharmacist, Research Associate)
Meyling Cheok (Pharmacist, Research Associate)
Otmar Abbas (Pharmacist, Research Associate)
Anne Gräbe (Pharmacist, Research Associate)
Funding for Research

1983 Division of Sponsored Research, University of Florida, New Faculty Research Support ($9,480).

Hoechst-Roussel Pharmaceuticals, Inc. (with R.L. Yost) Prepharmacokinetic studies on cefotaxime and its metabolites ($7,000).

Hoechst-Roussel Pharmaceuticals, Inc. (with R.L. Yost) Pharmacokinetic studies in morbidly obese patients using cefotaxime ($22,000).

College of Pharmacy, University of Florida Biomedical Research Support Grant ($5,000).

Perkin-Elmer Corp.
Research Donation ($2,687).

State of Florida Development of electrochemical techniques to determine morphine-derivatives ($4,000).

1984 State of Florida Development of electrochemical techniques to determine morphine-derivatives ($24,000).

College of Pharmacy, University of Florida Biomedical Research Support Grant ($5,000).

Hugh Little Research Donation ($12,000).

1985 Boots Inc. (with J. Perrin) Bioavailability of codeine and ibuprofen ($65,520).

State of Florida Development of electrochemical techniques to determine morphine-derivatives ($24,000).

Boots Inc. (with J. Perrin) Plasma levels of a new ibuprofen formulation ($22,464).

Glaxo Inc. Interaction of sucralfate and ranitidine ($9,000).

Boots Inc. (with J. Perrin) Bioavailability of ibuprofen suspensions ($13,690).
1986 College of Pharmacy, University of Florida
Biomedical Research Support Grant ($1,950).

Janssen Pharmaceuticals
Comparison of Sufentanil vs Fentanyl vs Isoflurane in Neuroanesthesia (PI B. L. Grundy, $35,000).

Cyanamid
Interaction between diclofenac and triamcinolone acetate ($5,000).

Embil Pharmaceuticals
Analysis and stability of conjugated estrogens ($1,500).

State of Florida
Development of electrochemical techniques to determine morphine - derivatives ($18,638).

1987 Hoechst
Pharmacokinetics of methylprednisolone phosphate ($10,000).

Hoffmann-LaRoche
Erythrocyte binding of fleroxacin ($8,300).

Pharmatec Inc.
Bioavailability of estradiol-CDS ($9,000).

Merck (with J. Perrin)
Pharmacokinetic interactions between glipizide and lovastatin ($10,395).

1988 Organon
Pharmacokinetics of intraarticular glucocorticoids ($10,816).

Schering
Bioavailability of theophylline ($25,760).

Pharmatec Inc.
Bioavailability of estradiol-CDS ($18,000).

1989 Pharmatec Inc.
Bioavailability of estradiol-CDS ($30,000).

Xenon Inc. (with G. Hochhaus)
Pharmacokinetics of glucocorticoids ($11,000)
Bristol-Myers (with H. Schreier)
Amikacin microemulsions for drug delivery ($24,000)

1990 Pharmatec Inc.
Bioavailability of estradiol-CDS ($20,000).

PMA Foundation
Evaluation of calcium blocker/beta blocker interactions ($5,000)

Bristol-Myers (with H. Schreier)
Amikacin microemulsions for drug delivery ($46,000.00)

Xenon Inc. (with G. Hochhaus)
Pharmacokinetics of loteprednol in dogs ($16,000.00)

1991 Xenon Inc.
Stability of soft drugs ($3,500.00)

Thomae (with G. Hochhaus)
Pharmacokinetics and pharmacodynamics of dexamethasone isonicotinate ($43,000.00)

Schering-Plough
Graduate Student Fellowship ($15,000.00)

NASA
Effects of simulated microgravity on the pharmacokinetics and pharmacodynamics of antibiotics ($22,000)

1992 Dept. of Anesthesiology, University of Florida
Patient controlled morphine analgesia ($2,000)

Hefa Frenon (with G. Hochhaus)
Pharmacokinetics of dexamethasone sulfobenzoate ($10,000)

Dorsch
Pharmacokinetics and pharmacodynamics of prednisolone ($10,000)

Schering-Plough
Graduate Student Fellowship ($15,000)

Daniels Pharmaceuticals, Inc.
Research Donation ($30,000)
Hartford Foundation (with D. Lowenthal)
Hepatic Blood Flow and Propranolol Kinetics in Response to Exercise Training in the Elderly ($5,000)

Pfizer, Inc.
Evaluation of analgesic activity using tooth pulp evoked potentials ($42,350)

NIH RO1 GM45922 (co-PI, with R. Gonzalez-Rothi)
Targeted Liposomal Corticoids for Lung Immunomodulation ($156,563)

1993 Schering-Plough
Graduate Student Fellowship ($15,000)

NIH RO1 GM45922 (co-PI, with R. Gonzalez-Rothi)
Targeted Liposomal Corticoids for Lung Immunomodulation ($163,234)

Falk (with G. Hochhaus)
Pharmacokinetics of Corticosteroids ($40,000)

1994 Glaxo Inc. (with G. Hochhaus)
Pharmacokinetics and Pharmacodynamics of Corticosteroids ($120,000)

Byk-Gulden (with G. Hochhaus)
Pharmacokinetics of Corticosteroids ($25,000)

NIH RO1 GM45922 (co-PI, with R. Gonzalez-Rothi)
Targeted Liposomal Corticoids for Lung Immunomodulation ($163,234)

Cyanamid
Pharmacokinetics and Pharmacodynamics of Antibiotics ($50,000)

Falk (with G. Hochhaus)
Pharmacokinetics of Corticosteroids ($60,000)

1995 Cyanamid
Pharmacokinetics and Pharmacodynamics of Antibiotics ($50,000)

Falk (with G. Hochhaus)
Pharmacokinetics of Corticosteroids ($15,000)

1996 Cyanamid
Pharmacokinetics and Pharmacodynamics of Antibiotics ($50,000)
Boehringer Ingelheim (with G. Hochhaus)
Pharmacokinetics of Corticosteroids ($237,440.00)

1997 Cyanamid
Pharmacokinetics and Pharmacodynamics of Antibiotics ($50,000)

Hexal
Pharmacokinetics and Pharmacodynamics of Antibiotics ($40,000)

NIH N01-A1-75317
Pathobiology and Treatment of Malaria in Africa (co-I, with P. Stacpoole) ($536,389)

NASA
Undergraduate Space Research Grant (with J. Hughes) ($4,000)

Boehringer Ingelheim (with G. Hochhaus)
Pharmacokinetics of Corticosteroids in Humans ($146,020)

1998 Glaxo-Wellcome
Pharmacokinetics and Pharmacodynamics of Corticosteroids (with G. Hochhaus) ($154,560)

Hexal
Pharmacokinetics and Pharmacodynamics of Antibiotics ($40,000)

Cyanamid
Pharmacokinetics and Pharmacodynamics of Antibiotics ($50,000)

Boehringer Ingelheim (with G. Hochhaus)
Pharmacokinetics of Corticosteroids in Mice ($13,600)

Berlex
Stability of fludarabine ($5,000)

1999 Hexal
Pharmacokinetics and Pharmacodynamics of Antibiotics ($25,000)
Cyanamid
Pharmacokinetics and Pharmacodynamics of Antibiotics
($35,000)

Wyle Laboratories
Pharmacokinetics of flurazepam
($9,000)

2000 Hexal
Pharmacokinetics and Pharmacodynamics of Antibiotics
($25,000)

Sankyo
Pharmacokinetics and Pharmacodynamics of Cefpodoxime
($37,500)

Cyanamid
Pharmacokinetics and Pharmacodynamics of Antibiotics
($25,000)

Tropical Aquaculture Laboratory
Pharmacokinetics of Flurfenicol
($12,075)

Bayer
Pharmacokinetics and Pharmacodynamics of Faropenem
($46,875)

2001 Sankyo
Pharmacokinetics and Pharmacodynamics of Cefpodoxime
($62,500)

Bayer
Determination of kill curves of Faropenem
($187,500)

Cyanamid
Pharmacokinetics and Pharmacodynamics of Antibiotics
($25,000)

CAPES
Bioavailability of 4-Nerolidylcatechol
($5,774)

Berlex
Stability and Sterility of Campath
($5,000)
2002  Sankyo  
  Protein Binding of Cefpodoxime  
  ($12,500)  

  Innaphase  
  Pharmacokinetic/pharmacodynamic Modeling  
  ($30,000)  

  Wyeth  
  Pharmacokinetics and Pharmacodynamics of Antibiotics  
  ($25,000)  

  Center for Biological Defense (with J. Hughes)  
  Expression of Defensins as Novel Anthrax Agents  
  ($125,000)  

2003  Sankyo  
  Pharmacodynamics of Cefpodoxime  
  ($75,000)  

  Florida Department of Citrus  
  Drug Interaction with Citrus Fruits  
  ($24,000)  

  US Department of Agriculture  
  Grapefruit Juice-Drug Interaction  
  ($232,180)  

2004  Wyeth  
  Pharmacokinetics and Pharmacodynamics of Antibiotics  
  ($25,000)  

  Eisai  
  Microdialysis in Tissues  
  ($5,000)  

  US Department of Agriculture  
  Grapefruit Juice-Drug Interaction  
  ($207,085)  

  Pfizer  
  Pharmacokinetics and Skin Microdialysis of Cefpodoxime  
  ($80,000)  

  State of Florida Department of Citrus  
  Analysis of Atorvastatin  
  ($80,000)
2005 State of Florida Department of Citrus
Drug Interactions with Grapefruit Juice
($20,000)

US Department of Agriculture
Grapefruit Juice-Drug Interaction
($321,318)

Pfizer
Graduate Student Support
($100,000)

Merck
Graduate Student Support
($50,000)

2006 Geni Herbs
Bioavailability and antioxidant effects of Pomella, a
Pomegranate extract
($15,437)

Pfizer
Graduate Student Support
($100,000)

Johnson & Johnson
In vitro study investigating the effects of antibiotics
on bacterial strains
($163,125)

Golin & Harris
Drug Interaction Website
($5,000)

Johnson & Johnson
Microdialysis validation of ceftobiprole
($43,650)

US Department of Agriculture
Grapefruit Juice-Drug Interactions After Acute and
Chronic Use
($317,933)

Merck
Graduate Student Support
($50,000)

2007 Johnson & Johnson
Evaluation of BAL9141 Solution
($14,650)
Johnson & Johnson
An Exploratory Study to Evaluate the Penetration of Ceftobiprole Into Soft Tissue Determined by In Vivo Microdialysis in Healthy Volunteers ($272,845)

Pfizer
Graduate Student Support ($100,000)

Merck
Graduate Student Support ($50,000)

2008 Johnson & Johnson
Pharmacokinetics of Ceftobiprol ($22,000)

Trius
In vitro PK/PD Investigations of TR-700 ($163,125)

Trius
Microdialysis Validation of TR-700 ($37,500)
CURRICULUM VITAE

JULIE A. JOHNSON

September 2007

PERSONAL INFORMATION

Address: Residence - 8152 Alderman Road
            Melrose, Florida 32666

            Office - Department of Pharmacy Practice
            College of Pharmacy
            The University of Florida
            Box 100486
            Gainesville, FL 32610-0486

            Email - johnson@cop.ufl.edu

Telephone: Residence - (352) 475-9653
            Office - (352) 273-6007
            FAX - (352) 273-6242

Place of Birth: Greenville, Ohio

Date of Birth: March 22, 1962

EDUCATION AND TRAINING

Bachelor of Science in Pharmacy, The Ohio State University, Columbus, Ohio, June 1985.

Doctor of Pharmacy, The University of Texas at Austin and The University of Texas Health Science Center at San Antonio, August 1987.

Postdoctoral Fellowship in Pharmacokinetics/Clinical Pharmacology - The Ohio State University, Columbus, Ohio. July 1987 to June 1989.

LICENSURE AND BOARD CERTIFICATION

Licensure: Ohio #03317131 (1987 to present)
            Florida #PS 36111 (2001 to present)
            Tennessee #007898 (1990 to 1999)
            Texas #28598 (1985-1988)

Board Certification: Board Certified Pharmacotherapy Specialist
                    October 1992, #292162
                    Added Qualifications in Cardiology, 2004
PROFESSIONAL APPOINTMENTS


1995-1998 Associate Professor of Pharmaceutical Sciences with Graduate Faculty Status - Department of Pharmaceutical Sciences, College of Pharmacy, The University of Tennessee, Memphis, Tennessee. July 1995 to April 1998.


1999-2001 Associate Professor of Medicine – Department of Medicine, Division of Cardiovascular Medicine, College of Medicine, University of Florida, Gainesville, Florida. July 1999 to June 2001.

2001-present Professor of Pharmacy Practice, tenured – Department of Pharmacy Practice, College of Pharmacy, University of Florida, Gainesville, Florida. July 2001 to present.

2001-present Professor of Medicine – Department of Medicine, Division of Cardiovascular Medicine, College of Medicine, University of Florida, Gainesville, Florida. July 2001 to present.

2001-present Director, University of Florida Center for Pharmacogenomics. September 2001 to present.

2002-present Professor of Pharmaceutics and Graduate Faculty Member, Department of Pharmaceutics, College of Pharmacy, University of Florida, Gainesville, Florida, July 2002-present.

2002-present Chair, Department of Pharmacy Practice, College of Pharmacy, University of Florida. Gainesville, Florida. July 2002 to present.

2004-present V. Ravi Chandran Professor of Pharmaceutical Sciences, endowed professorship. September 2004 to present.

PROFESSIONAL EXPERIENCE


Hospital Pharmacy Intern - Riverside Methodist Hospital, Columbus, Ohio. May 1983 to June 1985.

Part-time Staff Pharmacist - Bexar County Hospital District, Medical Center Hospital, San Antonio, Texas. July 1985 to July 1987.


Part-time Staff Pharmacist - SuperX Drug Stores, Columbus, Ohio, March 1988 to July 1989.
Clinical Pharmacist - Cardiac Intensive Care Unit - Regional Medical Center at Memphis. July 1990 to March 1995 (CICU was closed by the hospital in March 1995).

Clinical Pharmacist - Cardiology/CCU - Veterans Administration Medical Center at Memphis. April 1996 to April 1998.

Clinical Pharmacist – Heart Failure/Heart Transplant Clinic – Shands Hospital at University of Florida. 1998 to 2002.

PROFESSIONAL AFFILIATIONS

American Association of Colleges of Pharmacy
American College of Clinical Pharmacy
American Heart Association
American Society for Clinical Pharmacology and Therapeutics
American Society of Human Genetics

GRANTS AND CONTRACTS (EXTRAMURAL)

Current funding

Source: NIH, National Heart Lung and Blood Institute, R01 HL74730
Title: "Hypertension pharmacogenetics"
Time period: September 2003 to August 2007
Amount: $2,513,387 (direct), $3,517,699 (total)
Role: Principal Investigator

Source: NIH, National Institute of General Medical Sciences, U01 GM74492
Title: "Pharmacogenomic Evaluation of Antihypertensive Responses"
Time period: August 2005 to July 2010
Amount: $9,773,655 (direct), $11,149,034 (total)
Role: Principal Investigator

Source: NIH, National Heart Lung and Blood Institute, K24 HL68834
Title: "β-receptor polymorphisms and cardiovascular pharmacogenomics"
Time period: July 2002 to June 2007
Amount: $554,425 (direct), $598,779 (total)
Role: Principal Investigator

Source: American Heart Association, Florida/Puerto Rico Affiliate
Title: AHA Postdoctoral Fellowship; Fellow: Jaekyu Shin, Pharm.D.
Time period: July 2005-June 2007
Amount: $93,224
Role: Mentor

Source: American Heart Association, Florida/Puerto Rico Affiliate
Title: AHA Postdoctoral Fellowship; Fellow: Michael Pacanowski, Pharm.D.
Time period: July 2006-June 2008
Amount: $93,224
Role: Mentor

Source: American Heart Association, Florida/Puerto Rico Affiliate
Title: AHA Predoctoral Fellowship; Fellow: Anzeela Schentrup, Pharm.D.  
Time period: July 2006-June 2008  
Amount: $43,540  
Role: Mentor  
Source: American Heart Association, Florida/Puerto Rico Affiliate  
Title: AHA Predoctoral Fellowship; Fellow: Maximilian Lobmeyer, B.S.  
Time period: July 2006-June 2008  
Amount: $43,540  
Role: Mentor  
Source: NIH National Heart Lung Blood Institute  
T32 HL083810 (PI: C. Baylis)  
Title: "Multidisciplinary Training Program in Hypertension"  
Time period: April 2007 to March 2012  
Role: Co-program director  

Previous funding (chronological order)  
Source: American College of Clinical Pharmacy Research Institute  
Key Pharmaceuticals Hypertension Research Award.  
Title: "Role of β-receptor density and function in the antihypertensive response to metoprolol"  
Time period: July 1990 to June 1992  
Amount: $5,000  
Role: Principal Investigator  
Source: American Heart Association Tennessee Affiliate, New Investigator Award  
Title: "Racial differences in β-blocker response: Examination of receptor mediated mechanisms" Time period: July 1990 to June 1992  
Amount: $70,000  
Role: Principal Investigator  
Source: American Association of Colleges of Pharmacy, New Investigator Grants Program  
Title: "Mechanisms of racial differences in propranolol pharmacokinetics"  
Time period: March 1992 to February 1993  
Amount: $5,000  
Role: Principal Investigator  
Source: Baker Norton Pharmaceuticals, Inc.  
Title: "Determination of verapamil and norverapamil enantiomer concentrations by HPLC"  
Time period: April 1992 to December 1993  
Amount: $173,530  
Role: Principal Investigator  
Source: American Heart Association, Tennessee Affiliate Grant-in-Aid.  
Title: "Racial differences in antihypertensive response to β-blockade"  
Time period: July 1992 to June 1994  
Amount: $50,000  
Role: Principal Investigator  
Source: Glaxo, Inc.  
Title: "Racial differences in antihypertensive response to β-blockade"  
Time period: December 1992 - November 1994  
Amount: $15,600  
Role: Principal Investigator  
Source: American College of Clinical Pharmacy Research Institute  
Title: Genentech Cardiovascular Research Fellowship - Fellow: Wendell S. Akers, Pharm.D.  
Time period: July 1993 to June 1994  
Amount: $19,500  
Role: Preceptor (Mentor)
Source: National Heart Lung and Blood Institute, NIH, R15 HL50055.
Title: "Racial differences in propranolol kinetics and response"
Time period: May 1993 to April 1996
Amount: $74,983 (direct), $106,851 (total)
Role: Principal Investigator

Source: American Heart Association, Tennessee Affiliate
Title: AHA Fellowship - Fellow: Kevin M. Sowinski, Pharm.D.
Time period: July 1993 to June 1995
Amount: $37,608
Role: Sponsor (Mentor)

Source: American Heart Association, Tennessee Affiliate Grant-in-Aid
Title: "Racial differences in α1- and β2-receptor mediated responses"
Time period: July 1994 to June 1996
Amount: $50,000
Role: Principal Investigator

Source: Glaxo Regional Research Institute
Title: β2-receptor sensitivity in black and white asthmatics
Time period: July 1995 to May 1998
Amount: $43,500
Role: Principal Investigator

Source: NIH, National Institute of General Medical Sciences, R15 GM54297
Title: "Racial differences in propranolol 4-hydroxylation"
Time period: June 1996 to November 1998
Amount: $70,000 (direct), $99,750 (total)
Role: Principal Investigator

Source: Searle
Title: "The effects of Covera-HS on diurnal variation in forearm vascular resistance and blood pressure in hypertensive patients"
Time period: July 1997 to June 1999
Amount: $101,000
Role: Principal Investigator

Source: NIH, National Institute on Aging, R03 AG16854
Title: "β2-adrenoceptor polymorphisms and hypertension"
Time period: April 1999 to March 2000
Amount: $50,000 (direct), $72,250 (total)
Role: Principal Investigator

Source: American College of Clinical Pharmacy Research Institute
Title: Merck and Company Cardiovascular Fellowship - Fellow: Larisa M. Humma, Pharm.D.
Time period: accepted, then declined when AFPE fellowship (below) awarded
Amount: $22,500
Role: Preceptor (Mentor)

Source: American Heart Association, Florida/Puerto Rico Affiliate
Title: "β2-adrenoceptor polymorphisms and hypertension"
Time period: July 1999 to June 2001 (Award returned upon activation of R01)
Amount: $100,000 (direct), $110,000 (total)
Role: Principal Investigator

Source: American Foundation for Pharmaceutical Education
Title: Post-Pharm.D. Fellowship in Biomedical Research Sciences; Fellow: Larisa M. Humma, Pharm.D.
Time period: July 1999 to December 2000
Amount: $55,000
Role: Mentor

Source: American College of Clinical Pharmacy Research Institute
Title: Merck and Company Cardiovascular Fellowship - Fellow: Steven G. Terra, Pharm.D., BCPS
Time period: July 2000 to June 2001
Amount: $22,500
Role: Preceptor (Mentor)

Source: University of Florida Opportunity Fund
Title: "Genetic and pharmacogenetic determinants of outcomes in cardiovascular disease"
Time period: March 2001-February 2003
Amount: $175,000
Role: Co-principal Investigator

Source: American Foundation for Pharmaceutical Education
Title: Post-Pharm.D. Fellowship in Biomedical Research Sciences; Fellow: Steven G. Terra, Pharm.D.
Time period: July 2001-June 2002
Amount: $27,500
Role: Mentor

Source: Orchid Biosciences, Inc
Title: "Dobutamine pharmacogenetics"
Time period: March 2001 to February 2003
Amount: $58,654 (direct), $73,317 (total)
Role: Principal Investigator

Source: NIH, National Heart Lung Blood Institute, R03 HL65729
Title: "$\beta$-adrenoceptor genetic polymorphisms and obesity"
Time period: April 1, 2001 to March 31, 2003
Amount: $100,000 (direct), $144,500 (total)
Role: Principal Investigator

Source: American Foundation for Pharmaceutical Education
Title: Post-Pharm.D. Fellowship in Biomedical Research Sciences; Fellow: Christina L. Aquilante, Pharm.D.
Time period: July 2002-June 2004
Amount: $55,000
Role: Mentor

Source: American Heart Association, Florida/Puerto Rico Affiliate
Title: AHA Postdoctoral Fellowship; Fellow: Issam Zineh, Pharm.D.
Time period: July 2002-June 2004
Amount: $76,500
Role: Mentor

Source: NIH, National Heart Lung Blood Institute, Supplement to U01 HL69758
Title: "$\beta$-blocker pharmacogenetics in ethnic populations"
Time period: November 2001 to October 2003
Amount: $99,988 (direct); $144,983 (total)
Role: Principal Investigator of Supplement

Source: Orchid Biosciences, Inc
Title: "$\beta$-adrenergic receptor polymorphisms and response to $\beta$-blockers in heart failure"
Time period: March 2001 to April 2004
Amount: $248,298 (direct), $303,058 (total)
Role: Principal Investigator

Source: NIH, National Heart Lung and Blood Institute, R01 HL64691
Title: "$\beta$-adrenergic receptor polymorphisms and hypertension"
Time period: May 2000 to April 2005
Amount: $500,000 (direct), $722,500 (total)
Role: Principal Investigator

Source: Abbott Laboratories
Title: Heart Disease Outcomes: Impact of Genetics and Pharmacogenetics
Time period: July 2002 to June 2006
Amount: $1,121,482 (direct); $1,385,310 (total)
Role: Principal Investigator

Source: University of Florida Opportunity Fund
Title: “Pharmacogenomic Evaluation of Antihypertensive Responses” – Equipment grant
Time period: May 2005
Amount: $95,000
Role: Co-principal Investigator

Source: NIH, National Heart Lung Blood Institute, R01 HL64924
Title: “Altered renin angiotensin system as a mechanism for coronary microvascular dysfunction”
Time period: May 1, 2001 to April 30, 2006
Amount: $1,686,594 (direct); $2,080,127 (total)
Role: Co-Investigator

PUBLICATIONS

Original Articles


35. **Johnson JA**, Herring VL, Wolfe MS, Relling MV. CYP1A2 and CYP2D6 $\beta$-hydroxylate propranolol and both reactions exhibit racial differences. *J Pharmacol Exp Ther* 2000;294:1099-1105.


75. Wang D, Papp AC, Binkley PF, Johnson JA, Sadee W. Inter-individual variability in splice variants of L-type voltage-dependent calcium channel alpha subunit 1c (CACNA1C) in human heart tissues. Pharmacogenet Genom 2006;16:735-45.


97. Gong Y, Beitelshees AL, Langaeey TY, Cooper-DeHoff RM, Pepine CJ, Johnson JA. β2-adrenergic receptor polymorphisms are associated with response to β-blocker therapy: Results from the INVEST Genetic Substudy (INVEST-GENES). Submitted for publication, 2007.


100. Langaeey TY, Burkley B, Feng H, Johnson JA, Stacpoole PW. Inter-population variation frequency of human zeta-class glutathione transferase polymorphisms and kinetic differences in biotransformation of dichloroacetate. Submitted for publication, 2007.

Editorials and Letters to the Editor


Book chapters


**Peer-reviewed electronic publications**


**Abstracts (since 2000)**


73. Gong Y, Beitzelshees AL, Stauffer LA, Langaee TY, Cooper-DeHoff RM, Pepine CJ, **Johnson JA**. Beta adrenergic receptors polymorphisms are associated with response to beta-blocker therapy in the International Verapamil SR-Trandolapril Study (INVEST). Clin Pharmacol Ther 2006;79;P30. Presented as a podium presentation at the 107th Annual meeting of the American Society for Clinical Pharmacology and Therapeutics, Baltimore, MD, March 2006. *Awarded the ASCPT Presidential Trainee Award for outstanding trainee abstract.*


81. Shin J, Kline S, Moore M, Gong Y, Bhanderi V, Schmalfuss CM, Schofield RS, **Johnson JA**. Diurnal blood pressure pattern is associated with risk for hospitalization or death in heart failure.


INVITED PRESENTATIONS since 2000


"Drug Target Pharmacogenomics – Current and Future Approaches” IBC USA’s 3rd Annual Pharmacogenomics, SNPs and Genetic Patenting Conference, San Diego, CA, February 2001.


"β-adrenoceptor Polymorphisms: Cardiovascular Disease and Pharmacogenetics". Ohio State University Heart Lung Research Institute Lecture, Columbus, Ohio, July 2001.


"Neurohormonal Paradigm of Heart Failure" 2001 Midyear Clinical Meeting, American Society of Health-System Pharmacists, New Orleans, Louisiana, December 2001

"β-adrenergic receptor polymorphisms and pharmacogenetics” Clinical Pharmacology Seminar Series, Indiana University, Indianapolis, Indiana, February 2002.


"Pharmacogenomics: Moving from proof of concept to clinical practice” NIH/NHLBI Workshop on Genetic Determinants of Response to Drug Therapies in Heart Failure, Bethesda, Maryland, September 2002


"β-blocker pharmacogenetics”. Philip C. and Ethel F. Ashby Lecture Series, University of Oklahoma College of Pharmacy, Oklahoma City, Oklahoma, February 2003.

"β-blocker pharmacogenetics”. Pfizer, Inc. Visiting Professor, Ann Arbor, Michigan, March 2003

"β-blocker pharmacogenetics”. Department of Clinical Pharmacy Seminar Series, University of Michigan, Ann Arbor, Michigan, March 2003.


"Hypertension pharmacogenetics”. NIH National Institute on Aging Gerontology Research Center Seminar, Baltimore, Maryland, May 2003.


“β-blocker pharmacogenetics in hypertension and heart failure.” Ohio State University Department of Pharmacology and Program in Pharmacogenomics Seminar Series. Columbus, Ohio, December 2004.

“β-blocker pharmacogenetics in hypertension and heart failure.” University of Minnesota, Department of Clinical Pharmacy Seminar Series, Minneapolis, Minnesota, January 2005.


“Establishing and maintaining a research program”. American College of Clinical Pharmacy Spring Forum, Myrtle Beach, South Carolina, April 2005.


“Pharmacogenetics and Behavioral Medicine”. Behavioral Genetics and Cardiovascular Disease Workshop, National Heart Lung Blood Institute, NIH. Bethesda, Maryland, August 2005.


“Pharmacogenomics – the promise of personalized medicine”. David Guttman Memorial Lecture, University of Kentucky College of Pharmacy, Lexington, Kentucky, September 2006.


“Hypertension pharmacogenetics: Academic pursuit or clinical paradigm shift?” University of Pittsburgh School of Pharmacy, Pittsburgh, Pennsylvania, May 2007.


INVITED PRESENTATIONS – UNIVERSITY OF FLORIDA (NON COLLEGE OF PHARMACY)

“Pharmacogenetics” – Genetics Institute Seminar Series, March 2003

“Cardiovascular pharmacogenetics” – Cardiology Grand Rounds, Division of Cardiovascular Medicine, May 2005

“Hypertension pharmacogenetics and the Pharmacogenomic Evaluation of Antihypertensive Responses study” – Family Medicine Grand Rounds, Division of Community Health and Family Medicine, August 2005

“Hypertension pharmacogenetics” – Nephrology Grand Rounds, Division of Nephrology, May 2006
“Hypertension pharmacogenetics” – Cardiology Grand Rounds, Division of Cardiovascular Medicine, October 2006.

“Pharmacogenomics” – Florida Genetics, November 2006.

INVITED CONTINUING EDUCATION PRESENTATIONS since 1995

“Update on Treatment of Hypertension: JNC V”. St Mary’s Medical Center Regional Educational Conference, Duluth MN, March 1996.


“Pharmacogenomics”. Sponsored by Genetic Diagnostics, Inc., Atlanta, Georgia, November 2002.


“Genetics, Pharmacogenetics and the Human Genome” University of Florida CE Program, Alajuela, Costa Rica, June 2006

“Hypertension: Contemporary Pharmacotherapy and Pharmacogenetics” University of Florida CE Program, Alajuela, Costa Rica, June 2006

“Heart Failure Pharmacotherapy and Pharmacogenetics” University of Florida CE Program, Alajuela, Costa Rica, June 2006


“Clinical use of pharmacogenetics: Practical issues and potential ethical, legal and social implications: What does the practicing pharmacist need to know?” University of Florida CE Program, Alajuela, Costa Rica, June 2006

POST-DOCTORAL FELLOWS
Kevin M. Sowinski, Pharm.D., BCPS  (State University of New York at Buffalo). July 1992 to June 1995. First position: Assistant Professor of Clinical Pharmacy, tenure track, Purdue University.

Wendell Scott Akers, Pharm.D., BCPS  (University of Tennessee). July 1992 to July 1994. First position: Assistant Professor of Pharmacy Practice, tenure track, University of Kentucky.

Mohamad Haniki Nik Mohamed, Pharm.D.  (University of Tennessee) July 1996 to October 1997. First position: Permanent Lecturer (equivalent to Assistant Professor), tenure track, School of Pharmaceutical Sciences, Universiti Sains Malaysia.


Brian J. Puckett, Pharm.D.  (University of Texas). August 1999 to August 2001. First position: Assistant Professor of Clinical Pharmacy, tenure track, Medical College of Virginia – Virginia Commonwealth University.


Christina L. Aquilante, Pharm.D. (University of North Carolina at Chapel Hill). July 2001 to December 2003. First position: Assistant Professor of Clinical Pharmacy, tenure track, University of Colorado.

Issam Zineh, Pharm.D. (Northeastern University). July 2001 to December 2003. First position: Assistant Professor of Pharmacy Practice, tenure track, University of Florida College of Pharmacy.

Amber Beitelishees, Pharm.D. (University of Florida). July 2002 to June 2005. First position: Research Assistant Professor, Division of Cardiovascular Medicine, Department of Medicine, College of Medicine, Washington University (St. Louis).


Yan Gong, Ph.D. – Pharmaceutics (University of Florida). July 2004 to June 2005. First position: Research Assistant Professor, University of Florida College of Pharmacy.


Martin Brunner, M.D. (University of Vienna). January 2005 to June 2006. First position: Assistant Professor, Department of Clinical Pharmacology, University of Vienna.


**GRADUATE STUDENTS**

**Major Professor**

Maximilian Lomhoyer, BS. 2004 to present  
Anzeela Schentrup, MS, Pharm.D., 2005 to present  
Hrishikesh Navare, BS, MS, 2006 to present  
MyPhuong Le, BS, 2006 to present  
Elvin Price, Pharm.D. 2006 to present (co-chair)
Committee Member
Jennifer Dungan, RN. UF College of Nursing, February 2006
Tobias Gerhard, BS. Department of Pharmacy Healthcare Administration, February 2007
Laurie Duckworth, MSN, ARNP. College of Nursing, August 2007
Hongying Li, MS. Department of Statistics, College of Liberal Arts and Sciences, July 2007.

AWARDS AND HONORS
Ohio State University Scholarship - 1980, 1981
Rho Chi Society, Upsilon Chapter - initiated May 1984
Mortar Board National Senior Honor Society, Ohio State University chapter - initiated May 1984.
Leemmon Company Award for Outstanding Achievement in the Study of Pharmacy, 1985
The University of Texas Competitive Scholarship, 1985
The Robert G. Leonard Memorial Scholarship, University of Texas, 1986
Teaching Excellence Award, 1996 - Presented by the UT Student Government Association
Elected Fellow - American College of Clinical Pharmacy, 1996
Ohio State University William Oxley Thompson Alumni Award, 1999 – awarded for distinctive career achievement to an Ohio State University alumnus less than 36 years old.
Elected Officer (Regent) – American College of Clinical Pharmacy Board of Regents, 2000-2003
FDA Committee Appointee – Nonprescription Drug Advisory Committee, 2000-2004
Phi Lambda Sigma – National Pharmacy Leadership Honor Society, inducted 2000
Outstanding Faculty of the Year, Working Professional Pharm.D. Program, University of Florida, 2001
Philip C. and Ethel R. Ashby Lecturer, University of Oklahoma College of Pharmacy, February 2003
31st Annual Albert Ebert Lecturer, University of Illinois-Chicago College of Pharmacy, April 2003
Leon I. Goldberg Young Investigator Award, American Society for Clinical Pharmacology and Therapeutics, March 2004
University of Florida Research Foundation Professorship Award, 2004-2006
V. Ravi Chandran Professor of Pharmaceutical Sciences, endowed professorship, 2004 – present
Ohio State University College of Pharmacy Distinguished Alumni Award, May 2005
David E. Guttman Memorial Lecturer, University of Kentucky College of Pharmacy, September 2006
University of Florida Faculty Achievement Recognition Award, April 2007
Paul Dawson Biotechnology Research Award, American Association of Colleges of Pharmacy, July 2007
PROFESSIONAL SERVICE

National Institutes of Health

Council activities:
- NIGMS National Advisory Council, ad hoc, January 2006

Study Section/Grant Review activities:
- XNDA Study Section, ad hoc member, February 2006, October 2006
- XNDA Study Section member, July 2007 to June 2011

Workshops/Other activities
- Workshop on Genetic Determinants of Response to Drug Therapies in Heart Failure, NHLBI, participant/speaker, September 2002
- Working Group on Behavioral Genetics and Cardiovascular Disease, NHLBI, participant/speaker, August 2005

NIH Pharmacogenetics Research Network (PGRN)
- Coordinating Committee member, 2005 to present
- Heart Lung Action Group, Chair, 2006 to present
- International Warfarin Pharmacogenetics Consortium, leadership team, 2007 to present

National Science Foundation
- SBIR grant review committee, May 2002

Food and Drug Administration
- Nonprescription Drugs Advisory Committee member, June 2000 – May 2004.

American Heart Association

Functional Genomics and Translational Biology Working Group
- Steering Committee, July 2006 to June 2008
- Program Committee, Co-chair July 2006 to June 2008

Review Committee Activities:
- AHA Southern/Ohio Valley Research Consortium Peer Review Committee 3A, Committee member 2004
- AHA Southern/Ohio Valley Research Consortium Peer Review Committee 3A, Committee Co-chair, 2005
- AHA Southern/Ohio Valley Research Consortium Peer Review Committee 3B, Committee Chair, 2006-2007

Research Affiliate/Consortium Service
- AHA Florida/Puerto Rico Affiliate Research Committee, member 2004-2006
- AHA Research Consortium II Steering Committee member, 2007 to 2009

Other Service
- UT-AHA High School Research Seminar - speaker, pharmacy representative and judge for summer research positions. 1996, 1997
- Memphis Area AHA Speakers Bureau - speaker for AHA to schools, lay and civic organizations, 1997-98.

American College of Clinical Pharmacy
- Research Affairs Committee member, 1989-90
- Public and Professional Relations Committee member, 1990-91
- Publications Committee member, 1991-92
- Educational Affairs Committee member, 1993, 1994
- 1994 Pharmacotherapy Exam Preparatory Course Planning Committee
- 1993 Strategic Planning Conference, participant
- ACCP Research Institute Review Panel, 1994
- Fellowship Review Committee member, 1995 to 1997
- Pharmacotherapy Self Assessment Program III - manuscript reviewer
- Educational Affairs Committee chair, 1998
- 2000 Annual Meeting Program Committee chair, 1999-2000
- Pharmacotherapy Self Assessment Program IV - manuscript reviewer
- **Elected Officer (Regent), Board of Regents, 2000 to 2003**
- Task Force on Science, secretary, 2001
- Editorial Board, Pharmacogenomics Curriculum, 2001 to present.
- Member at large representative to Pharmacotherapy Board of Directors, 2004 to present
American Association of Colleges of Pharmacy
- Academic Affairs Committee, Chair, 2001-02.
- Volwiler Research Achievement Award Selection Committee, 2004-05.

American Society for Clinical Pharmacology and Therapeutics
- Membership Committee member, 1995 to 1998
- Scientific Program Committee member, 2004 to 2007
  - Vice Chair, 2004-05
  - Chair, 2005-06
  - Past-chair, 2006-07
- Scientific Awards Selection Task Force, 2007 to 2008

Board of Pharmaceutical Specialties

American Pharmaceutical Association
- Expert Reviewer for APhA Guidebook on Disease - Specific Pharmaceutical Care Protocols
  - Lipid Disorders, 1996
- Advisory Board – APhA Special Report on Primary and Secondary Prevention of Atherosclerotic Disease, 1998

Pharmacotherapy
- Quality Improvement Task Force, 1999
- Board of Directors, 2004-present

Scientific Editor
- Pharmacotherapy, 2006 to present

Editorial Boards:
- Clinical Pharmacology and Therapeutics, 2005 to present
- Pharmacotherapy, 1993-present
- Pharmacogenomics: Applications to Patient Care; 2001 to present
- Pharmacogenetics and Genomics, 2002-present
- Personalized Medicine, 2004-present
Manuscript reviewer (since 1995):
- American Journal of Pharmacogenomics
- American Pharmaceutical Association Special Publications
- Biopharmaceutics and Drug Disposition
- BMC Medical Genetics
- British Journal of Clinical Pharmacology
- Clinical Pharmacology and Therapeutics
- Current Pharmacogenomics
- Current Opinions in Molecular Therapeutics
- DICP - The Annals of Pharmacotherapy
- European Heart Journal
- Genomics
- Heart Journal
- Human Genetics
- Human Genomics
- JAMA – Journal of the American Medical Association
- Journal of Pharmacology and Experimental Therapeutics
- Journal of Pharmacy and Pharmacology
- Journal of Pharmaceutical Sciences
- Nature Genetics
- Nature Cardiovascular Medicine
- New England Journal of Medicine
- Pharmacogenetics and Genomics
- Pharmacogenomics Journal
- Pharmacological Reviews
- Pharmacotherapy
- Pharmacotherapy Self Assessment Program IV
- Psychosomatic Medicine
- Vascular Medicine

UNIVERSITY SERVICE

UNIVERSITY OF TENNESSEE

- Faculty Senate, College of Pharmacy At Large Representative, 1991 - 1994.
  Member, Communications Committee, 1993-94
  Member, Faculty Affairs Committee, 1994-95
- Campus Research Committee member, 1994 -1995.
  Member, Research Development Subcommittee, 1994-95.
- General Clinical Research Center Scientific Advisory Committee member, 1994-1998.

University of Tennessee College of Pharmacy

- Department of Clinical Pharmacy Chairman Search Advisory Committee, 1990-91.
- Van Vleet Professor of Pharmacy (Endowed Chair) Search Advisory Committee, 1991-92.
- Chair, Sub-committee to review Drug Information Course, 1993
- Coordinator, Molecular Biology Journal Club, 1994 to 1997
- Curriculum committee, 1995-96
  Chair, Subcommittee for development of external Pharm.D. degree, 1996
  Chair, Subcommittee to review Pharmacology course, 1996.
- Promotion and Tenure Committee, appointed representative, 1996 to 1998.
University of Tennessee Department of Clinical Pharmacy

- Postdoctoral training committee, 1990-91.
- Coordinator, Pharmacotherapy Exam study group, 1992.
- Research committee, 1993 to 1996.

UNIVERSITY OF FLORIDA

University of Florida

- Institute on Aging Advisory Board, 2000 to 2001
- Institute on Aging Faculty Search Committee, 2000
- Center for Pharmacogenomics, Director, 2001-present
- University of Florida Genetics Institute, Executive Committee member, 2003 – present
- University of Florida NIH K-30 funded Advanced Postgraduate Program in Clinical Investigation Advisory Committee – 2003 – present
- University of Florida Institute for Biotechnology Research Director Search Committee, 2005-2006.
- Center for Translational Science Award Steering Committee (Pharmacy Representative) – 2006 to present

College of Pharmacy

- Academic Performance Committee, 1999 to 2002
- Curriculum Committee, 1999 to 2001
- Tenure and Promotion Committee, 2001 to 2003
- Executive Committee, 2002 to present

Department of Pharmacy Practice

- Faculty Search Committee, 1998-99.
- Chair, Department of Pharmacy Practice, 2002 to present

Department of Pharmaceutics

- Faculty Search Committee, 2002

TEACHING

AWARDS:

- Teaching Excellence Award, 1996 - Presented by the University of Tennessee Student Government Association

- Outstanding Faculty Award, University of Florida Working Professional Pharm.D. Program, 2001

UNIVERSITY OF TENNESSEE

CLPH 311 and 312 - Therapeutics I and II
1989-1998: Team taught therapeutics course for third year Pharm.D. students with class sizes of 70 to 100 students. Delivered approximately 20 lecture hours per year on cardiovascular therapeutics as well as leading 4 to 5 recitation sessions per year. Presented lectures on most topics in cardiovascular therapeutics. Course coordinator: 1991, 1992.

CLPH 410: Cardiology Clerkship

1990-1998: Preceptor for a cardiology clerkship based in the Coronary Care Unit/Cardiology Service at the Veterans Administration Medical Center at Memphis. Site co-precepted by Dr. Robert B. Parker; combined we had approximately 18 to 22 fourth year students per year.

CLPH 315: Applied Clinical Pharmacokinetics:

1991-1996: Course lecturer (3-6 hours per year) plus recitation leader. Class size of 70-100 students. Lecture topics included: clearance concepts, hepatic clearance, hepatic drug interactions, hepatic drug metabolism, P-glycoprotein’s impact on kinetics and clinical pharmacokinetics of: lidocaine, procainamide, digoxin, other antiarrhythmics

1997: Course coordinator.

Other:

Also participated in Women’s Health Selective Course, Applied Therapeutics, and Critical Care Selective Course for pharmacy students and Clinical Pharmacology and Therapeutics Course for 4th year medical students.

UNIVERSITY OF FLORIDA

PHA5683: Ambulatory Care Clerkship

1999 to 2002: Co-precepted with 3 other faculty members. Precepted students in heart failure/heart transplantation clinic

Research Elective Clerkship – course number varies by month

2002 to present. Precept students in an elective research rotation that provides them with exposure to clinical research, informed consent, clinical trial design and statistic issues, pharmacogenomics, genetics and genomics nomenclature, laboratory aspects of pharmacogenomics research.

PHA 5781: Pharmacotherapy I

2001: Coursemaster and lecturer. Class size of approximately 130 students. Course covering introductory pharmacotherapy topics.

PHA 5782: Pharmacotherapy II


1999: Coursemaster, lecturer and small group leader, class size of 130 students

2000-present: Lecturer on cardiovascular pharmacotherapy topics; class size – 2000-2002: 130 students; since 2003: 270 to 300 students.
PHA5784 Pharmacotherapy IV

2000-present: Pharmacokinetics case faculty leader. Course is a case-based course where students are provided a case assignment and then must answer in class the questions posed to them by a faculty member; class size – 130 students.

PHA5887; Pharmacotherapy V

2000-present: Pharmacokinetics case faculty leader. Course is a case-based course where students are provided a case assignment and then must answer in class the questions posed to them by a faculty member; class size – 130 students.

PHA 5128; Basic Principles of Dose Optimization II

1999-2004: Course lecturer on drug metabolism/drug-drug interactions, pharmacogenetics. Class size of approximately 130 students.

PHA 5516; Pharmacologic Basis of Therapeutics

1999-2001: Course lecturer on antihyperlipidemic agents pharmacology. Class size of approximately 130 students.

GMS6181: Science of Clinical Research

2000-present. Lecturer. Survey course on clinical research for post-doctoral fellows, and graduate students enrolled in the K30 Clinical Sciences program. Class size: approximately 60 students.

PHA 5941; Practicum I

1998: Small group facilitator. Class size of approximately 20 students.
CURRICULUM VITAE

Leslie Hendeles, Pharm.D.

September 2007

BIOGRAPHICAL

Birth Date: May 30, 1943
Birth Place: Alhambra, CA

Home Address: 3549 N.W. 30th Blvd.
Home Phone/Fax: 352-377-0954
Gainesville, FL 32605

Business Address: University of Florida
Health Science Center (Box 100486)
1600 SW Archer Road, Room PG-05
Gainesville, FL 32610-0486

Business Phone: 352-273-6027
Business Fax: 352-273-6120

Email Address: hendeles@cop.ufl.edu
Cell Phone: 352-494-7932

EDUCATION

Pre-Pharmacy, Los Angeles City College, Los Angeles, CA, 1961-1963

Undergraduate Psychology, San Francisco State College, San Francisco, CA, 1964-1965

Pharm.D., University of Southern California, Los Angeles, CA, June 1969

LICENSES/CERTIFICATES

Registered Pharmacist, Florida, 1981-present
National Provider Identifier # 1205944584

Asthma Disease State Management Examination, National Association of Boards of Pharmacy, passed 1999

Spirometry Certificate, National Institute for Occupational Safety and Health, 2000

Asthma Educator, National Asthma Educator Certification Board, 2003

AWARDS AND HONORS

American Society of Hospital Pharmacists Research and Education Foundation Award for an Outstanding Contribution to the Literature of Research in Hospital Pharmacy, 1981

American College of Clinical Pharmacy, Russell R. Miller Award for sustained and outstanding contribution to the literature of clinical pharmacy, 1987

University of Southern California, School of Pharmacy's Outstanding Alumnus, 1993
American College of Clinical Pharmacy, Therapeutic Frontiers Lecture Award, 1996

American Pharmaceutical Association, Research Achievement Award in Pharmaceutical Sciences, March 2002

University of Florida Working Professional Pharm.D. Program, Outstanding Faculty of the Year, August 2002

University of Florida Research Foundation Professorship Award for 2003-2006, March 2003

Pediatric Pharmacy Advocacy Group, Sumner J. Yaffe Lifetime Achievement Award for 2007

NATIONAL COMMITTEES AND APPOINTMENTS


American Academy of Allergy, Task Force on Guidelines for Clinical Investigation of Non-Bronchodilator Antiasthmatic Drugs, 1985

National Asthma Mortality Task Force, 1986

Food and Drug Administration Pulmonary-Allergy Drugs Advisory Committee, 1986-1992


Food and Drug Administration, Center for Drug Evaluation and Research, Special Government Consultant, 1991-present

NHLBI's National Asthma Education and Prevention Program, Coordinating Committee, representing the American Society of Hospital Pharmacists, 1992-2005

NHLBI Special Review Committee for RFA for Asthma Clinical Research Network, February 2003

CDC, Expert Panel on Guidelines for Asthma Treatment by Emergency Medical Services (EMS), April 2004.

PROFESSIONAL AND SCIENTIFIC MEMBERSHIPS

American Society of Health-System Pharmacists, 1968-present
American Academy of Allergy & Immunology, 1976-present

American College of Clinical Pharmacy, 1979-present
   Founding Member, 1979
   Fellow, 1985
   Research Affairs Committee, 1985
   Chairperson, Scientific Session, 1985 Annual Meeting
   Chairperson, Awards Committee, 1987-1988

American Pharmaceutical Association, 1980-present

American Thoracic Society, 1980-present

Florida Pharmacy Association, 1981-2004

**PROFESSIONAL EXPERIENCE**

Cedars of Lebanon Hospital, Los Angeles
Intern Pharmacist, 1967-1969

Memorial Hospital Medical Center of Long Beach, CA
Clinical Pharmacist, 1969-1971

University of Georgia, School of Pharmacy
Assistant Professor of Clinical Pharmacy, 1971-1972

The University of Iowa
Assistant Professor, College of Pharmacy, 1972-1978
Clinical Pharmacist, Pediatric Allergy Clinic, 1975-1980
Associate Professor with tenure, College of Pharmacy, 1978-1980

The University of Florida
Associate Professor of Pharmacy and Pediatrics, 1980-1984
Clinical Pharmacist, Pediatric Clinical Pharmacology/Toxicology Division, 1980-1988
Professor of Pharmacy and Pediatrics with tenure, 1984-present
Clinical Pharmacist, Pediatric Pulmonary Division, 1988-present

U.S. Food and Drug Administration
Visiting Scientist, Division of Pulmonary/Allergy Drugs, 8/93-5/94

**EDITORIAL ACTIVITIES**

Editorial Advisor Board, Drug Intelligence and Clinical Pharmacy, 1975-1980

Reviewer, American Journal of Hospital Pharmacy, 1975-1998

Reviewer, Journal of Allergy and Clinical Immunology, 1979-present

Reviewer, The Medical Letter, 1981-present
Editorial Board, Pharmacotherapy, 1981-2006
Reviewer, Journal of Pediatrics, 1981-present
Reviewer, Chest, 1981-present
Reviewer, American Journal of Respiratory and Critical Care Medicine, 1984-present
Editorial Board, Journal of Pediatric Pharmacology and Therapeutics, 2000-present
Reviewer, New England Journal of Medicine, 2002-present
Reviewer, Journal of the American Medical Association, 2002-present
Member, Prescriber’s Letter/Pharmacist’s Letter Specialty Consultant Panel, 2005

OTHER ACTIVITIES
Emergency Medical Services Advisory Council, Alachua County, FL 12/95-present
Board of Directors, Alachua County Organization for Rural Need, Inc. (ACORN), 2002-present

PATENTS

JOURNAL ARTICLES (REFEREED)


68. Blake KV, Massey KL, Hendeles L, Nickerson D, Neims A. Relative efficacy of phenytoin and


100. Sherman JM, Hendeles L. Improving adherence to asthma medications. Contemp Pediatr 1999;16:51-64.


EDITORIALS AND COMMENTARIES


10. Weinberger MW, Hendeles L. Reassessing the therapeutic range for theophylline: Another


EDITOR FOR JOURNAL SUPPLEMENTS


2. Hendeles L (Guest Editor) and Scheife RT (Editor). New Frontiers in asthma therapy: Leukotriene receptor antagonists and 5-lipoxygenase inhibitors. Pharmacotherapy 1997;12:1S-54S.

OTHER ARTICLES (NON-REFEREED JOURNALS)


ELECTRONIC MEDIA


BOOKS


BOOK CHAPTERS AND MONOGRAPHS


**LETTERS IN LAST 5 YEARS**


**ABSTRACTS**


SELECTED PRESENTATIONS


2. OTC Inhaled Metaproterenol. FDA Pulmonary-Allergy Drugs Advisory Committee Meeting. Bethesda, MD, May 1983.


5. Howard Q. Ferguson Pharmacotherapy Lecture Award, University of North Carolina School of Pharmacy, Chapel Hill, NC, March 1994.

6. Daniel Simmons Honorary Lecturer, UCLA Department of Medicine, Los Angeles, CA, September 1999.


GRANTS AND CONTRACTS

(available upon request)

RESEARCH FELLOWS AND TRAINEES

(available upon request)
Günther Hochhaus

Address: College of Pharmacy, Box 100494
University of Florida
Gainesville, Florida, 32610
Tel. (352) 273 7861; FAX (352) 392 4447
Hochhaus@UFL.Edu

Personal Data:
Place of Birth: Paderborn, Germany (12/12/1955)
Nationality: German
Marital Status: Married, 1984

Education:
1975-1979 Undergraduate Student in Pharmacy Westf. Wilhelms -
Universität, Münster, FRG
1979 State Examination in Pharmacy (B.Sc.)
1979-1980 Practical Pharmacy Education Elisabeth Apotheke,
Detmold, FRG
1980-1984 Graduate Studies at the Institute of Pharm. Chem. (Ph.D.)
1994 GLP Short Course

Positions held:
Oct. 1980 - Nov. 1984 Teaching Assistant for Pharm. Chemistry and
Biochemistry, Westf. Wilhelms Universitaet
Chemistry, School of Pharmacy, Univ. of California, San
Francisco, Group Leader: Prof. Dr. W. Sadee
July 1987 - July 1992 Assistant Professor of Pharmacy, Department of
Pharmaceutics, University of Florida, Gainesville
July 1992-July 2001 Associate Professor of Pharmacy, University of Florida
July 1999-present Adjunct Faculty at the Engineering Research Center
July 2001-present Professor of Pharmacy, University of Florida

Scientific/Professional Societies:
Member of American Association of Pharmaceutical Scientists
Member of American Association for the Advancement of Science
Member of the European Federation for Pharmaceutical Sciences

Services to Scholarly and Professional Journals:

Professional Organizations:
Regent of the American College of Clinical Pharmacology (1999-2005)
Chairman, Honors & Award Committee, American College of Clinical Pharmacology (2000-2005)

Editorial Advisory Board:
AAPS PharmSci.
Journal of Pharmacy and Pharmacology
Pharmaceutical Research

Referee:

Major University Services:
Health Center Institutional Review Board (until 1995)
Member of the Health Center Student Conduct Standards Committee. Honary Degrees, UF Distinguished Alumni Awards and Memorials Committee (since 2003)

Awards:
Young Investigator Award from the "Deutsche Gesellschaft für Atemwegs und Lungenforschung" (1991)
Fellow of the American College of Clinical Pharmacology (1992)
Tanabe Young Investigator Award of the American Association of Clinical Pharmacology (1998)
Teaching Improvement Award of the Univ. of Florida (1998)
University of Florida Research Foundation Professorship (2006)
**Teaching Experience:** Responsible for pharmaceutical analysis courses on the graduate level, and the biopharmaceutics and pharmacokinetic class

**Research Interests:** PK/PD based Design and Evaluation of Pulmonary Delivery Systems for Asthma Drugs, Clinical Trial Simulations, Population pharmacokinetic Approaches Pulmonary Peptide Delivery for Heroin Addiction

**PUBLICATIONS**


116. SPE/RIA vs LC/MS for the measurement of low levels of budesonide in plasma. H. Dimova, Y. Wang, S. Pommery, H. Möllmann, G. Hochhaus. Biomedical Chromatography 17, 14-20 (2001)


144. Stabilized dynorphin derivatives for modulating antinociceptive activity in morphine tolerant rats: Effect of different routes of administration. B. Brugos, Vikram Arya, Guenther Hochhaus. AAPS J. 2004; 6, article 36(4); www.aapsj.org


12


166. What pharmacokinetic and pharmacodynamic properties are important for inhaled glucocorticoids? G. Hochhaus. Annals of Allergy, Asthma, & Immunology 98, S7-S15 (2007)


172. Slow release formulations of Inhaled Rifampin. AAPS Journal (in revision)


175. Relative receptor affinity comparisons among inhaled/intranasal corticosteroids: Perspectives on scientific pursuit and clinical relevance. G. Hochhaus, J Respir. Research (submitted)


25. Free peripheral compartment levels as interface between pharmacokinetics and pharmacodynamics of glucocorticoids. H. Derendorf, H. Möllmann, G. Hochhaus. 3rd Frontiers of Pharmacokinetics and Pharmacodynamics Symposium, Baltimore, Maryland (1990)


47. Clinical relevance of pharmacokinetic/dynamic and biopharmaceutical properties of glucocorticoids after oral, intravenous and rectal administration. H.W. Möllmann, J. Barth, H. Derendorf, G. Hochhaus, Glucocorticoids for the disease specific therapy of chronic inflammatory disorders, Cologne, Germany (1991)


64. Morphological properties, pharmacokinetics and local availability of intraarticulary administered glucocorticoid crystal suspension. J. Barth, H. Möllmann, H. Derendorf, G. Hochhaus. 98th Conference of the German Society of Internal Medicine, Wiesbaden (1992)


73. Suppression of the hypopituitary adrenal axis by a topical glucocorticoid of the non-fluorinated double ester type? G. Hochhaus. World Congress of Dermatology, Dermatology Symposium, Tarrytown (1992)


89. Mode of action of receptor mediated glucocorticoid action. G. Hochhaus IV. International Symposium on Chronic Inflammatory Bowel Diseases, Strassburg (1993)


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<td>185.</td>
<td>Basic principles of pulmonary targeting.</td>
<td>G. Hochhaus.</td>
<td>31st Annual Higuchi Research Seminar, Lake Ozark</td>
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204. Pharmacokinetic/pharmacodynamic evaluation of inhaled glucocorticoids. MUSC, College of Pharmacy, Charleston (October 1998)

205. Pharmacokinetic/pharmacodynamic evaluation of inhaled antiasthmatic agents. G. Hochhaus, University of Colorado, College of Pharmacy, Denver, (January 1999)


208. Factors Influencing Pulmonary Targeting. G. Hochhaus, Boehringer Ingelheim, Ridgefield CT, (May 1999)


214. Pulmonary Targeting: What is important. G. Hochhaus, University of Halle, Halle, Germany (June 1999)

215. Pulmonary targeting of inhaled glucocorticoids. G. Hochhaus. 2nd Symposium on New Developments in Clinical Pharmacy and Clinical Pharmacology, Reims, France (June, 1999)


265. The perils of prescription, introduction and case studies, D. Benjamin, G. Hochhaus, AGAH Annual Meeting, Garmisch-Partenkirchen, Jan 27-29, 2002


34
285. PK/PD of inhaled Glucocorticoids-New Developments. G. Hochhaus. 4th Retrometabolism based drug design and targeting conference, Palm Coast, May 2003


293. Optimizing pharmaceutical properties of inhalation drugs. G. Hochhaus. Respiratory Drug Delivery IX, Palm Springs, April 2004


300. PK/PD of inhaled glucocorticoids. Las Vegas March 2005, Summit Speaker Education

302. PK/PDModeling as Tool in per-clinical and clinical Drug Development. Guenther Hochhaus. 19th JSSX, Tokyo, April 2005

303. Is the distribution of glucocorticoids affected by transporters. G. Hochhaus. 5th Retrometabolism Conference. Hakone, Japan, May 2005


308. ICS Pharmacokinetics: the key for improving Safety and efficacy. Guenther Hochhaus. ACAAII, Annual Scientific meeting. Anaheim November 2005

BIOGRAPHY
MICHAEL A. SCHWARTZ

PERSONAL
Date of Birth: August 4, 1930

EDUCATION
1952  B.S. in Pharmacy  Brooklyn College of Pharmacy
1956  M.S.  Columbia University, College of Pharmacy
1959  Ph.D.  University of Wisconsin
      Major Professor  Takeru Higuchi
      Dissertation  Mediation of Complex Formation in the Hydrolysis of Sarin

1956-59 Fellow American Foundation for Pharmaceutical Education

EXPERIENCE

1952 - 1954  Military Service Pharmacist, Tokyo Army Hospital, U.S. Army Medical Service

Aug. 1959 - April 1963  Senior Research Scientist
Bristol Laboratories, Syracuse, New York

May 1963 - June 1965  Assistant Professor of Pharmaceutics, School of Pharmacy, State University of New York at Buffalo

July 1965 - June 1966  Associate Professor of Pharmaceutics, SUNY/Buffalo

July 1966 - March 1970  Assistant Dean, School of Pharmacy and Associate Professor of Pharmaceutics, SUNY/Buffalo

Administrative responsibilities included student affairs (admissions, review, recruitment, and advisement), development of continuing education programs, professional relations (state and national). Continued teaching, research and supervision of graduate students.

April 1970 - June 1976  Dean, School of Pharmacy and Professor of Pharmaceutics, SUNY/Buffalo

Responsible for management of the academic programs and administration of the School of Pharmacy. Major accomplishments included implementation of the Doctor of Pharmacy degree program, development of the first clinical pharmacokinetics laboratory, development of postdoctoral clinical fellowships providing research training for clinical scientists. The school was ranked among the top ten schools of pharmacy.
June 1974 Member, U.S. Herbal Pharmacology Delegation to People's Republic of China

July 1976 - April 1978 Professor of Pharmaceutics SUNY/Buffalo

Returned to full time teaching in graduate and undergraduate pharmaceutics and research. Carried out major study of drug shortages in the U.S. This study was funded by the Center for the Study of Drug Development (then at University of Rochester) and resulted in publication of a book.

April 1978 - May 31, 1996 Dean and Professor, College of Pharmacy, University of Florida

Responsible for management of academic programs and administration of the College of Pharmacy, which encompassed a budget (all sources) of about $12 M, and a faculty of 54 in five academic departments. Major accomplishments include increase in state budget from $1.3 M to $6 M, increase in external funding from $240,000 to over $6 million, development of external clinical teaching sites throughout the state with a large adjunct clinical faculty, development of the entry Doctor of Pharmacy program. Major activities include strategic planning, development of a private giving program and enhancement of the graduate program in the pharmaceutical sciences.

June 1, 1996 – June 30, 2003 Dean Emeritus and Professor of Pharmaceutics and Pharmacy Health Care Administration, College of Pharmacy, University of Florida

July 1, 2003 – Present Dean Emeritus, University of Florida, College of Pharmacy

Sept. 1989 - February 1990: Scholar in Residence, American Association of Colleges of Pharmacy

Developed case studies in strategic planning in colleges of pharmacy to be used in training programs for deans, department chairmen and other administrators; authored a paper on the role of strategic planning in pharmacy's future.
CONSULTANT TO:

Bristol-Myers Co. (1968-78) in Pharmaceutics Research
Academy of Pharmaceutical Sciences (1984-86) in Strategic Planning
Alabama Pharmaceutical Association (1986) in Strategic Planning
Center for Pharmaceutical Sciences and Technology - University of Kentucky (1986) in Strategic Planning
Strategic Planning Consultant (1989-90) to:
   University of Cincinnati College of Pharmacy
   St. Louis College of Pharmacy
   Medical College of Virginia School of Pharmacy
Massachusetts College of Pharmacy (1995-7) in Strategic Planning
Amer. Assn. of Colleges of Pharmacy (1994-5) in Strategic Planning
National Pharmacy Cholesterol Council (1996) in Strategic Planning
Florida Pharmacy Assn. (1996-7) in Strategic Planning
Louisiana Board of Regents (1997) on Pharm. D. at NE Louisiana Univ.

MEMBERSHIPS

Member, Pharmaceutical Sciences Section Committee, 1978-81
American Pharmaceutical Association
   Elected Board of Trustees, 1982-84
   Chairman, Policy Committee on Scientific Affairs, 1980
   Member, APhA Foundation Board of Trustees, 1985 - 1994
   Member, Strategic Planning Committee 1996-7
American Society of Hospital Pharmacists
   Member, Commission on Goals, 1993-5
American Association of Colleges of Pharmacy
   Chairman, Professional Affairs Committee, 1982-83
American Association of Pharmaceutical Scientists
   Chairman, Strategic Planning Committee, 1986-87
APhA, Academy of Pharmaceutical Sciences
   Co-Chairman, Program Committee, 1980-81; Chairman, 1981-82
   Research Funding Committee, Vice Chairman, 1982-83, Chairman, 1983-84
   Founding Member, Higuchi Research Prize Committee
   Chair, Strategic Planning Committee, 1984-6
Florida Pharmacy Association
Florida Pharmacy Association Foundation
   Member, Board of Directors, 1998 -
American Society for Training and Development

HONORS
APhA’s Hugo H. Schaefer Award - March 1995
APhA Foundation Research Achievement Award for Stimulation of Research – 1986
Distinguished Alumnus, Arnold and Marie Schwartz College of Pharmacy and Health Sciences (formerly Brooklyn College of Pharmacy), 1992
Citation of Merit, University of Wisconsin, 2007
Fellow, APhA Academy of Pharmaceutical Sciences
Fellow, American Association of Pharmaceutical Scientists
Fellow, American Association for the Advancement of Science
Elected to Rho Chi (Honorary Pharmaceutical Society) – 1955
Elected to Phi Lambda Sigma (Pharmacy Leadership Society) – 1981
Elected to Sigma Xi (Honorary Research Society) – 1956
Member, American Council on Pharmaceutical Education, 1990-96

OTHER PROFESSIONAL AND COMMUNITY ACTIVITIES
Member, Board of Directors, ANDRX Corp. 1993-2003
Member, Board of Directors, Jewish Council of North Central Florida
Member, Board of Directors, Big Brothers/Big Sisters of Gainesville (1997-2002)
  Vice president (1997-9), President (1999-2000)
Member, Board of Advisors, B’nai Brith Hillel at UF
PUBLICATIONS


60. Schwartz, M. A., "Creating Our Own Future in Pharmacy", Florida Pharmacy Today 58, Jan, 1994


SIHONG SONG

Office Address
Department of Pharmaceutics
University of Florida College of Pharmacy
Powell Gene Therapy Center, Genetics Institute
P. O. Box 100494
Gainesville, FL 32610
Phone: (352) 392-5280
Fax: (352) 392-4447
e-mail: shsong@ufl.edu

Home Address
3418 NW 67th Ave
Gainesville, FL 32653

EDUCATION
1996-1999 Post Doctoral Associate in Gene Therapy, University of Florida, Gainesville, FL
1985-1989 M.S. in Animal Science, Jilin Agricultural University, Changchun, P.R. China
1978-1982 B.S. in Animal Science, Jilin Agricultural University, Changchun, P.R. China

PROFESSIONAL EXPERIENCE
2006.7-present Associate Professor
Department of Pharmaceutics, University of Florida College of Pharmacy
2001.8-2006.6 Assistant Professor
Department of Pharmaceutics, University of Florida College of Pharmacy
1999-2001.7 Research Assistant Professor
Department of Pediatrics, Powell Gene Therapy Center, University of Florida
1996-1999 Post Doctoral Associate
Department of Molecular Genetics and Microbiology, University of Florida
1992-1996 Graduate Assistant
Department of Dairy and Poultry Sciences, University of Florida
1987-1991 Lecturer (Faculty)
Jilin Agriculture University, China
1982-1986 Teaching and Research Assistant (Faculty)
Department of Animal Science, Jilin Agricultural University, China.
TEACHING EXPERIENCE

Pharmaceutical Gene Delivery, Coordinator (PHA 6183), 2005 spring and 2007 spring, University of Florida

Clinical Biochemistry Coordinator (PHA 5451), 2007 fall, University of Florida

Clinical Biochemistry (PHA 5451), 2003 fall-2006 fall, University of Florida

Clinical Biochemistry (PHA 5933), 2002 fall, University of Florida

Graduate Seminar (Coordinator), 2002 fall, University of Florida

Paper Discussion (GMS 6002), 2000 spring

Animal Nutrition, 1987-1990, Jilin Agricultural University

Animal Production, 1982-1986, Jilin Agricultural University

SUPERVISED STUDENTS AND POST DOCTORAL ASSOCIATES

Ph.D. Students:
2. Hong Li, Ph. D. student (Adviser, August 2004-present) “Adult stem cell based gene therapy for alpha 1 antitrypsin deficiency”
   ● Winner of senior oral competition: 21st Annual Research Showcase of College of Pharmacy, University of Florida, Feb 21, 2008
4. Matthias Futh, Ph. D. student (Adviser, August 2007-Present) “Stem cell mediated gene correction therapy”

Postdoctoral Associates:

Visiting Professor:
Hongxia Ma, Ph. D. (Associate professor in Pharmacology from Jilin Agricultural University, Changchun, China, August 2007-present) “Effect of hAAT on islet cell gene expression and
Prevention of T1D using Tet-On-hAAT system

Pharm.D. Students:

German Exchange Students:
1. Andreas Nicolas Foerster (March – Sep. 2002) “Infection of five serotype of AAV vector to culture cells”.
11. Benjamin Ma (January 14, 2008-present)
12. Anna Ullrich (January 14, 2008-present)

IDP Rotation Students:
1. Yi Hua (Fall, 1998) "Construction and evaluation of rAAV vectors for regulated transgene expression".
2. Nikki Rhodin (Spring, 1999) "In vivo evaluations of regulated transgene (IL-4 and IL-10) expression in myoblast cells (C2C12)"

Under graduate students:
for their anti-enzymatic activities”

High School Students:
1. Frankie Beauliey (June 11-July 29, 2006), Student Science Training Program at the University of Florida.

Graduate Committees:
Chairman:
1. Mei Tang, 2006 Ph. D., Department of Pharmaceutics, College of Pharmacy.
2. Hong Li, Ph. D. student, Department of Pharmaceutics.
3. Christian Grimstein, Ph. D. student, Department of Pharmaceutics.
4. Matthias Futh, Ph.D. student, Department of Pharmaceutics.

Member:
1. Yan Gong, 2004 Ph. D., Department of Pharmaceutics.
2. Hao Zhu, 2004 Ph. D., Department of Pharmaceutics.
3. Ke Ren, 2005 Ph. D. Student, Department of Pharmaceutics.
5. R. Flecter Schwartz, 2005 M.S., College of Medicine
6. Todd Brusko, 2006 Ph. D., IDP program, College of Medicine.
7. Aaron Hirko, 2006 Ph. D., Department of Pharmaceutics.
8. Wouter Driessen, 2007 Ph.D., Department of Pharmaceutics.
10. Leah Villegas, 2007 Ph.D. student, Department of Pharmaceutics.
11. Yanfei Qi, Ph.D. student, Department of Pharmacodynamics.
12. Vinayak Shenoy, Ph.D. student, Department of Pharmacodynamics.
13. MyPhoung Le, Ph.D. student, Department of Pharmaceutics.
14. Patricio Tapia, 2007 Ph.D. student, Dept. of Civil & Coastal Engineering
15. Michael Weide, Ph.D. student, Department of Pharmaceutics.
16. Yao Sun, Ph.D. student, Dept. of Biomedical Engineering
17. Ruixin Jiang, Ph.D. student, Dept. of Biomedical Engineering

INVITED AND ORAL PRESENTATIONS:


3. Song S, “Effect of DNAA-PK on the molecular fate of the rAAV2 genome”, College of Medicine, May 1, 2002


11. Song, S. “Therapeutic Potential of Alpha 1 Antitrypsin (AAT) for Type 1 Diabetes and Rheumatoid Arthritis” August 31, 2007, Pharmacy Practice, University of Florida.


FUNDING RECEIVED

ONGOING:

1. NHLBI, R21 HL079132 (PI=Song)
   July 1, 2005-June 30, 2008. $363,750
   “Gene Therapy for Correction of PiZ Mutation”.

2. NIDDK, 2-P01-DK05327-06 (PI of the P01=Flotte; PI of the project 2=Song)
   Sep 1, 2005-August 31, 2010. $6,689,938
   “Recombinant AAV for correction of genetic abnormalities
   Project 2: Adult stem cell as a platform for liver gene therapy”

3. NIH R01 HL69877 (PI-Flotte; Co-Investigator=Song)
   April 1, 2003-March 31, 2007. $1,160,000
   “Preclinical & Phase I/II Trials of AAV-AAT Vectors”
4. UF-RGP opportunity fund (PI=Song)
   May 1, 2006-April 30, 2008 $74,117
   “Alpha 1 antitrypsin for the treatment of rheumatoid arthritis”

**COMPLETED:**

1. NIDDK R21 DK062652-01 (PI=Song)
   July 1, 2002-June 30, 2005. $290,000
   “Anti-inflammatory Serpin (AAT and AAV) gene Transfer to Enhance Islet Transplantation”

2. Juvenile Diabetes Research Foundation (PI=Song)
   July 1, 2002-July 1, 2005. $450,000 ($150,000/year, for 3 years)
   “Anti-inflammatory Serpin Gene Therapy for Preventing Type 1 Diabetes”

3. March of Dimes Birth Defects Foundation (PI=Laipis, Co-PI=Song)
   July 1, 2002-June 30, 1005 $84,745/year
   “Gene Therapy Approaches to the Treatment of Phenylketonuria (PKU): Prevention of Maternal PKU Syndrome with rAAV Vectors Expressing Phenylalanine Hydroxylase”

4. Young Investigator Fellowship Award from Alpha One Foundation (PI=Song).
   July, 2001-July, 2002. $50,000
   “Adeno-Associated Virus (AAV) Vectors for Skeletal Muscle Mediated Gene Therapy for Alpha-1 Antitrypsin (AAT) Deficiency-Preclinical Study in Non-human Primates”

5. 2001 Children’s miracle Network Fall Award (PI=Song)
   January, 2002- January, 2003. $20,000 (equipment only)
   “Alpha-1 Antitrypsin Gene Therapy for Juvenile Diabetes”

   May 1, 2002-April 30, 2003 $30,000
   “Gene Therapy for Type 1 Diabetes”

7. The JDRF gene Therapy Center for Diabetes and Diabetic Complication at the University of Florida and University of Miami.
   May 1, 2002-May 1, 2003 $5,000
   “A Pilot study for Diabetes”

8. Merck Research Scholar Program Award (PI=Song, recipient Keith Lowe)
   May 2003-July 2004 $5,500
   “Construction and In Vitro Evaluation of a Noval AAV vector for Type 1 Diabetes Mellitus”
9. NIH T35-HL07489, a fellowship award to Yitsung Wang (Advisor=Song),
   May 9, 2005 to August 5, 2005. $4,328
   “Construction and evaluation of regulatable gene therapy for type 1 diabetes mellitus”

PATENT
   U.S 6,641,606 B1.
   SN 10/267,117.
3. Flotte, T.R., Song, S., Byrne, B., Morgan, M. Adeno-Associated Viral Vectors for the
4. Song, S., Flotte, T.R., Atkinson, M.A., Loiler, S. rAAV Vector-Based Composition and
5. Womer K. Song, S., Samulski, R.J., Flotte, T.R., Loiler, S., Li, C., Atkinson, M.A., Clare-
   Salzler, M. Method and Compositions for Expressing a Nucleic Acid in a Dendritic Cell.
   U.S. SN 10/427,165.

HONORS
1. 2005 Junior Faculty Research Award of Sigma Xi, The Scientific Research Society.
2. 1999 Young Investigator Fellowship Awards of the Alpha One Foundation.

MEMBERSHIPS
1. Member of the American Society of Gene Therapy (ASGT)
2. Member of the American Diabetes Association (ADA)
3. Member of Sigma Xi, The Scientific Research Society
4. Member of American Association of College of Pharmacy
5. Member of Gamma Sigma Delta, Honor Society of Agriculture
6. Member of American Association for the Advancement of Science

PUBLICATIONS (** trainees in Song’s lab, * Song as a corresponding author)

Journal Articles:


Abstracts:


**Invited or Non-peer reviewed articles:**


**Dissertation and Thesis:**


Curriculum Vitae

Reginald F. Frye

March 2008

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College of Pharmacy
Department of Pharmacy Practice
PO Box 100486, HSC
Gainesville, FL 32610
Phone: (352) 273-5453
Fax: (352) 273-6121
Email: frye@cop.ufl.edu

EDUCATION

1995 University of Pittsburgh Ph.D., Clinical Pharmaceutical Science
1990 Mercer University Pharm.D, Doctor of Pharmacy
1986 Oglethorpe University B.S., Biology

APPOINTMENTS AND POSITIONS

2003-present Associate Professor, Departments of Pharmacy Practice and Pharmaceutics; Associate Director, Center for Pharmacogenomics; Graduate Coordinator, Department of Pharmacy Practice, College of Pharmacy, University of Florida (tenure awarded July 2004).

2002-2003 Associate Professor with tenure, Department of Pharmaceutical Sciences, School of Pharmacy, and Member, Center for Clinical Pharmacology, School of Medicine, University of Pittsburgh.

2001-2003 Associate Member, Center for Pharmacogenetics, School of Pharmacy, University of Pittsburgh.

1998-2003 Director, Clinical Pharmacology Analytical Facility, Center for Clinical Pharmacology, School of Medicine, University of Pittsburgh

1995-2002 Assistant Professor, Department of Pharmaceutical Sciences, School of Pharmacy, and Member, Center for Clinical Pharmacology, School of Medicine, University of Pittsburgh.

1993-1996 Staff Pharmacist, Veterans Administration Medical Center, Pittsburgh, PA.

1991-1995 Graduate Student, Department of Pharmacy and Therapeutics, School of Pharmacy, and Member, Center for Clinical Pharmacology, School of Medicine, University of Pittsburgh.

1991-1993 ASHP Fellow in Clinical Pharmacokinetics, Department of Pharmacy and Therapeutics, School of Pharmacy, University of Pittsburgh.

1990-1991 Clinical Pharmacokinetics Fellow and Clinical Instructor, School of Pharmacy, University of North Carolina, Chapel Hill, NC.
Preceptors: Gary R. Matzke, Pharm.D., Stanley W. Carson, Pharm.D.
PHARMACY LICENSURE

1990 North Carolina, #10912

HONORS AND AWARDS

1986-1990 Mercer University Dean's List
1987 M.A. Chambers Award for Academic Achievement
1988 Outstanding Young Men of America
1988 Rho Chi Honor Society
1989 Mercer University Dean's Merit Scholarship
1989 Phi Kappa Phi National Honor Society
1990 Hoechst-Roussel Excellence in Clinical Pharmacy Award
1990 Summa Cum Laude graduate, Mercer University
1992 Gordon Research Conferences Graduate Student Travel Award
2000 University of Pittsburgh Senior Vice Chancellor’s Research Seminar Series Presenter

MEMBERSHIPS IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

American Association of Colleges of Pharmacy, 1995-
American Association of Pharmaceutical Scientists, 1991-
American College of Clinical Pharmacy, 1990-
American College of Clinical Pharmacology, 2003-
American Society for Clinical Pharmacology and Therapeutics, 1997-
American Society of Health System Pharmacists, (1986-1997)
International Society for the Study of Xenobiotics, 1992-

TEACHING RESPONSIBILITIES

UNIVERSITY OF FLORIDA, 2003 – present
Appointed to Graduate Faculty November 2003
College of Pharmacy:

Professional
   PHA5782  2003 - Pharmacotherapy II (drug dosing in renal disease, pharmacokinetics of cardiovascular drugs, and drug interactions; 6 lecture hrs)
   PHA5783  2004 - Pharmacotherapy III (clinical pharmacokinetics of anti-epileptic and anti-infective drugs; 5 lecture hrs)
   PHA5121  2004 - Advanced Clinical Pharmacokinetics (2-4 lecture hrs)
   PHA5113  2004 - Drug therapy Monitoring and Pharmacogenomics (Course coordinator, 12-16 lecture hours).

Graduate
   PHA6427  2005 - Pharmacogenetics of Drug Metabolism and Transport (Course director)
UNIVERSITY OF PITTSBURGH, 1995 – 2003

School of Pharmacy:

**Professional**
- Pharm 3407 1993 - 1998  
  Clinical Pharmacokinetics (Lecturer in Population & Bayesian Pharmacokinetics, Computer applications, Theophylline, Phenytoin; 20 contact hrs)
- Pharm 3402 1997  
  Pharmacokinetic Concepts (Course Coordinator 1997, 10 contact hrs)
- Pharm 3002 1995 – 2003  
  Advanced Pharmacokinetics (Lecturer; 14-22 contact hrs)
- Pharm 1790 1995 – 2003  
  Undergraduate Research
- Pharm 5218 1998 – 2003  
  Drug Development 2 (Pharmacokinetics/Drug Metabolism Course for PharmD students; Course Coordinator 1998-2001; 18-24 lecture hrs)

**Graduate**
- Pharm 3102 1995 – 2001  
  Drug metabolism (Course Coordinator; 6 contact hrs)
- Pharm 3027 1997 – 2003  
  Topics in Biopharmaceutics/Pharmacokinetics
- Pharm 3020 2002 – 2003  
  Pharmacogenomics (Course Coordinator; 17 contact hrs)
- Pharm 3021 2002 – 2003  
  Topics in Pharmacogenomics (Course Coordinator; 14 contact hrs)

School of Medicine (1996 to 1998, 2001)
  Selective Course in Clinical Pharmacology (Lecturer in Pharmacokinetic Concepts for Clinicians, Pharmacokinetics workshop, Drug removal during continuous dialytic procedures; 5 contact hrs)
- Med 5710 2001  
  Selective Course in Clinical Pharmacology (Facilitator in Pharmacokinetic Concepts for Clinicians; 3 contact hrs)

UNIVERSITY OF NORTH CAROLINA, 1991:

- **Pharm.D. Curriculum** PhPr 139  
  Computer Applications in Clinical Pharmacokinetics (DrugCalc, Phenytoin)
- **Undergraduate** PhPr 77  
  Pharmacotherapeutics (Chronic Renal Failure, Drug Dosing in Renal Failure)

EDUCATIONAL RESEARCH

**University of Florida**

**Professional Pharmacy Students**
- Melonie Potvin 2004  
  Dana Fishbain 2005
- Fiadora Avramidis 2004  
  Jason Karnes 2006
- Julio Duarte 2004  
  Tyler Barker 2006
- Erika Diaz 2005  
  Jessica Enogieru 2007
- Tarnisha Cooper 2005  
  Stephen Harvey 2007
- Matthew Soto 2005

**University of Pittsburgh**

**Undergraduate Students**
- Michael Drummond 1996  
  Ivan Colaizzi 1999-2000

**Graduate Students**
- Aarti Ranade 2000  
  Matthew Hruska 2001
- Mohammed Al-Dosary 2000  
  Gregor Bendor 2002
Professional Pharmacy Students

Robert Berringer 1996  Bill Gentsch 2000
Jodie Campbell 1998  Shelby Corman 2001
Susan Byrne 1998  Sara Bristol 2001
Madelaine Betancourt 1999  Steven Ganchuk 2002
Thomas Nolin, M.S. 1999  Irina Sheyko 2002
Matthew Hruska 1999

UPMC Hospital Pharmacy Residents

Patricia Pecora, PharmD 1995-6  Michael Shullo, PharmD 1997-8
Lisa (Dreger) Opatik, PharmD 1996-7  Laurel (Evers) Riemenn, PharmD 1998-9
Brian Kearney, PharmD 1997  Jackie Dix, PharmD 2002

GRADUATE RESEARCH

University of Florida
Member, Graduate Faculty 2003.

Graduate Major Advisor
Prajakta Dravid
Department of Pharmaceutics  Graduated, M.S. degree  December 2007

Mohamed Eslam Mohamed
Clinical Pharmaceutical Scientist Program  Anticipated Graduation:  2009

Graduate Committee Member
Immo Zdrojewski
Department of Pharmaceutics  Anticipated Graduation:  2008

Elvin D. Price, Pharm.D.
Clinical Pharmaceutical Scientist Program  Anticipated Graduation:  2009

Hrishikesh Navare
Department of Pharmaceutics  Anticipated Graduation:  2009

MyPhoung Le
Department of Pharmaceutics  Anticipated Graduation:  2009

University of Pittsburgh
Member, Graduate Faculty 1997.

Graduate Major Advisor
J. Ike Lee, Pharm.D.
Clinical Pharmaceutical Scientist Program  Graduated, Ph.D. degree  April 2001

Khalid Alkharfy, Pharm.D.
Clinical Pharmaceutical Scientist Program  Graduated, Ph.D. degree  July 2002

Thomas Nolin, M.S., Pharm.D.
Clinical Pharmaceutical Scientist Program  Graduated, Ph.D. degree  May 2003

Sara Fitzgerald
Genetic Counseling Program  Graduated, M.S. degree  April 2004

Matthew Hruska, Pharm.D.
Clinical Pharmaceutical Scientist Program  Graduated, Ph.D. degree  October 2004

Rama Sivasubramanian, M.S.
Graduated, Ph.D. degree  November 2005
Graduate Committee Member

Amy Pittenger, Pharm.D.  
Clinical Pharmaceutical Scientist Program  
Graduated, M.S. degree  
August 1996

Thomas Dowling, Pharm.D.  
Clinical Pharmaceutical Scientist Program  
Graduated, Ph.D. degree  
June 1999

Firoozeh S. Salek, Pharm.D.  
Clinical Pharmaceutical Scientist Program  
Graduated, Ph.D. degree  
July 1999

Fahd Al-Genoby, B.S.  
Department of Pharmaceutical Sciences  
Graduated, Ph.D. degree  
December 2000

Vinod Ramachandran, M.S.  
Department of Pharmaceutical Sciences  
Graduated, Ph.D. degree  
January 2001

Jaya Pisaputi, M.S.  
Department of Pharmaceutical Sciences  
Graduated, Ph.D. degree  
August 2001

Elsa Crick  
Graduate School of Public Health  
Graduated, M.S. degree  
April 2002

Vera Donnenberg, MS  
Department of Pharmaceutical Sciences  
Graduated, Ph.D. degree  
July 2002

Abdullah Al-Mohizea  
Department of Pharmaceutical Sciences  
Graduated, Ph.D. degree:  
November 2002

Matthew Hummel  
West Virginia University  
Graduated, M.S. degree:  
January 2003

Junhai Oo  
Department of Pharmaceutical Sciences  
Graduated, M.S. degree:  
February 2003

Christopher Bolcato  
Department of Pharmaceutical Sciences  
Graduated, M.S. degree:  
June 2003

Maggie Folan, RN, BSN  
Department of Pharmaceutical Sciences  
Graduated, Ph.D. degree  
July 2003

Bernard Komoroski  
Department of Pharmaceutical Sciences  
Graduated, Ph.D. degree  
March 2005

William Zamboni  
Department of Pharmaceutical Sciences  
Graduated, Ph.D. degree  
May 2005

Aarati Ranade  
Department of Pharmaceutical Sciences  
Graduated, Ph.D. degree  
November 2005

Comprehensive Examination Committee Member (Department of Pharmaceutical Sciences)

Mohammed Al-Dosary  
January 2003

Gregor Bender  
March 2003
**SERVICE**

**University of Florida**

*Health Science Center*

- General Clinical Research Center Advisory Committee, 2005 –
- Advanced Post Graduate Program in Clinical Investigation Advisory Committee, 2007 –
- CTSA Training Core Committee, 2006 – 2007

*College of Pharmacy*

- Graduate Coordinator, Department of Pharmacy Practice, 2004 –
- Graduate Studies Committee, 2005 –
- Equipment committee, 2003 –
- Department of Pharmacy Practice, Faculty search committee: 2004 search A (chair), 2004 search B (chair), 2005 Search (chair), 2007 Search (chair)

**University of Pittsburgh**

*University*

- Department of Anesthesiology and Critical Care Medicine, Manuscript Review Committee, 1996
  - GCRC Education Committee, 2001 – 2003
- University of Pittsburgh Cancer Institute, Clinical Pharmacology Core
  - Internal Advisory Committee, 2002 - 2003

*School of Pharmacy*

- Graduate Committee, School of Pharmacy, 1998 – 2001.

*Other*

- Interferon treatment and drug interactions – KQV radio

**MANUSCRIPT REVIEWER**

- American Journal of Health-Systems Pharmacy
- American Journal of Kidney Disease
- American Journal of Obstetrics and Gynecology
- American Journal of Pharmaceutical Education
- American Journal of Transplantation
- Annals of Pharmacotherapy
- Biological Psychiatry
- Biomedical Chromatography
- Human Genetics
- Journal of Antimicrobial Chemotherapy
- Journal of Chromatography A
- Journal of Chromatography B
- Journal of Clinical Pharmacology
- Journal of Clinical Psychopharmacology
- Journal of Pharmaceutical and Biomedical Analysis
- Journal of Pharmacology and Experimental Therapeutics
EDITORIAL BOARD MEMBER
Pharmacotherapy, 2006

GRANT REVIEWER
National Institutes of Health, Center for Scientific Review Special Emphasis Panel (ZRG1 RPHB-B (05) and ZRG1 RPHB-J (02)), Ad hoc reviewer. July 2005.

OTHER PROFESSIONAL ACTIVITIES
American Association of Pharmaceutical Scientists (AAPS)
Abstract Screening Committee, Clinical Science Section Chair, 1997
Clinical Science Research Achievement Award Selection Committee, 1997
Hot Topics Committee, 2004 Annual Meeting

American College of Clinical Pharmacy (ACCP)
Abstract Reviewer, Annual and/or Spring Meetings, 1997 – present

American Society for Clinical Pharmacology and Therapeutics (ASCPT)
Abstract Reviewer, Annual Meeting, pharmacokinetics/drug metabolism section 1999 – present
Membership Committee, 2001 – 2004
Vice Chair, Pharmacokinetics and Drug Metabolism section, 2006 – present
CONSULTING ACTIVITIES
Abbott Laboratories, Pharmacokinetics/drug metabolism consultant, 1996-8
Bayer Corporation, drug metabolism/drug interaction consultant, 2004
PharmaSolutions, consultant, drug interactions, 2004

PUBLICATIONS

BOOK CHAPERS:

LETTERS, CASE REPORTS:

PEER REVIEWED ARTICLES – REVIEW PAPERS:
* = individuals in training are indicated by an asterisk

PEER REVIEWED ARTICLES – ORIGINAL RESEARCH:
* = Trainees working under my direction are indicated by an asterisk


ABSTRACTS & SCIENTIFIC PRESENTATIONS:
* = individuals in training are indicated by an asterisk


73. *Al-Kharfy K, Matzke GR, Frye RF, Kellum JA.  Ceftazidime clearance in septic and non-septic rats receiving continuous arteriovenous hemofiltration (CAVH).  Presented at the 1999 ACCP Spring Meeting, Orlando, FL.


**RESEARCH SUPPORT**

* = active projects


29. Preclinical pharmacological studies of antitumor and anti-HIV agents (N01). Co-investigator (6% effort; PI: Merrill Egorin, MD), National Cancer Institute, NIH. 12/01/00 - 12/31/02. TDC: $890,925 TC: $1,285,232.
30. Interventions Research Center for the Study of Late-Life Mood Disorders (Principal Investigator Charles F. Reynolds III, MD; R.F. Frye, Co-investigator, 5% effort (no salary), Psychopharmacology Core) 2 P30 MH 52247. TDC (years 6 – 10; 3/2000 – 2/2005): $5,432,131. TC: $8,121,693.
31. Drug Metabolizing Enzymes - Risk Factors in Bladder Cancer (R01). Co-investigator (20% effort; PI: Robert A. Branch, MD), National Cancer Institute, NIH. 07/01/01 - 06/30/05. TDC: $890,925 TC: $1,285,232.
32. In vitro studies of the effects of St. John’s wort on the metabolism of docetaxel. Co-investigator (5% effort; PI: Merrill Egorin, MD). Rhone Poulenc Rhorer (RPR) Grant-in-aid. 07/01/02 – 06/30/03. TDC: $91,187 TC: $113,984.
33. Drug metabolism in chronic liver disease (R01). Co-investigator (15% effort; PI: Robert A. Branch, MD), National Institute of General Medical Sciences, NIH. 09/15/02 - 09/14/07. TDC: $1,296,315, TC: $1,934,334.
34. St. John’s wort and CYP3A metabolism in Men & Women (R01). Principal Investigator (20% effort). National Institute of Mental Health, NIH. 05/01/2001 – 04/30/2005. TDC: $650,000, TC: $1,001,292.
35. Mechanisms of atypical drug kinetics and interactions (R01). Co-investigator (10% effort; PI: Timothy S. Tracy, PhD, West Virginia University), National Institute of General Medical Sciences, NIH. 07/01/2001 - 06/30/05. TDC: $625,000. University of Pittsburgh subcontract: TDC: $83,612, TC: $125,000. University of Florida subcontract TDC: $34,483, TC: $50,000.
37. A Double-Blind, Parallel, Randomized, Placebo-Controlled, Ascending Repeat-Dose Study to Investigate GW695634X and GW678248X Safety, Tolerability and Pharmacokinetics following Oral Administration of GW695634G to Healthy Subjects for 10 Days. Principal Investigator. GlaxoSmithKline. 10/04 – 12/05. $54,960.
39. Effect of Kidney Disease on CYP3A Metabolism and P-glycoprotein Transport. Co-investigator (PI: Dr. Thomas Nolin), 07/05 – 06/07. $130,000.
41. 1K01NS055094; NIH/NIDDS; (PI Hastie). Ethnic Differences in Acute Pain and Analgesic Response. Co-Mentor. 04/06 – 03/11.*

PRESENTATIONS

The Role of Drug Metabolizing Enzymes in Chemical Carcinogenesis. University of Pittsburgh, School of Pharmacy, February 1992.
Pharmacokinetics and Pharmacodynamics of Torsemide, a potent loop diuretic. University of Pittsburgh, School of Pharmacy, April 1993.
Characterization of In Vivo Drug Metabolizing Enzyme Activities: Validation of Chlorzoxazone as a Probe of CYP2E1 and a Cocktail to Assess Multiple Enzymes. University of Pittsburgh, June 14, 1995.
The Cytochrome P450 enzyme system: Alphabet Soup?  Brigham & Women’s Hospital, Department of Pharmacy.  May 9, 1996.

Methods to assess in vivo cytochrome P450 activity.  Brigham & Women’s Hospital, Department of Obstetrics and Gynecology.  May 9, 1996.

Mono-acetyldapsone disposition is altered in the presence of disulfiram.  School of Pharmacy Seminar Series, University of Pittsburgh, February 20, 1997.

Application of the “Pittsburgh Cocktail” approach to drug interaction studies.  Presentation to visiting FDA scientific reviewers, Center for Clinical Pharmacology, June 1997.


Clinical significance of cytochrome P450 (CYP) enzymes.  Housestaff Patient Management Conference, Montefiore University Hospital, September 1998.

Flurbiprofen and the Pittsburgh Cocktail: Should it stay or should it go now?  Center for Clinical Pharmacology Seminar Series, December 1998.


Effect of Congestive Heart Failure on drug metabolism: Relevance to cardiovascular pharmacotherapy.  Cardiovascular Institute, University of Pittsburgh, April 1999.


Drugs and Genes.  University of Pittsburgh Discovery Weekend, School of Pharmacy, University of Pittsburgh.  October 2000.


Pharmacogenomics.  GEAR-UP program, School of Pharmacy, University of Pittsburgh.  February 2002.

Characterization of Genetic and Non-Genetic Factors that affect Cytochrome P450-Mediated Metabolism In Vivo.  College of Pharmacy, University of Florida, October 2002.
New and Improved Methodologies for Measuring Drugs and Metabolites in Biological Fluids. ACCP Spring Practice and Research Forum, April 2003.


Probing the World of Cytochrome P450 Enzymes. Center for Food-Drug Interaction Research and Education and Department of Pharmaceutics, University of Florida, February 2004.

Variability in drug response: Herbs, SNPs, and CYPs. College of Pharmacy Faculty Research Forum, University of Florida, May 2004.


Effect of CYP2C8 Pharmacogenetics and Drug Interactions on Rosiglitazone Pharmacokinetics. Department of Pharmacy Practice, College of Pharmacy, University of Florida, April 2005.

Effect of Chronic Kidney Disease on the Drug Metabolism Phenotype. Department of Pharmacy Practice, College of Pharmacy, University of Florida, March 2006.

Effect of Aging on Cytochrome P450-mediated Metabolism. Institute on Aging Research Seminar Series, College of Medicine, University of Florida, March 2006.


Pharmacogenetic and environmental factors that alter human drug metabolism. Invited Distinguished Alumni Speaker, Oglethorpe Symposium, Oglethorpe University, Atlanta, GA, April 2007.

Variability in drug metabolism: Interactions, SNPs, and CYPs. Keynote Speaker, School of Pharmacy Research Day, University of Iowa, April 2007.

Role of Pharmacogenetics in Primary Care. The New Drug Update, Continuing Education Symposium, Medical University of South Carolina, Charleston, SC, May 2007.

Veronika Butterweck, PhD

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Department of Pharmaceutics
1600 SW Archer Road, Room P3-31
Gainesville, FL 32610

Phone: 352-846-2470
Fax: 352-392-4447
butterwk@cop.ufl.edu

Home:
5333 SW 75th Street, Apt. 195
Gainesville, FL 32608
Phone: +1-352-377-7825

CITIZENSHIP: German
DATE OF BIRTH: 04/16/1968

POSITION HELD: since September 2003 Assistant Professor at the Department of Pharmaceutics, College of Pharmacy, University of Florida

EDUCATION:
July 2003 – Habilitation (venia legendi for pharmacology)
Westfälische Wilhelms-Universität, Münster, Germany

July 1997 – PhD degree
Westfälische Wilhelms-Universität, Münster, Germany
- Thesis title: Pharmacological and phytochemical investigations of Hypericum perforatum L. (Hypericaceae) and its active constituents

January 1994 – July 1997 - PhD student
Institute of Pharmacology and Toxicology. This work was in cooperation with the Institute of Pharmaceutical Biology and Phytochemistry, Westfälische Wilhelms-Universität, Münster, Germany.
- Supervisor: Prof. Dr. Hilke Winterhoff and Prof. Dr. Adolf Nahrstedt
- Techniques: behavioural pharmacology, drug administration, radioimmuno assays, phytochemical techniques: HPLC, MLCCC, isolation of compounds

December 1993 – licensed in Germany as a pharmacist

October 1992 – December 1993 - Residency in pharmacies
- Ungerer-Bad Apotheke, München, Germany
• Sonnen Apotheke, Brilon, Germany

October 1988 – October 1992 Study of Pharmaceutical Sciences
Westfälische Wilhelms-Universität, Münster, Germany

POSTDOCTORAL EXPERIENCE:
August 1998 to August 2003 – Institute of Pharmacology and Toxicology
Westfälische Wilhelms-Universität, Münster, Germany
  • Supervisor: Prof. Dr. Hilke Winterhoff
  • Focus: Pharmacological, endocrinological and biochemical investigations of St. John’s wort and its active constituents, Antidepressant activity of Apocynum venetum, investigation of Kava-Kava in animal models of alcohol dependency
  • Techniques: small animal surgery, in vivo animal models (psychotropic and neurotropic activity, animal models of alcoholism), isolation of discrete brain regions, HPLC – electrochemical and fluorescent detection, radioimmuno assays, receptor binding assays

Bethesda, Maryland, USA
  • Supervisor: Dr. Miles Herkenham
  • Focus: Influence of St. John’s wort on the hypothalamic-pituitary-adrenal (HPA) axis
  • Techniques: in vivo animal models include immobilization stress, in situ hybridization, basic histology, RNA isolation and quantitation, densitometry, light microscopy and photography

INDUSTRIAL EXPERIENCE:
January 1999 - December 2000
  • Cooperative Research
  • Lichtwer Pharma AG, Berlin, Germany
  • Project: Investigations on the mode of action of St. John’s wort

September 2003 - present
  • Cooperative Research and Development Agreement
  • Steigerwald Arzneimittel, Darmstadt, Germany
  • Project: Investigations on the mode of action of St. John’s wort

January 2004 – December 2004
  • Cooperative Research and Development Agreement
  • Pascoe Pharmaforschung, Giessen, Germany
  • Project: Antidepressant activity of Neurapas, a combination of Passionflower, St. John’s wort and Valerian root
January 2004 – present
- Cooperative Research and Development Agreement
- Tokiwa Phytochemicals, Chiba, Japan
- Project: Antidepressant activity of *Apocynum venetum* in animal models

January 2005 – December 2005
- Cooperative Research and Development Agreement
- Finzelberg GmbH, Andernach, Germany
- Project: Screening of medicinal plant with hypouricemic activity

January 2005 – present
- Cooperative Research and Development Agreement
- Max Zeller AG, Romanshorn, Switzerland
- Project: Sleep inducing properties of hops extract

July 2006 - present
- Cooperative Research and Development Agreement
- Steigerwald Arzneimittel, Darmstadt, Germany
- Project: Anti-stress effects of St. John´s wort extracts

ACADEMIC COLLABORATIONS:

January 2000 to July 2003
- PD Dr. Markus Schwaninger, Clinic of Neurology, Ruprecht-Karls-University of Heidelberg, Germany
- Project: Role of Interleukin-6 in stressed induced hyperthermia and emotional behaviour in mice

April 2000 to April 2003
- Prof. Dr. Adolf Nahrstedt
- Institute of Pharmaceutical Biology and Phytochemistry, Münster, Germany
- Project: Studies on the bioavailability of hypericin

June 2000 to present
- Prof. Dr. Sansei Nishibe, Faculty of Pharmaceutical Sciences, Health Sciences University of Hokkaido, Ishikari-Tobetsu, Hokkaido, Japan
- Project: Pharmacological and phytochemical investigations on *Apocynum venetum* L.

January 1999 to December 2001
- Prof. Dr. Bryan Roth, Case Western Reserve University, Cleveland, Ohio, USA
- Project: In vitro receptor screening of pure constituents of St. John’s wort (funded by the NIMH Psychoactive Drug Screening Program)

AWARDS:

1998  Rudolf Fritz Weiss Award of the Society of Phytotherapy
2002  Phoenix Scientific Award for the Section Pharmacognosy
HONORS:
2005 Member of the Expert Committee Dietary Supplements / Botanicals of the United States Pharmacopoeia (USP)

Further Qualifications / Titles:

2000 Title: “Fachpharmakologin Deutsche Gesellschaft für experimentelle und klinische Pharmakologie und Toxikologie (DGPT) (= Certified Expert in Pharmacology)


TEACHING EXPERIENCE:

October 2001 – July 2003
• Teaching classes and seminars for students of pharmaceutical sciences, Westfälische Wilhelms-University, Münster, Germany:

  Topics:
  - Immune system
  - Blood
  - Hormones of the pituitary and thyroid
  - Insulin
  - Design and quality of clinical studies
  - Problem based learning (case reports)

April 2000 – July 2003
• Teaching classes and seminars for students of medicine, Westfälische Wilhelms-University, Münster, Germany:

  Topics:
  - Drugs affecting the central nervous system
  - Diuretic drugs
  - Drugs affecting the cardiovascular system
  - Toxicology of heavy metals
  - Therapy with phytomedicines
  - Problem based learning (case reports)

• Teaching classes for geriatric nurses, Diakonissenmutterhaus, Münster, Germany

  Topics:
  - Absorption, distribution and elimination of drugs
  - Pharmacokinetic and drugs receptors
  - Chemotherapeutic drugs
April 2003 - present
- Herbal Medicines Class: Quality, Safety and Efficacy of Herbal Medicinal Products, Required Class for Pharmacy students (4th year), College of Pharmacy, University of Florida
- Phytopharmaceutics: Pharmacognosy and Biochemistry of Natural products; Elective Class for Graduate students, College of Pharmacy, University of Florida

Further teaching experiences:
- Duties included laboratory lectures, supervision of PhD-students, technical assistants

Editorial Board
- Planta Medica (Co-Editor)

REVIEWER ACTIVITIES
- Planta Medica
- Journal of Psychiatric Research
- Pharmacopsychiatry
- Hormone and Metabolic Research
- Progress in Neuro-Psychopharmacology & Biological Psychiatry
- Journal of Ethnopharmacology
- Journal of Pharmacy and Pharmacology
- Neurochemistry International
- Journal of Pharmacological Research

PROFESSIONAL ASSOCIATIONS:
- Society for Neuroscience
- Society of Medicinal Plant Research (Gesellschaft für Arzneipflanzenforschung)
- Deutsche Pharmazeutische Gesellschaft (German Pharmaceutical Society)
- Gesellschaft für Phytotherapie (Society of Phytotherapy)
- Deutsche Gesellschaft für experimentelle und klinische Pharmakologie und Toxikologie (German Society of experimental and clinical Pharmacology and Toxicology)
- American Society of Pharmacognosy

Administrative Duties:
Co-director of the Center for Food-Drug Interaction, Research & Education, University of Florida, Gainesville, USA
Papers published

Books

1. Pharmakologische Untersuchungen zur antidepressiven Wirkung von *Hypericum perforatum* L.  
   WINTERHOFF, H., BUTTERWECK, V., NAHRSTEDT, A., GUMBINGER, H.G., SCHULZ, V., ERPING, S.,  
   BOSSHAMMER, F., WIELIGMANN, A.  
   In: LOEW, D., RIETBROCK, N., Phytopharmaka in Forschung und klinischer Anwendung,  

2. Pharmacokinetics of Herbal Products  
   BUTTERWECK, V., DERENDORF, H.  
   In: FRANCIS LAM, Y.W., HUANG, S.M., HALT, S.D., Herbal Supplement-Drug Interactions  
   Taylor and Francis, New York pp 205-244 (2006)

3. Drug-Interactions of Grapefruit- and Other Citrus- Polyphenolics – What have we learned?  
   MERTENS-TALCOTT, S.U., ZDROJEWSKI. I., DE CASTRO, W.V., BUTTERWECK, V., DERENDORF, H.  
   In: FRANCIS LAM, Y.W., HUANG, S.M., HALT, S.D., Herbal Supplement-Drug Interactions  

Papers

1. Effects of the total extract and fractions of *Hypericum perforatum* in animal assays for antidepressant  
   activity  
   BUTTERWECK, V., WALL, A., LIEFLAENDER-WULF, U., WINTERHOFF, H., NAHRSTEDT, A.,  
   Pharmacopsychiatry, 30, 117-124, Suppl.2 (1997)

2. Biologically active and other chemical constituents of the herb of *Hypericum perforatum* NAHRSTEDT,  
   A., BUTTERWECK, V.  
   Pharmacopsychiatry, 30, 129-134, Suppl. 2 (1997)

3. Solubilized hypericin and pseudohypericin from *Hypericum perforatum* L. exert antidepressant activity in  
   the forced swimming test  
   BUTTERWECK, V., PETEREIT, F., WINTERHOFF, H., NAHRSTEDT, A.  
   Planta Medica, 64, 291-294 (1998)

4. Flavonoids from *Hypericum perforatum* show antidepressant activity in the forced swimming test  
   BUTTERWECK, V., JUERGENLIEMK, G., NAHRSTEDT, A., WINTERHOFF, H.  
   Planta Medica, 66, 3-6 (2000)

5. Pharmacological and endocrine effects of *Hypericum perforatum* and hypericin after repeated treatment  
   BUTTERWECK, V., KORTE, B., WINTERHOFF, H.  
   Pharmacopsychiatry, 34 (Suppl. 1), S2-S7 (2001)
6. St. John's wort, hypericin, and imipramine: a comparative analysis of mRNA levels in brain areas involved in HPA axis control following short-term and long-term administration in normal and stressed rats
BUTTERWECK, V., WINTERHOFF, H., HERKENHAM, M.
Molecular Psychiatry, 6, 547-564 (2001)

7. Antidepressant effects of Apocynum venetum leaves in the forced swimming test
BUTTERWECK, V., NISHIBE, S., SASAKI, T., UCHIDA, M.

8. Long-term effects of St. John’s wort and hypericin on monoamine levels in rat hypothalamus and hippocampus
BUTTERWECK, V., BÖCKERS, T., KORTE, B., WITTKOWSKI, W., WINTERHOFF, H.

9. In vitro receptor screening of pure constituents of St. John’s wort reveals novel interactions with a number of GPCRs
BUTTERWECK, V., NAHRSTEDT, A., EVANS, J., HUFEISEN, B., ERNSBERGER, P., ROTH, B.L.

10. Pharmakologische und klinische Untersuchungen zum Einsatz von Cimicifuga racemosa bei klimakterischen Beschwerden
WINTERHOFF, H., BUTTERWECK, V., JARRY, H., WUTTKE, W.

11. Mechanism of action of St. John’s wort in depression: What is known?
BUTTERWECK, V., Review, CNS Drugs, 17 (8), 539-562 (2003)

12. Plasma levels of hypericin in presence of procyanidin B2 and hyperoside: A pharmacokinetic study in rats
BUTTERWECK, V., LIEFLÄNDER-WULF, U., WINTERHOFF, H., NAHRSTEDT, A.

13. Cimicifuga extract BNO 1055: Reduction of hot flushes and hints on antidepressant activity
WINTERHOFF, H., SPENGLER, B., CHRISTOFFEL, V., BUTTERWECK, V., LÖHNING, A.
Maturitas, 44 (Suppl. I), S51-S58 (2003)

14. Step by step removal of hyperforin and hypericin: Activity profile of different Hypericum preparations in behavioural models
BUTTERWECK, V., CHRISTOFFEL, V., NAHRSTEDT, A., PETEREIT, F., SPENGLER, B.,
WINTERHOFF, H.

15. Hypericum Review : Phytochemie und Pharmakologie des Johanniskrautes. Was ist bekannt?
BUTTERWECK, V., NAHRSTEDT, A.
16. Long-term effects of an *Apocynum venetum* extract on brain monoamine levels and β-AR density in rats
BUTTERWECK, V., SIMBREY, K., SEO, S., SASAKI, T., NISHIBE, S.

17. The role of IL-6 in stress induced hyperthermia and emotional behaviour in mice
BUTTERWECK, V., PRINZ, S., SCHWANINGER, M.
Behavioural Brain Research, 144 (1-2), 49-56 (2003)

18. Hyperforin fails to affect gene transcription in brain areas involved in HPA axis control
BUTTERWECK, V., WINTERHOFF, H., HERKENHAM, M.

19. Different extracts of St. John’s wort and various constituents affect β-adrenergic binding in rat frontal cortex
SIMBREY, K., WINTERHOFF, H. BUTTERWECK, V.

20. An update on the treatment of thyroid disease
BUTTERWECK, V.
Drug Topics, 4, 93 – 102 (2004)

21. Pharmacokinetic herb-drug interactions: Are preventive screenings necessary and appropriate?
BUTTERWECK, V., DERENDORF, H., GAUS, W., NAHRSTEDT, A., SCHULZ, V., UNGER, M.
Planta Medica 70 (9), 784 - 791 (2004)

22. Flavonoids of St. John’s wort reduce HPA-axis function in rats
BUTTERWECK, V., HEGGER, M., WINTERHOFF, H.

23. *Apocynum venetum* extract does not induce CYP3A and P-glycoprotein in rats
KOBAYASHI, M., SAITOH, H., SEO, S., BUTTERWECK, V., NISHIBE, S.

SAKAKIBARA, H., ISHIDA, K., MINAMI, Y, SAITO, S., BUTTERWECK, V., TAMAKI, T., NAKAYA, Y., TERAO, J.
J Med Invest. 52 Suppl: 300-1 (2005)

25. Variation of Flavonoids and Furanocumarins in Grapefruit Juices
DE CASTRO, W.V., MERTENS-TALCOTT, S., RUBNER, A., BUTTERWECK, V., DERENDORF, H.

26. Antidepressant effect of extracts from Ginkgo biloba leaves in behavioral models
SAKAKIBARA, H., ISHIDA, K., GRUNDMANN, O., NAKAJIMA, J., SEO, S., BUTTERWECK, V., MINAMI, Y., SAITO, S., KAWAI, Y., NAKAYA, Y., TERAO, J.
27. Isolation and HPLC quantitative analysis of antioxidant flavonoids from Alternanthera tenella Colla. 

28. Hyperforin in St. John’s wort drug interactions 
MADABUSHI, R., FRANK, B., DREWELOW, B., DERENDORF, H., BUTTERWECK, V. 

29. Effects of St. John’s wort extract and isolated compounds on stress-induced hyperthermia in mice 
GRUNDMANN, O., KELBER, O., BUTTERWECK, V. 

30. Anxiolytic activity of Apocynum venetum extract in the elevated plus maze in mice 
O.GRUNDMANN, J. NAKAJIMA, S.SEO., V.BUTTERWECK 

31. Grapefruit-drug interactions: can interactions with drugs be avoided? 
MERTENS-TALCOTT, S., ZADEZENSKY, I., DE CASTRO, W.V., DERENDORF, H., BUTTERWECK, V. 

32. Hypothermic effects of hops are antagonized with the competitive melatonin receptor antagonist luzindole in mice. BUTTERWECK, V., BRATTSTROEM, A., GRUNDMANN, O., KOETTER, U. J Pharm Pharmacol 59: 549-52 (2007)


**Lectures**

1. The solubility-dependent antidepressant activity of hypericin and pseudohypericin in the rats forced swimming test 
BUTTERWECK, V., NAHRSTEDT, A., WINTERHOFF, H. 

2. Solubilized hypericin and pseudohypericin with antidepressant activity in the forced swimming test from Hypericum perforatum L. 
BUTTERWECK, V., PETEREIT, F., NAHRSTEDT, A., WINTERHOFF, H. 
Short lecture at the 45th Annual Meeting of the Society of Medicinal Plant Research in Regensburg, Germany, 7. – 12. September 1997
3. Effects of acute and chronic Hypericum extract and hypericin administration in the rat brain: in situ hybridization studies
BUTTERWECK, V.
Lecture: Symposium ‘Pharmacology of St. John’s wort (Hypericum perforatum L.) and its constituents, Frankfurt, Germany, February 20th – 22nd, 2000

4. Neuroendocrinological investigations after short-term and chronic treatment with St. John’s wort and hypericin
BUTTERWECK, V., KORTE, B., WINTERHOFF, H.
Short-lecture: at the 3rd International Congress on Phyto medicine, Munich, Germany, October 11 - 13, 2000
Organized by the Society of Phytotherapy, the Society for Medicinal Plant Research, and the European Scientific Cooperative on Phytotherapy (ESCOP)

5. Selective effects of long-term administration of St. John’s wort and hypericin on gene expression in brain areas involved in HPA axis control
BUTTERWECK, V., WINTERHOFF, H., HERKENHAM, M.
Lecture: at the Annual Meeting of the Society of Biological Psychiatry, New Orleans, USA, May 3-7, 2001

6. St. John’s wort: a herbal mood buster?
BUTTERWECK, V.
Lecture: Post-Doc Meeting at the National Institutes of Mental Health, Bethesda, USA, July 15th, 2001

7. Antidepressant effects of Apocynum venetum leaves in the forced swimming test
BUTTERWECK, V., NISHIBE, S., SASAKI, T., UCHIDA, M.
Lecture: at the 49th Annual Meeting of the Society for Medicinal Plant Research, Erlangen, Germany, September 2-6, 2001

8. Antidepressant Activity of St. John’s wort in animal models of depression
BUTTERWECK, V.
Lecture: Department of Agriculture, University of Tokio, Japan, March 18th, 2002

9. St. John’s wort: A possible strategy to examine the CNS activity of plant extracts
BUTTERWECK, V.
Lecture: Department of Pharmaceutics, University of Florida, Gainesville, USA, July 8th, 2002

10. A lipophilic extract of St. John’s wort and hyperforin-trimethoxybenzoate fail to attenuate gene transcription in brain areas involved in HPA axis control
BUTTERWECK, V., WINTERHOFF, H., HERKENHAM, M.
Lecture: Annual Meeting of the German Society of Phytotherapy, Berlin, Germany, October 10 – 12th, 2002

11. Hypouricemic activity of an extract of Gundelia tournefortii L.
BUTTERWECK, V., LECHTENBERG, M., QUANDT, B., NAHRSTEDT A., QUADAN, F.
Lecture: at the 51st Annual Meeting of the Society for Medicinal Plant Research, Kiel, Germany, September 1-3, 2003

12. Interaktionen pflanzlicher Arzneimittel: Möglichkeiten der Prüfung und klinische Relevanz
BUTTERWECK, V.
Lecture: Phytopharmaka Symposium, Goslar, Germany, March 24 – 25th, 2004

CV - page 10
13. *Apocynum venetum* L. – A novel herbal antidepressant  
**BUTTERWECK, V., KIPKE, S., NAHRSTEDT, A.**  
Lecture: Chiba University, Department of Agriculture, Chiba, Japan, June 15th, 2004

14. Anti-stress effects of selected herbal medicines  
**BUTTERWECK, V.**  
Lecture: Tokushima University, Institute of Psychology, Tokushima, Japan, September 1st, 2004

15. *Apocynum venetum* L. – A new herbal mood booster  
**BUTTERWECK, V.**  
Lecture: SupplySide West, International Trade Show and Conference, Las Vegas, USA, September 29th-October 1st 2004

16. Herbal approaches to malignant diseases  
**BUTTERWECK, V.**  
Joint Cancer Conference of the Florida Universities, Orlando, USA, January 27th – 29th 2005

17. Mechanisms of drug-nutrient interactions  
**BUTTERWECK, V.**  
American Pharmacists Association, Orlando, USA, April 1st – 3rd 2005

18. Natural Products as causes of drug-interactions  
**BUTTERWECK, V.**  
Lecture: International Congress of the European Society of Clinical Pharmacology, Poznan, Poland  
June 26 – 29th, 2005

19. *Hypericum perforatum* as a modern antidepressant: Active compounds and quality  
**BUTTERWECK, V.**  
Lecture: 53rd Meeting of the Polish Herbal Committee, Poznan, Poland  
June 25 – 26th, 2005

20. Effects of St. John’s wort extract and single compounds on stress-induced hyperthermia in mice  
**GRUNDMANN, O., KELBER, O., BUTTERWECK, V.**  
Lecture: 53rd Annual Meeting of the Society of Medicinal Plant Research, Florence, Italy  
August 21st – 26th, 2005

21. Depression, Anxiety and New Herbal Research  
**BUTTERWECK, V.**  

22. Commonly used Herbal Medicines  
**BUTTERWECK, V.**  
Lecture: Mayo Clinic Jacksonville, USA, May 21st, 2006

23. Effects of St. John’s wort extract and single compounds on stress-induced hyperthermia in mice  
**GRUNDMANN, O., KELBER, O., BUTTERWECK, V.**
24. Grapefruit Juice Drug Interactions: grapefruit juice and its components inhibit P-glycoprotein mediated transport of talinolol in Caco-2 Cells
DE CASTRO, W.V., MERTENS-TALCOTT, S.U., DERENDORF, H., BUTTERWECK, V.
Lecture: 54th Annual Meeting of the Society of Medicinal Plant Research, Helsinki, Finland
August 29th – September 2nd, 2006

25. Evaluation of Grapefruit Juice and its components on P-glycoprotein activity
BUTTERWECK, V., DE CASTRO, W.V., DERENDORF, H.

Poster presentations

1. Changes in body temperature of mice give evidence for central effects of Hypericum perforatum L.
WALL, A., BUTTERWECK, V., WINTERHOFF, H., GUMBINGER, H.G., NAHRSTEDT, A.
Posterpresentation on the 43th Annual Meeting of the Society of Medicinal Plant Research (GA) Halle, Germany, 3.-7. September, 1995

2. Preparations from Hypericum perforatum L. interfere with the ketamine-induced sleeping time in mice
BUTTERWECK, V., WINTERHOFF, H., GUMBINGER, H.G., NAHRSTEDT, A.
Posterpresentation on the 43th Annual Meeting of the Society of Medicinal Plant Research (GA) Halle, Germany, 3.-7. September, 1995

3. Effects of Hypericum perforatum L., in animal models of depression were counteracted by dopamine-receptor antagonists
BUTTERWECK, V., NAHRSTEDT, A., WINTERHOFF, H., HÜBNER, W.D.
Posterpresentation at the ESCOP-Symposium in Köln, Germany, 15.03.1996

4. An extract of Hypericum perforatum L. decreases immobility time of rats in the forced swimming test
BUTTERWECK, V., WINTERHOFF, H., SCHULZ, V., NAHRSTEDT, A.

5. Isolation by MLCCC and NMR-spectroscopy of hypericin, pseudohypericin and I3,I8-biapigenin from Hypericum perforatum L.
BUTTERWECK, V., PETEREIT, F., WINTERHOFF, H., WRAY, V., NAHRSTEDT, A.
Posterpresentation on the 44th Annual Meeting of the Society of Medicinal Plant Research (GA) in Prague, 3. – 7. September 1996

6. Pharmacological in vivo testing of fractions obtained from Hypericum perforatum L.
7. Neurotransmitter concentrations and endocrine parameters in rats following repeated treatment with extracts and isolated constituents from *Hypericum perforatum* L.

BUTTERWECK, V., WINTERHOFF, H.
Posterpresentation on the 39th Annual Meeting of the German Society for experimental and clinical Pharmacology and Toxicology, Mainz, Germany, März 1998

Published: Naunyn-Schmiedeberg’s Archives of Pharmacology Suppl. 357 Nr. 4, R 100 (1998)

8. Effects of *Hypericum perforatum* extract and isolated constituents on neurotransmitter concentrations and endocrine parameters

BUTTERWECK, V., NAHRSTEDT, A., WINTERHOFF, H.
Posterpresentation at the 46th Annual Meeting of the Society of Medicinal Plant Research (GA) in Vienna, Austria, 31.08.-03.09.1998

9. Flavonoid-Fraktionen und Hyperosid aus *Hypericum perforatum* L. zeigen antidepressive Aktivität im Forced Swimming Test nach Porsolt

BUTTERWECK, V., JÜRGENLIEMK, G., NAHRSTEDT, A., WINTERHOFF, H.

10. *Piper methysticum* (Kava-Kava): Pharmacological investigations on the central activity

KOHLENBERG, F.J., BUTTERWECK, V., VERSPOHL, E.J., WINTERHOFF, H.
Posterpresentation on the 40th Annual Meeting of the German Society of experimental and clinical Pharmacology and Toxicology, Mainz, Germany, March 18 – 20 1999

11. The role of Interleukin-6 in stress-induced hyperthermia and emotional behaviour in mice

BUTTERWECK, V., PRINZ, S., SCHWANINGER, M.
Posterpresentation on the 41th Annual Meeting of the German Society of experimental and clinical Pharmacology and Toxicology, Mainz, Germany, March 21-23 2000

12. Selective effects of long-term administration of St. John’s wort and hypericin on gene transcription in brain areas involved in HPA axis control

HERKENHAM, M., BRADY, LS., WINTERHOFF, H., BUTTERWECK, V.
Posterpresentation on the 30th Annual Meeting of the Society of Neuroscience, New Orleans, USA, November 4 – 9 2000

13. Chronic administration of imipramine and St. John’s wort prevents the stress induced mRNA increase in brain areas involved in HPA axis control

BUTTERWECK, V., WINTERHOFF, H., HERKENHAM, M.
Posterpresentation on the 30th Annual Meeting of the Society of Neuroscience, New Orleans, USA, November 4 – 9 2000

14. MHC class I – a novel *in vivo* indicator of cellular stress
15. Long-term effects of St. John's wort and hypericin on monoamine levels in rat hypothalamus and hippocampus
BUTTERWECK, V., BÖCKERS, T., KORTE, B., WITTKOWSKI, W., WINTERHOFF, H.
Posterpräsentation auf der Jahrestagung der Gesellschaft für Phytotherapie (GPht), Berlin, 10.-12. Oktober, 2002

16. In vitro receptor screening of pure constituents of St. John's wort reveals novel interactions with a number of GPCRs
BUTTERWECK, V., NAHRSTEDT, A., EVANS, J., HUFEISEN, B., ERNSBERGER, P., ROTH, B.L.
Posterpräsentation auf der Jahrestagung der Deutschen Pharmazeutischen Gesellschaft (DPhG), Berlin, 9.-12. Oktober, 2002

17. Selective effects of long-term administration of St. John's wort and isolated compounds on β-adrenergic binding in rat frontal cortex
SIMBREY, K., WINTERHOFF, H., BUTTERWECK, V., WITTKOWSKI, W.
Posterpräsentation auf der Jahrestagung der Deutschen Pharmazeutischen Gesellschaft (DPhG), Berlin, 9.-12. Oktober, 2002

18. Plasma levels of hypericin in presence of procyanidin B2: a pharmacokinetic study in rats
BUTTERWECK, V., LIEFLÄNDER-WULF, U., WINTERHOFF, H., NAHRSEDT, A.
Posterpräsentation auf der Jahrestagung der Deutschen Pharmazeutischen Gesellschaft (DPhG), Berlin, 9.-12. Oktober, 2002

20. Extracts from Cimicifuga racemosa reduce the incidence of hot flush equivalents in a rat model
WINTERHOFF, H., BUTTERWECK, V., LÖHNING, A., SPENGLER, B., CHRISTOFFEL, V.
Posterpräsentation auf der Jahrestagung der Deutschen Pharmazeutischen Gesellschaft (DPhG), Berlin, 9.-12. Oktober, 2002

22. Flavonoids of St. John's wort affect circulating levels of ACTH and corticosterone in rats
BUTTERWECK, V., HEGGER, M., WINTERHOFF, H.
23. An extract of *Gundelia tournefortii* L. shows hypouricemic activity *in vitro* and *in vivo* assays
SARAWEK, S., QADAN, F., DERENDORF, H., BUTTERWECK, V.
Posterpräsentation auf der Jahrestagung der American Association of Pharmaceutical Sciences, Baltimore, USA, 7 – 11. November, 2004

24. Antioxidant and anxiolytic activity of *Apocynum venetum* L.
GRUNDMANN, O., MERTENS-TALCOTT, S., BUTTERWECK, V.
Posterpresentation on the 53rd Annual Meeting of the Society of Medicinal Plant Research, Florence, Italy
August 21st – 26th, 2005

25. Variation of flavonoids and furanocoumarins in grapefruit juice: A source of variability in grapefruit drug-interaction studies
DE CASTRO, W.V., MERTENS-TALCOTT, S., RUBNER, A., BUTTERWECK, V., DERENDORF, H.
Posterpresentation on the 53rd Annual Meeting of the Society of Medicinal Plant Research, Florence, Italy
August 21st – 26th, 2005

26. An extract and phenolic compounds from *Apocynum venetum* L. exert antidepressant activity in the tail suspension test in mice
KIPKE, S., GRUNDMANN, O., PETEREIT, F., BUTTERWECK, V., NAHRSTEDT, A.
Posterpresentation on the 53rd Annual Meeting of the Society of Medicinal Plant Research, Florence, Italy
August 21st – 26th, 2005

27. Evaluation of Grapefruit juice and its compounds on P-gp activity
DE CASTRO, W.V., MERTENS-TALCOTT, S., DERENDORF, H., BUTTERWERCK, V.
Posterpresentation on the 47th Annual Meeting of the Society American Society of Pharmacognosy, Arlington, VA, August 5th – 9th 2006
CURRICULUM VITAE - Amber L. Beitelshees

Date October 18, 2007

Personal Information:
Sex Female
Date of Birth 02-29-1976
Place of Birth Sarasota, FL

Citizenship USA

Address and Telephone
Office University of Florida
Department of Pharmacy Practice
PO Box 100486
Gainesville, FL 32610-0486
(352) 273-6262

Home: 1646 SW 16th St.
Gainesville, FL 32608
(352) 373-2771

Present Position Assistant Professor

Education

Undergraduate
1994-1997 University of Florida, Gainesville, FL

Graduate
2001 Doctor of Pharmacy, University of Florida, Gainesville, FL

Postgraduate
2005 Master of Public Health (Epidemiology track), Summa Cum Laude. University of Florida College of Public Health and Health Professions, Gainesville, FL. Funded by the NIH Clinical Research Curriculum Award (K30) Graduated April 28, 2005.

Academic Positions/Employment

2007 – Present Assistant Professor, University of Florida, College of Pharmacy, Department of Pharmacy Practice, Gainesville, FL

2005- 2007 Research Assistant Professor of Medicine, Washington University, Cardiovascular Division, St. Louis, MO
2002-2005  University of Florida College of Pharmacy  
Cardiovascular Pharmacogenomics Fellow, Department of Pharmacy Practice.  Mentor:  Julie A. Johnson, Pharm.D.

2003 – 2005  Advanced Postgraduate Program in Clinical Investigation Fellow  
University of Florida, College of Medicine; Funded through NIH K30 award; Marian Limacher, M.D., Program Director, Gainesville, FL.

2001-2002  ASHP-Accredited Pharmacy Practice Residency  
University of Illinois Medical Center at Chicago; Frank Paloucek, PharmD, ABAT, Director, Chicago, IL

2001 – 2002  Clinical Associate, University of Illinois at Chicago, Chicago, IL

University and Hospital Appointments and Committees

2007  Genomic Medicine Curriculum Working Group, Washington University, St. Louis, MO

Medical Licensure and Board Certification

Licensed Pharmacist, Illinois.  License number: 51288396;  September 2001- present  
Licensed Pharmacist, Florida.  License number: PS35818;  July 2001- present

Honors and Awards

2005  Kenneth F. Finger Award, Research Fellow of the Year, University of Florida  
2004  Runner-up, Best Student, Resident, Fellow Paper Award, American College of Clinical Pharmacy 2004 Annual Meeting  
2003  Finalist, Best Student, Resident, Fellow Paper Award, American College of Clinical Pharmacy 2003 Annual Meeting  
2003  Best Poster, Post-Doctoral Fellow Division, 16th Annual Research Showcase and Awards Day  
2002  Richard Hutchinson Award, Resident of the Year, University of Illinois at Chicago

Editorial Responsibilities

2007  Grant Reviewer: American Heart Association, National Center  
2006  Abstract reviewer, American Society of Clinical Pharmacology and Therapeutics Annual Meeting  
2007 – present  Manuscript reviewer, American Journal of Cardiology  
2006 – present  Manuscript reviewer, Expert Opinion on Pharmacotherapy  
2006 – present  Manuscript reviewer, Current Opinion in Molecular Therapeutics  
2005 – present  Manuscript reviewer, American Journal of Health System Pharmacy  
2001 – present  Manuscript reviewer; Annals of Pharmacotherapy.  
2003  Pharmacology reviewer; ACC/ESC Clinical Expert Consensus Document on Hypertrophic Cardiomyopathy
Professional Societies and Organizations

2001 – present  Member, American College of Clinical Pharmacy

2002 – present  Member, American Society of Clinical Pharmacology and Therapeutics

2002 – present  Member, American Heart Association
   Council on Epidemiology and Prevention

2000-2002  Member, American Society of Health-System Pharmacists

1997-2001  ASP-APhA

Research Support (role, title, duration, amount)

Active
American Heart Association, Heartland Affiliate (Beitelshees) $145,000
07/01/2006-06/30/2008
Beginning Grant-in-Aid
“Pathway pharmacogenetics and angiotensin receptor blocker responses”

The aim of this study is to determine in patients with cardiovascular disease and features of the metabolic syndrome whether the effects of telmisartan on glucose and lipid metabolism, adipocytokines, and ventricular remodeling differ by ADIPOQ genotype. Role: PI

P50 HL077113 (Kelly) $742,225
2/22/2005-12/31/2009
NIH/NHLBI
SCCOR in Cardiac Dysfunction and Disease
Project 5 - Pharmacogenetics of Post-ACS Therapy (Province)

The major aim is to provide a quantitative assessment of the predictive impact of relevant genetic variants in the context of modern treatment for acute coronary syndrome. Role: Co-Investigator

Completed
P50 HL077113 (Kelly) $804,620
2/22/2005-12/31/2009
NIH/NHLBI
SCCOR in Cardiac Dysfunction and Disease
Core B- Applied Genomics Core (Beitelshees)

The applied genomics core provides sample processing and analytical support to the SCCOR Projects such as DNA extraction, analysis of single nucleotide polymorphisms, and gene informatics expertise to mine and annotate genetic variants in candidate genes. Role: PI

American College of Clinical Pharmacy (Beitelshees) $28,269
07/01/2006-06/30/2007
Frontiers Career Development Research Award
“Uncoupling protein polymorphisms and acute coronary syndrome outcomes”

The aim of this study is to provide a replication dataset for evaluating the influence of UCP2 polymorphisms on outcomes and response to medications after an acute coronary syndrome.
The purpose of this Research Career Award is to provide additional protected research time to insure the continued success of the PI (mentor) in patient-oriented research and to aid in her training of future patient-oriented researchers. This award provides support to reduce teaching and administrative responsibilities of the PI to insure the ability to carry out patient-oriented research, including the project described in the current application.

Role: Post-doctoral fellow

The aims of this study are to determine if the β₁ and/or β₂ adrenergic receptor genes are: 1) hypertension genes and/or contribute to racial differences in hypertension, 2) disease modifying genes specifically looking at the dipper phenotype in hypertension, or 3) drug modifying genes by looking at antihypertensive response to β-blocker therapy.

Role: Co-Investigator

The aims of this study are to investigate genetic biomarkers in a substudy of patients enrolled in the INVEST trial. INVEST is a 22,559 patient study of calcium channel blockers, β-blockers, ACE inhibitors, and diuretics and their effects on outcomes in hypertension. Specifically, we will test hypotheses related to the pharmacogenetics of drug response and their effect on outcomes.

Role: Co-Investigator

This proposal serves to promote the career development of the PI in a mentored, structured program. This award will allow development of expertise in the area of cardiovascular pharmacogenomics and functional genomics by characterizing the variability in cardiometabolic responses to beta-blockers among individuals with diabetes.

Role: PI; Mentor: Samuel Klein, M.D.

Clinical Title and Responsibilities

2003 – present Hospital Pharmacist, Malcolm Randall VA Medical Center, Gainesville, FL.
2001-2002 Clinical Pharmacist On-Call, University of Illinois at Chicago
Amber L. Beitelshees
Page 5 of 10

1999 Pharmacy Intern, North Florida Reception Center, Gainesville, Florida.

Teaching Title and Responsibilities

Pharmacotherapy II, University of Florida, 2nd year pharmacy students
Chronic Heart Failure, 4 hours of lecture and 1 hour case, Fall 2007.

Principles of Pharmacology, Washington University, 2nd year medical students
Pharmacogenomics I & II, 2 hour lecture, Fall 2006.

Introduction to Clinical Translational Research, Washington University, sub-specialty research fellows and junior faculty
Integration of genomic information into therapy selection, 1.5 hour lecture, Spring 2006.

Computational Statistics Genetics, M21-621, Washington University, Genetic Epidemiology Masters Students
Pharmacodynamic pharmacogenetics 1.5 hour lecture, Fall 2005 and Spring 2007
Leveraging informatic tools to conduct pharmacogenetics research, 1.5 hour lecture, Fall 2005 and Spring 2007.

Introduction to Pharmacogenomics, 1.5 hour lecture, Spring 2007.

Pharmacological Basis of Therapeutics I, PHA 5516, University of Florida, 2nd year pharmacy students
Calcium channel blockers, 1.5 hour lecture, Fall 2003-2004.
Antihyperlipidemics, 1.5 hour lecture, Fall 2002-2004.
Anticoagulants, 1.5 hour lecture, Fall 2002.

Pharmacotherapy II, PHA 5782, University of Florida, 2nd year pharmacy students
Arrhythmias, 4 hour lecture, Fall 2004.
Chronic stable angina, 2 hour lecture, Fall 2003.

Pharmacotherapy I, PHA 5781, University of Florida, 1st year pharmacy students

Practicum I, PHA 5941, University of Florida, 3 hours of supervision to 1st year pharmacy students in community outreach sites. Fall 2002-2003.

Bibliography


Zineh I, Beitelshees AL, Haller MJ. NOS3 Polymorphisms are Associated with Arterial Stiffness in Children with Type 1 Diabetes. Diabetes Care 2007;30: 689-693.


Abstracts:


Gerhard T, Gong Y, Beitelshees AL, Lombery M, Schiefelbein L, Langae TY, Cooper-DeHoff RM, Johnson JA. Association between CV outcomes, diuretic use and the alpha-adducin gene; Results from the INternational VErapamil SR-Trandolapril STudy (INVEST). *Circulation* 2005; 112 (17): U670-U670 Suppl. S.


**Invited publications (e.g. reviews, book chapters, letters, etc)**

Beitelshees AL, Zineh I. Renin-angiotensin-aldosterone system (RAAS) pharmacogenomics: implications in heart failure management. *Heart Failure Reviews*. In press.

Zineh I, Beitelshees AL, van Schaik RHN. Comment on the SACGHS’s report "Realizing the Promise of Pharmacogenomics: Opportunities and Challenges”


**Invited presentations**

Integration of genomics into therapy selection. ACPE approved seminar, American Society of Health-System Pharmacists Midyear Meeting, Anaheim, CA. December 6, 2006.

The influence of pharmacogenomics on health disparity and pain management. ACPE approved seminar, Pain and Palliative Care PRN Focus Session, 2006 ACCP Annual Meeting, St. Louis, MO. October 26, 2006.

Heart failure therapeutics in the genomic era. CME approved seminar, Missouri Baptist Medical Center Grand Rounds. February 8, 2006.

Heart failure therapeutics in the genomic era. CME approved seminar, Plenary Address, Congestive Heart Failure Update, Washington University School of Medicine. December 3, 2005.

Antihypertensive pharmacogenomics: a focus on genotype-phenotype relationships. ACPE approved seminar, University of Florida Center for Pharmacogenomics seminar series, February 2005.

Verapamil Pharmacogenetics. ACPE approved seminar, University of Florida Center for Pharmacogenomics seminar series, April 2004.

Utility of Clinic Versus Ambulatory Blood Pressure for Pharmacogenetic Studies. ACPE approved seminar, University of Florida College of Pharmacy, Ken Finger Memorial Golf Classic October 2003.
Principal Investigator/Program Director (Last, First, Middle): Zineh, Issam

### BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issam Zineh, Pharm.D.</td>
<td>Assistant Professor</td>
</tr>
</tbody>
</table>

**eRA COMMONS USER NAME**  
izineh

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeastern University (Boston)</td>
<td>Pharm.D.</td>
<td>09/94-06/00</td>
<td>Pharmacy</td>
</tr>
<tr>
<td>Duke University Medical Center (Durham)</td>
<td>Residency</td>
<td>07/00-06/01</td>
<td>Clinical pharmacy</td>
</tr>
<tr>
<td>University of Florida (Gainesville)</td>
<td>Fellowship</td>
<td>07/01-12/03</td>
<td>Cardiovascular Pharmacogenomics</td>
</tr>
</tbody>
</table>

A. Positions and Honors

**Professional Experience**

- **2000-2001** Duke University Medical Center, Surgery Pharmacist
- **2002-present** Malcolm Randall (N. Florida/S. Georgia) VA Medical Center, Staff Pharmacist
- **2004-present** Assistant Professor (Pharmacy Practice), University of Florida
- **2005-present** Assistant Professor (Pharmaceutics), University of Florida
- **2005-present** Fellow, Advanced Program in Post-Graduate Investigation (NIH K30 RR022258-07), University of Florida

**Professional Awards and Honors**

Rho Chi Honor Society Sophomore Honors Award (1996); Golden Key National Honor Society (1996); Rho Chi Honor Society, Beta Tau Chapter, Boston, MA (1998); Excellence in Non-prescription Medications Teaching Award (1999); American Institute of the History of Pharmacy Certificate of Recognition (1999); Summa Cum Laude, Northeastern University (2000); Harold D. Hodgkinson Achievement Award (2000); Sears B. Condit Award (2000); Pfizer U.S. Pharmaceutical Outstanding Leader Award (2000); Eli Lilly & Co. Ethics, Scholarship, and Leadership Award (2000); Massachusetts Society of Health-System Pharmacists Excellence Award (2000); Outstanding Postdoctoral Fellow of 2002, American Heart Association (AHA) Florida/Puerto Rico Affiliate (2002); Best Overall Paper, American College of Clinical Pharmacy (ACCP) (2002); Best Postdoctoral Paper, 15th Annual Research Showcase and Awards Day, University of Florida (2002); Best Postdoctoral Paper, 16th Annual Research Showcase and Awards Day, University of Florida (2003); American Society for Clinical Pharmacology and Therapeutics (ASCPT) Presidential Trainee Award (2003); Best Overall Paper, ACCP Spring Practice and Research Forum (2006); ASCPT Presidential Trainee Award (awarded to my trainee GJ Welder) (2007)

**National and International Invited Lectures**

- **2003** Pharmacogenomics and the Risk Management Paradigm; International Society for Pharmacoepidemiology (ISPE) (Philadephia, PA)
- **2004** Influence of Pharmacogenomics on Clinical Trial Design; ACCP (Dallas, TX)
- **2006** From Bench to Bedside and Back: The Role of the Pharmacist in Translational Research; International Symposium on Clinical Pharmacy; Fudan University (Shanghai, China)

**Professional Appointments and Activities**

- **2005-present** NIH Pharmacogenetics Research Network (PGRN) Task Force on FDA Relations, member
- **2005-present** NIH Pharmacogenomic Evaluation of Antihypertensive Responses (PEAR) Steering Committee, member
- **2006-present** AHA Behavioral Science, Epidemiology, & Prevention 1 and 2 study sections (BSEP)
- **2006-present** AHA International Mentoring Program, mentor
- **2006-present** Vice Chair, Pharmacogenetics and Molecular Pharmacology Section, Coordinating Committee on Scientific Sections, ASCPT
- **2006-present** NIH PGRN White Papers Task Force, Heart Lung Action Group, and Adverse Drug Reactions Working Group
- **2007-present** Editorial Board, Journal of Clinical Lipidology
- **2007-present** University of Florida Genetics Institute Executive Committee
Ad hoc reviewer: European Journal of Clinical Pharmacology; American Journal of Health-System Pharmacy; Journal of Cardiovascular Nursing (2006-present); Expert Opinion on Drug Metabolism and Toxicology; Clinical Cardiology; Clinical Pharmacology and Therapeutics; Future Cardiology; American Journal of Cardiology (2005-present); Human Genomics; Journal of Clinical Pharmacology; British Journal of Clinical Pharmacology (2004-present); Pharmacotherapy (2001-present); Annals of Pharmacotherapy; Journal of the American Pharmaceutical Association (2000-2004)

Professional Memberships and Affiliations
American Society of Health-System Pharmacists (1999-2002); ACCP (2000-present); ACCP Cardiology Practice and Research Network; University of Florida Center for Pharmacogenomics (2001-present); American Society for Clinical Pharmacology and Therapeutics (2002-present); ISPE; International Atherosclerotic Society; AHA Council on Arteriosclerosis, Thrombosis, and Vascular Biology and Functional Genomics and Translational Biology Interdisciplinary Working Group (2004-present); National Lipid Association (2005-present)

B. Selected peer-reviewed publications and book chapters (in chronological order)


C. Research Support

**Active Research Support**

0435278B  July 2004 to June 2007
American Heart Association (FL/PR Affiliate)  Role: PI
Systemic Immunomodulatory Effects and Pharmacogenetics of Atorvastatin in Early Atherosclerosis
The aims of this study are to characterize the systemic immunomodulatory effects of atorvastatin in patients who are currently recommended for lifestyle modifications, but not drug treatment, based on dyslipidemia guidelines. Genetic variation as a contributor to variable statin immunomodulation is also explored.

U01 HL083459 (PI: Julie A. Johnson, Pharm.D.)  September 2005 to August 2010
National Institutes of Health (NIH)  Role: Co-investigator
Pharmacogenomic Evaluation of Antihypertensive Responses (PEAR)
This study investigates genetic determinants of antihypertensive and adverse drug responses to commonly used blood pressure medications through candidate gene and genome-wide approaches. Dr. Zineh serves on the steering committee and leads efforts in pharmacogenetics of adverse metabolic side effects.

**Completed Research Support**

1 R01 HL64691 (PI: Julie A. Johnson, Pharm.D.)  April 2000 to December 2003
NIH/NHLBI  Role: Postdoctoral Fellow, 07/01 to 12/03
β-Adrenoreceptor Polymorphisms and Hypertension
The aims of this study are to determine if the β1- and/or β2-adrenergic receptor genes are: 1) hypertension genes and/or contribute to racial differences in hypertension, 2) disease modifying genes specifically looking at the dipper phenotype in hypertension, or 3) drug response modifying genes by looking at antihypertensive response to β-blocker therapy.

0225248B  July 2002 to December 2003
American Heart Association (FL/PR Affiliate)  Role: PI (Post-doctoral fellowship grant)
Type-A Natriuretic Peptide Receptor Polymorphisms in Hypertension, Heart Failure Prognosis, and Response to Nesiritide
The aims of this study are to identify common polymorphisms of the NPR-A receptor and determine whether these: 1) influence hypertension, 2) are associated with differences in prognosis among patients with heart failure, or 3) influence drug response by looking at clinical improvement with nesiritide in patients with heart failure.
Association Between Renin-Angiotensin-Aldosterone System (RAAS) Gene Polymorphisms and Heart Failure Prognosis
The aim of this study is to determine if polymorphisms in angiotensinogen, ACE, or angiotensin II type 1 receptor genes are associated with differences in prognosis among patients with heart failure being treated within contemporary management guidelines.

Kos Dyslipidemia Research Award  
American College of Clinical Pharmacy  
**Atorvastatin Immunomodulation in Early Atherosclerosis**
The aims of this study are to determine atorvastatin immunomodulation in subjects with 0-1 risk factor according to ATP III guideline stratification, as this represents a pure population in which to study the pleotropic effects of statins as a drug class.

T35 HL07489  
National Institutes of Health (NIH)  
**Effect of an HMG-CoA Reductase Inhibitor on Serum Leptin and IP-10 Concentrations in Early Atherosclerosis**
The aim of this study is to determine if part of the disease-modifying effects of statins is through systemically measurable changes in leptin and IP-10 concentrations in young adults without coronary disease or coronary disease risk equivalents.

American Heart Association (FL/PR Affiliate)  
UF Medical Science Research Program  
**Immunomodulation of human endothelial cells by Vaccinium berry extract and astaxanthin**
The aim of this study is to investigate the effects of wild Vaccinium berry and astaxanthin on chemokines, cytokines, and angiogenic factors produced from human umbilical vein endothelial cells (HUVECs).
CURRICULUM VITAE
Rhonda M. Cooper-DeHoff, Pharm D, MS

Address: Residence - 6303 NW 93rd Terrace
Gainesville, FL 32653
Office - Division of Cardiovascular Medicine
College of Medicine
University of Florida
PO Box 100277
Gainesville, FL 32610-0277
Email - dehofrm@medicine.ufl.edu

Telephone: Residence - (352) 335-4451
Office - (352) 392-6388
Fax - (352) 371-0370

Place of Birth: Anaheim, California
Date of Birth: February 1, 1960
Citizenship: USA
Marital Status: Married

Present Position: Research Assistant Professor
University of Florida
EDUCATION

2007  University of Florida  MS in Medical Science with a Concentration in Clinical Investigation

1986  University of California
      School of Pharmacy
      San Francisco, California  Doctor of Pharmacy

1982  University of California
      Revelle College
      San Diego, California  Gen. Biology B.A.

POST GRADUATE TRAINING

2005-2007  University of Florida College of Medicine, Gainesville, FL, Fellow in the Advanced Postgraduate Program in Clinical Investigation (APPCI), funded by the NIH Clinical Research Curriculum Award (K30)

2006  American Heart Association, Fellowship
      32nd Ten-day Seminar on the Epidemiology and Prevention of Cardiovascular Disease

1986-1987  University of California, San Francisco, Residency in Clinical Pharmacy

BOARD CERTIFICATION

Licentiate in Pharmacy, California (inactive)
Licentiate in Pharmacy, Florida (current)

PROFESSIONAL POSITIONS

1999-Present  Research Assistant Professor
               University of Florida, College of Medicine
               Division of Cardiovascular Medicine
               Gainesville, FL

1999-Present  Associate Director, Clinical Trials Program
               University of Florida, College of Medicine
               Division of Cardiovascular Medicine
               Gainesville, FL

   Activities include the management of day to day operations of the cardiovascular clinical trials program, and the supervision of the research coordinators. Other responsibilities include the organization and management of the regulatory department for the clinical trials program.

Cooper-DeHoff 2 of 15
1997-2004
Director, INVEST Pharmacy Coordinating Center
University of Florida, College of Medicine
Division of Cardiology
Gainesville, FL

Activities include the oversight of medication dispensing for 22,000 national and international patients enrolled in the INVEST trial.

1987-1999
Coordinator, Investigational Drug Service
Shands Hospital at the University of Florida
Gainesville, Florida
Supervisor: Alan Knudsen, MS

Activities include developing and implementing an investigational drug service (IDS) in a large teaching institution. The IDS now controls medications for 390 different studies in both the inpatient and outpatient area. The IDS provides necessary drug and study information to all health care professionals and patients involved with the studies. Additionally, clinical research protocols are designed and written for the hospital by the IDS. A software program designed to control investigational drug data and inventory was developed here and is now marketed.

1994-1997
Director, Pharmacy Practice Residency
Shands Hospital at the University of Florida
Gainesville, Florida

Coordinate and facilitate the pharmacy practice residency at Shands Hospital, including recruiting, precepting, and overseeing the program.

1992-1998
Clinical Trials Program Liaison
University Hospital Consortium's Clinical Practice Advancement Center
(formerly Technology Advancement Center)
Receive information about new clinical trials, and contact investigators who might be interested in conducting the trials.

1982-1987
Laboratory Assistant II
UCSF Drug Studies Unit
School of Pharmacy
Director: Roger L. Williams, M.D.
Activities include performing EKG's, blood drawing, sample processing, controlling and dispensing investigational drugs.

AWARDS AND HONORS

2001
New Investigator Award
American Heart Association, Council on Basic Cardiovascular Sciences,
Seattle, Washington
1988  Roche Award for Outstanding Research Affecting Patient Care
1987  Outstanding Young Women of America
1986  Outstanding Student Service Award
       University of California, San Francisco
       School of Pharmacy

COMMITTEE MEMBERSHIPS

1987-2004  Institutional Review Board
1989-1999  General Clinical Research Center Scientific Advisory Committee
1991-1995  Shands Hospital Biotechnology Committee (Subcommittee of Pharmacy
           and Therapeutics Committee)

TEACHING EXPERIENCE

Fall 2006  GMS 6181, Intro to Clinical Translational Research
           "Out into the Community and Back to the Bench"
2006-2007  PHA 56**, Clinical Pharmacogenomics
           "Ethical Conduct of Human Subjects Research"
2000-2003  Department of Medicine
           Resident Rotation Preceptor
           Cardiovascular Research
1995-1999  Basic and Clinical Research Course for Physicians and Fellows
1987-1999  Contemporary Pharmacy Systems for Pharm.D. Students
           University of Florida, College of Pharmacy
1986-1987  Clinical Pharmacy Preceptor
           University of California
           School of Pharmacy
           San Francisco, California

Supervised Clinical Pharmacy students who were completing their
clerkship rotations in the hospitals and clinics at UCSF and SFGH.
Assisted with organizing the course for the Clinical Pharmacy students,
completed student evaluations, and held conferences for the students.
RESEARCH SUPPORT AND PROJECTS

Extramural Funding
National Institutes of Health, K23 HL086558-01, January 2007-January 2012. $672,170 Metabolic Effects of Antihypertensive Responses (MEAD). Rhonda Cooper-DeHoff, Pharm D. - Principal Investigator

Cleveland Clinic and Pfizer, 02/06/07-12/29/07, $135,306.25, Prospective Randomized Evaluation of Celecoxib Integrated Safety, vs. Ibuprofen Or Naproxen-PRECISION, Carl Pepine, M.D. and Rhonda Cooper DeHoff, Pharm D. - Co-Investigator


Intramural Funding

Completed Research
Abbott Laboratories. 3/1997 to 12/2006, $36,086,562. INternational VErapamil-trandolapril STudy (INVEST) is a randomized, Controlled Clinical Trial Comparing a Calcium Antagonist Treatment Strategy with a Non-calcium Antagonist Treatment Strategy for the Control of Hypertension and Angina in a Primary Care Ambulatory Patient Population. Carl J. Pepine, M.D. - PI, Rhonda Cooper-DeHoff, Pharm.D. - Co-Investigator

University of Florida, 1/1996 to 1/2007. Evaluation of Lewis Phenotype as a Risk Factor for Coronary Artery Disease. Rhonda Cooper-DeHoff, Pharm.D.

Pfizer Pharmaceuticals. 4/2002 to 10/2006, $206,420. A pilot study to determine the effect of Celecoxib 400mg and 800mg on markers of inflammation in patients with hypertension & coronary artery disease. Rhonda Cooper-DeHoff, Pharm.D. – Principal Investigator

Perry E. Foote Outcomes Research Small Grant Program, 7/2001 to 5/2004, $10,000. A pilot study to determine the effect of Celecoxib 400mg and 800mg on markers of inflammation in patients with hypertension and coronary artery disease. Rhonda Cooper-DeHoff, Pharm.D. – Principal Investigator
Drug Use Evaluation of DNase 1994 During the First 6 Months of Use. **Rhonda Cooper, Pharm.D.**, and Sherry Ingram, Pharm.D.

Cost of Hospital Admissions as a Result of Phenytoin Adverse Drug Reactions. 1993 Lisa Daley, Pharm.D., **Rhonda Cooper, Pharm.D.**, and Randy Hatton, Pharm.D.

Prospective, Controlled, Third Party Blind, Randomized, Multi-center Comparison of the Safety and Efficacy of Ciprofloxacin plus Metronidazole (IV only and IV/PO) with that of Imipenem-Cilastatin for the Treatment of Patients with Intra-abdominal Infections. 1991 Stephen Vogel, M.D., Larry Aull, Pharm.D., and **Rhonda Cooper, Pharm.D.**

The Efficacy of Indomethacin Compared to Ibuprofen and Acetaminophen-diphenhydramine-hydrocortisone in the Treatment of Shaking Chills Associated with Amphotericin B. 1990 Stan Reents, Pharm.D., **Rhonda Cooper, Pharm.D.** and Vipul Singh, M.D.


A Retrospective Analysis of the Effect of Investigational Studies on Current Ceftazidime Usage at Shands Hospital. 1988 **Rhonda M. Cooper, Pharm.D.**

Utilization of and Satisfaction with a New Investigational Drug Service. 1987 **Rhonda M. Cooper, Pharm.D.** and Becky Coleman, Pharm.D.

The Pharmacokinetics of Ketoprofen in the Elderly. 1987 **Rhonda M. Cooper, Pharm.D.**, Nancy Sambol, Pharm.D., and Roger L. Williams, M.D.

**PROFESSIONAL OFFICES AND APPOINTMENTS**

1987-1989 Secretary, North Central Florida Society of Hospital Pharmacists

1986-1987 Western Regional Alumni Director
Phi Delta Chi Pharmaceutical Fraternity

**MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS**

- Phi Kappa Phi Honor Society
- American Society of Hypertension
- American Heart Association
- Florida Society of Hospital Pharmacists
- North Central Florida Society of Hospital Pharmacists

Cooper-DeHoff 6 of 15
PUBLICATIONS

Articles in Refereed Journals:


Cooper-DeHoff 8 of 15


25. Cooper-DeHoff RM, Pepine CJ. Metabolic Syndrome and Cardiovascular Disease: Challenges and Opportunities. *Clinical Cardiol 2007; in Press.*


**ABSTRACTS:**

Peer Reviewed abstract presented at national and international meetings


3. Cooper-DeHoff RM, Handberg EM, Bristol HA, Kolb HR, Gaxiola E, Cangiano J, Pepine CJ. Characteristics and blood pressure responses of 6,057 Hispanic hypertensive patients with coronary artery disease enrolled in the INVEST. *J Am Coll Cardiol* 2001;37(2):216A.


12. Messerli FH, **Cooper-DeHoff RM**, Kupfer SR, Pepine CJ. Lean Body Mass is Associated with the Highest Incidence of Mortality and Cardiovascular Morbidity in Hypertensive Patients with Coronary Artery Disease: Results from the International Verapamil SR/trandolapril Study (INVEST) Presented at 1st Congress, World Congress on the Insulin Resistance Syndrome, 2003.


24. Cooper-DeHoff RM, Qian Zhou, Pepine CJ. BP control and CV outcomes in Hispanic and Non-Rican women with CAD and hypertension: Findings from INVEST. Am J Hypertension 2005;18:104A.


33. Johnson JA, Karnes JH, Brunner M, Gong Y, Langaege TY, Cooper-DeHoff RM, Pepine CJ. Lack of association of the angiotensin II type I receptor (AGTR1) 1166A>C


*Cooper-DeHoff 13 of 15*


PATENTS

US Patent Application, 10/4051076
Title: Combination Drug Therapy for Treating Hypertension
UF Reference Number: 11180

US Patent No. 5,991,731
Title: Method and System for Interactive Prescription and Distribution of Prescriptions in Conducting Clinical Studies
UF Reference Number: 1682

INVITED JOURNAL REFEREE:

1. Psychosomatic Medicine
2. Journal of Human Hypertension
3. Clinical Cardiology
4. Circulation
5. Long Term Care Interface
6. British Journal of Clinical Pharmacology
7. Pharmacogenomics
8. Expert Review of Cardiovascular Therapy

EDITORIAL ACTIVITIES:

Editorial Board – Today In Cardiology
Cardiovascular Pharmacology Section

Invited Quarterly Column – Today in Cardiology

November 2006  FDA: Separate Ibuprofen and Aspirin
February 2007  Grapefruit – Drug Interaction: Important Considerations for Heart Disease Patients
May 2007  With OTC Simvastatin, U.K.’s Statin Prescriptions Down
SELECTED INVITED PRESENTATIONS


TAIMOUR Y. LANGAEE

1505 Ft-Clarke Blvd. 8-201                                      (352)333-0260
Gainesville, Fl 32606                                        langaee@cop.ufl.edu

EXPERIENCE:

Research Assistant Professor;                                           2002-Present
Director; UF Center for Pharmacogenomics (UFCPGx)
Genotyping Core Laboratory,
Dept. of Pharmacy Practice, College of Pharmacy,
University of Florida

• Directing the UFCPGx core genotyping laboratory
• Teaching Pharmacy professional and graduate students
• Advising pharmacy students
• Supervising and mentoring professional and graduate Pharmacy students and Postdoctoral fellows
• Supervising and training of laboratory Technicians
• Developing and establishing new assays
• Planning and establishing high throughput systems for genotyping
• Large scale genotyping, processing and genetic analysis of clinical samples
• Collaborating on clinical research projects in College of Pharmacy and other Colleges at UF and Other universities

Postdoctoral Fellow;                                                   2001-2002
University of Florida,
Dept. of Molecular Genetics and Microbiology

• Plan, develop and execute projects
• Develop DNA chips for Pseudomonas aeruginosa
• Apply DNA chip technology to study gene duplication/deletion and expression Profiles of CF (Cystic Fibrosis) isolates of P. aeruginosa
• Applying in vivo and in vitro conditions to study the expression profile of P. aeruginosa under CF lung environment
• Large scale screening of potential antimicrobial targets

Postdoctoral Fellow;                                                   1999-2001
University of McGill and Montreal,
Dept. of Molecular Genetics and Immunology

• Involved in vaccine development project
• Establish new techniques
• Bioinformatics, search DNA and protein databases for sequence pattern, gene finding; prediction of protein sequence
• Provide training and supervision of graduate students and technicians
• Attend scientific meetings, interact and collaborate with other scientists

Ph.D. Candidate;                                                      1994–1999
Laval University,
Dept. of Molecular Genetics and Microbiology

• Planing projects, designing appropriate experimental techniques, problem solving
• Gene discovery, using the existing search engines in NCBI to discover new
genes involved in resistance to beta-lactam antibiotics in Pseudomonas aeruginosa

- Drug Resistance, elucidating the model for beta-lactam antibiotics resistance in Gram-negative bacteria and proposing new model for Pseudomonas aeruginosa,
- Analyzing and discussing results, attending scientific meetings, giving seminars
- Supervising technicians and students, teaching and assisting microbiology courses

**Director of Quality Control Laboratory** 1987–1994

**Bayer Pharmaceutical Corporation**

- Write and Implement USP Microbiological procedures
- Review results and technical reports prior to release of product
- Evaluation of raw material, intermediates, and finished products
- Train personnel on cGMP, cGLP, SOP and other regulatory requirements.
- Supervise technicians, evaluate employee performance, and ensure career development

**SKILLS:**

**Molecular Biology:**
- DNA and RNA extraction; PCR; RT-PCR; DNA Chip Technology (Microarray slide processing and post processing, Cy labeling of genomic DNA and RNA, Competitive hybridization, Microarray data analysis); Plasmid and Strain construction; Electrophoresis; DNA Cloning; Transformation; Hybridization; In Situ-Hybridization; Southern and Northern Blotting; Dot Blotting; Screening of DNA Libraries; Amplification of Bacteriophage Library; Expression of Cloned Genes in E. coli; Protein Expression, Protein Assay and analysis, Fluorescence Imaging Applications and Analysis by Storm and Typhoon Fluorimager, Genotyping (RFLP, Pyrosequencing, TaqMan), Mutation Discovery by Denaturing HPLC (DHPLC).

**General and Clinical Microbiology:**
- Routine diagnostic culture methods, Automated Microbial Identification, Genetic Probes: Preparation and utilization, Nucleic Acid Hybridization for Identification and Detection of pathogens and their products; and Lyophilization Method for Preservation of pathogens; Electron Microscopy.

**Immunology and Cell Biology:**
- Isolation of PBMC; Separation and Purification of CD4+ and CD8+ Cells; Characterization of Human and Macaque TCR Repertoire by the HTA (Heteroduplex Tracking Analysis); Familiar with Cell Culture; and FACS (Fluorescence Activated Cell Sorter).

**Industrial (Pharmaceutical) Microbiology:**
- Microbial Limit Assays; Antimicrobial Preservatives-Effectiveness Test; Sterility Test; Antibiotic-Microbial Assays; Bacterial Endotoxin Test; In Vitro; Pyrogen Test, Ames Test, familiar with cGMP, cGLP guidelines for establishing limits.

**Pharmacogenomics**
- Design Assays for different genotyping methods (eg. RFLP, Pyrosequencing, TaqMan, Primer Extension, ABI SNPlex genotyping system…)
- Whole Genome Analysis, Whole Genome Amplifications, Single Nucleotide Polymorphism (SNP) discovery using DHPLC, Trained on Illumina GoldenGate and Infinium genotyping methods (MicroArray)
- Apply Robotic systems (Packard MultiProbes, Eppendorf) to automate genotyping processing

**Bioinformatics:**
- Familiar with genomic and protein databases
- Knowledge of DNA sequence analysis tools
- Experience with analysis of genomic data
- Haplotype Inference and analysis
EDUCATION:  
**Ph.D., Microbiology and Immunology**  
Laval University, Ste-Foy, Quebec, Canada  
1994-1999

**Master of Science (M.Sc.), Microbiology**  
1984-1987

**Master of Science in Public Health (M.S.P.H.)**  
Tehran University of Medical Sciences, Tehran, Iran.

**Bachelor of Science (B.Sc.), Microbiology**  
University of Texas at Arlington, Arlington, Texas, U.S.A.  
1976-1979

TEACHING:  
Drug Metabolism, Drug Transporters, and Pharmacogenomics; PHA 6936  
Therapeutic and Diagnostic Analysis and Pharmacogenomics; PHA 5113  
Clerkship Course PHA 5663 (Cardiovascular Research)

STUDENT ADVISING:  
Graduate student Advisor  
Faculty Advisor

SUPERVISING AND MENTORING:  
Postdoctoral Fellows  
Professional/Undergraduate Research Mentoring  
UF Minority students

GRANTS AND RESEARCH:  
**Co-Principal Investigator**  
UF Research and Graduate opportunity Fund Grant (2003)  
$60,000

**Co-Principal Investigator**  
UF Research and Graduate opportunity Fund Grant (2005)  
$92,500

**Co-Investigator**  
U01 HL083459 (PI: Dr. Julie Johnson);  
Pharmacogenomic Evaluation of Antihypertensive Responses (PEAR)  
08/2005-09/30/2010: $11,149,034.  
D $1,352,144; I $262,835; T $1,614,979

**Co-Investigator**  
RO1-HL0747000; NIH/HLBI; (PI: Dr. Julie Johnson);  
10/01/2003-09/30/2007: D $2,513,387; I $1,004,312 ; T $3,517,699.  
Hypertension Pharmacogenomics

**Co-Investigator**  
B 0435278 B AHA FL/Puerto Rico Affiliate (PI: Dr. Issam Zineh); (Co-investigator; 5%)  
07/2004 to 06/2007: $80,000  
American Heart Association National Research Program  
Systemic Immunomodulatory Effects and Pharmacogenetics of Atorvastatin in Early Atherosclerosis  
5%

**Co-Investigator**  
NIH (National Institute for Environmental Health Science, NIEHS); (PI: Dr.Peter stacpoole);


**Membership**

- American Society for Clinical Pharmacology and Therapeutics (ASCPT)
- American Society of Human Genetics (ASHG)

**AWARDS:**

- 1996 ASM (American Society for Microbiology) Sustaining Member Student Grant.
- 1997 ASM (American Society for Microbiology) Sustaining Member Student Grant.

**ABSTRACTS AND PRESENTATIONS:**

- I Zineh, PharmD, **TY Langae, PhD**, JA Hill, MD, MS, DF Pauly, MD, PhD, RS Schofield, MD, JM Aranda, Jr., MD, and JA Johnson, PharmD. *Type-A Natriuretic Peptide Receptor Polymorphism in Hypertension, Heart Failure Prognosis, and Response to Nesiritide*. Presented as a poster at the 2002 American College of Clinical Pharmacy Meeting, Cardiology Practice and research Network, Albuquerque, NM, October 2002.


- Aquilante CL, Yarandi HN, **Langae TY**, Tromberg JS, Lopez LM, Waddell CD, Johnson JA. University of Florida, College of Pharmacy and medicine, Gainesville, FL. *The Influence of Coagulation Factor and CYP2C9 Polymorphisms on Warfarin Dose*. Abstract was accepted by American Heart Association and will be presented at the American Heart Association meeting, Orlando, Florida, November 9-12, 2003.

- TM Bowles, PharmD., GM Levin, PharmD., **TY Langae, Ph.D.**, JY Tan, PharmD., HN Yarandi, Ph.D., JA Johnson, PharmD., WJ Millard, Ph.D. *Assessment of serotonin type1A (5-HT1A) receptor genotype in a normal versus a depressed population and the relationship to predictability of antidepressant responsiveness*. Abstract was accepted by American College of Clinical Pharmacy (ACCP) and will be presented at the 2003 American College of Clinical Pharmacy Meeting, Atlanta, GA, November 2-5, 2003.


J. R. Dungan, RN, MSN, ARNP, T.Y. Langaee, MSPH, PhD, J. A. Johnson, Pharm.D., and C. B. Yucha, PhD, RN. Exploring the Relationship Between Beta-2 Adrenergic Receptor Gene Polymorphisms and Biofeedback Outcomes in Hypertension. University of Florida, College of Pharmacy and medicine, Gainesville, FL. Abstract was accepted by Association for Applied Psychophysiology and Biofeedback (AABP) and will be presented at the 2004 Association for Applied Psychophysiology and Biofeedback Meeting, Colorado Springs, CO, April, 2004.


C. Formea, PharmD., T. Luu, BS, A. Albekairy, PharmD., H. Yarandi, Ph.D., T. Langaee, Ph.D., V. Freene, PA., S. Fujijita, MD., W. Van der Werf, MD., A. Hemming, MD., R. Howard, MD., Ph.D., A. Reed, MD., J. Karlix, PharmD. Cytochrome P-450 3A4, 3A5, and MDR-1 As Pharmacogenomic Predictors of Tacrolimus Pharmacokinetics And Clinical Outcomes in Liver Transplant recipients. University of Florida, Gainesville, FL. Abstract was accepted by American Society for Clinical Pharmacology and Therapeutics(ASCP) and presented at the 2004 American Society for Clinical Pharmacology and Therapeutics Meeting, Miami Beach, FL, March 25, 2004.


**ACTIVE GRANTS/CONTRACTS**


Pacanowski MA, Gong Y, **Langae TY**, Cooper-DeHoff RM, Schork NJ, Pepine CJ, Johnson JA. β2-adrenergic receptor polymorphisms and antihypertensive treatment outcomes in the INternational VErapamil SR/ trandolapril STudy –

Resume of
William Cary Mobley, Ph.D., R.Ph.

Home Address: (for correspondence) 3201 NW 38th St., Gainesville, Florida 32608
Phone: (352)378-7838  e-mail: carymoho@aol.com

Work Address: University of Florida College of Pharmacy
Department of Pharmaceutics
JHMHC Box 100494
Gainesville, FL 32610
Phone: (252)273-6282  e-mail: mobley@cop.ufl.edu

Education
1994  Ph.D. in Pharmaceutics from the University of Florida College of Pharmacy
Thesis Title: “The Physical Characterization of Lyophilized Liposomes”
1985  B.S. with Honors in Pharmacy from the University of Florida
1980  B.S. in Biology from the University of Miami – Coral Gables, FL

Employment
5/05-current  Clinical Associate Professor, Director of Pharmacy Skills Training Curriculum
University of Florida College of Pharmacy
6/02-5/05  Clinical Assistant Professor, University of Florida College of Pharmacy
9/00-6/02  Assistant Professor in Pharmaceutical Sciences and Facilitator, Nova Southeastern
University College of Pharmacy – W. Palm Beach Distance Pharmacy Education Program
9/98-9/00  Assistant Professor in Pharmaceutical Sciences, Nova Southeastern College of
Pharmacy. Davie, Florida
10/94-9/98  Assistant Professor in Pharmaceutical Sciences, Idaho State Univ. College of Pharmacy
1/94-8/94  Visiting Assistant in Postdoctoral Program, U.F. College of Pharmacy
8/88-5/94  Research and Teaching Assistant at U.F. Department of Pharmaceutics
12/86-2/92  Chief, Staff, and Relief Pharmacist at Wal-Mart – Gainesville, Florida
5/85 to 12/86  Chief and Staff Pharmacist at Walgreens – Orlando, FL and Ocala, FL

Consultant
2003-current  Consultant, Writer, and Instructor for the Certificate Training Program: The Science of
Pharmaceutical Compounding co-sponsored by UF College of Pharmacy and Medisca, Inc.
2006  Reviewer, PCAT Practice Test – Quantitative Section
Reviewer, Journal of Liposome Research
2004  Consultant on pharmacy compounding related matters for Mager and Associates, Inc. Attorneys
2004  Consultant on pharmacy compounding course design and management – Idaho State
University College of Pharmacy
1998-2002  Consultant for Clickpharmacy.com (an internet pharmacy) –Consulted on business model
development and website design, and wrote policies and procedures for pharmacy
operations

Teaching Experience
2006  Designer, Writer, Coordinator and Facilitator for 2PD Interprofessional Case Studies
Pilot Program with the Medical School
2002-current  Coordinator and Instructor for Dosage Forms II and for Pharmacy Compounding
Designer, Writer, Coordinator and Facilitator for 1PD and 2PD Integrated Case Studies
2005 - current  Coordinator and Instructor for Dosage Forms I
2004, 2006  Coordinator and Instructor for Drug Stability (Graduate program)
2005-2007  Facilitator for Interdisciplinary Family Health Program
2002-2003
1998-2002  Coordinator and Instructor for Dosage Formulation, Drug Delivery, Pharmacy Compounding, Pulmonary Drug Delivery. Designed and equipped a new Pharmacy Compounding lab for the W. Palm Beach Pharmacy Program
(Nova University)
(Idaho State Univ.)
(All lectures are in HTML format for Internet access and delivery. Lecture experience includes live videoconference lectures and asynchronous videostreamed lectures)
1996-1998  Facilitator for Cases Studies
(Idaho State Univ.)
1994  Graduate Seminar in Pharmaceutics - Coordinator
8/88-5/91  Teaching Assistant in the Compounding and Pharmaceutical Analysis labs, and Pharmaceutics Discussion Groups
( Univ. of Florida)

**Research Experience**

Main interests:
(1) Development of liposome powders for pulmonary drug delivery.
(2) Development of a liposome-cholera toxin conjugate for oral vaccine delivery.
(3) Development of hypertext methods for facilitating curricular integration.

**Technical experience**

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<th>Technique</th>
<th>Lyophilization</th>
<th>Liposome preparation and characterization</th>
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<td>FTIR spectroscopy</td>
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<td>Differential scanning calorimetry</td>
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<td>Electron microscopy</td>
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<td>UV and fluorescence spectroscopy</td>
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<td>Sterile techniques</td>
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**Publications**

**Journal Articles**


**Book Chapters**

**Continuing Education**

**Abstracts**
Pharm. Res. 10 (Suppl.) s266 (1993)

**Other**
2000 Wrote Policies and Procedures for Clickpharmacy.com (an internet pharmacy) that helped the company obtain a VIPPS seal by the National Association of the Boards of Pharmacy.

**Presentations**
**Poster**
2007 AACP Annual Meeting, Orlando, FL
2005 AACP Annual Meeting, Cincinnati, OH
1997 Colorado Biopharmaceutical Delivery Conference, Breckenridge, CO
1993 AAPS Annual Meeting and Exposition, Orlando, FL
1992 AAPS Annual Meeting and Exposition, San Antonio, TX
9th International Symp. on the Controlled Release of Bioactive Materials, Orlando, FL
AAPS S.E. Regional Meeting- Wilmington, N.C.
2nd Annual Liposome Research Days- Leiden, Netherlands
5th Annual Excellence in Research Competition, U.F. College of Pharmacy

**Computer**
1998 “Hyperlinking to facilitate lecturing and curricular integration” American Association of Colleges of Pharmacy Annual Meeting, Aspen, CO

**Other**
2007 Keynote Address to the UF College of Pharmacy Awards Ceremony – Jacksonville Campus
2005 Presentation about the Skills Lab to the UF College of Pharmacy National Advisory Board
1998 Facilitator of the Glaxo Pathway Evaluation Program for Pharmacy Professionals (for Nova University pharmacy students)
1996 Facilitator of the Glaxo Pathway Evaluation Program for Pharmacy Professionals (for I.S.U. pharmacy students)

**Other Meeting Activities**
2007 Alternate Delegate to American Association of Colleges of Pharmacy Annual Meeting, Orlando, FL
2006 Poster Judge for SERIS Meeting, Gainesville, FL
2005 Poster Judge for 18th Annual College of Pharmacy Research Showcase
2005 Attended UF College of Agricultural and Life Sciences Teaching Workshop: Creating Virtual Labs
2005 Attended Practical Application of General Chapter <797> by USP, San Francisco, CA
2005 Attended AACP Institute: Preparing Pharmacy Graduates for the Future, Lansdowne, Virginia
2004  Delegate to American Association of Colleges of Pharmacy Annual Meeting, Salt Lake City, Utah
2003  Attended AACP Institute: Assessing Student Performance, Lansdowne, Virginia

**Grants and Contracts**

*Awarded*

1999  Principle Investigator - Nova Southeastern University Internal Research Grant- “Investigation of a Liposome - Cholera Toxin B Conjugate Intended as an Oral Vaccine Adjuvant ($5000)

1996  Principle Investigator - Accumetrics, Inc.- “Feasibility of Producing Protein-Coated Large Unilamellar Liposomes” ($835 contract)

1995  Principle Investigator - I.S.U. Faculty Research Committee Grant- “Marker-Retaining Ability of Liposomes During Jet-Milling” ($3970)

*Not Awarded*


1996  Principle Investigator - Idaho State Board of Education- “Development of a Hypertext Model for Integrating Basic Sciences with Pharmaceutical Sciences at ISU College of Pharmacy”

1996  Principle Investigator - AACP New Investigator Grant- “Development of a Liposome-Cholera Toxin Conjugate for Delivery to Peyer’s Patches”


**Honors and Awards**

2007  Teacher of the Year - U.F. College of Pharmacy
2006  Nominated, Teacher of the Year - U.F. College of Pharmacy
2002  Teacher of the Year W. Palm Beach (Nova Southeastern University College of Pharmacy)
1999  P1 Male Teacher of the Year (Nova Southeastern University College of Pharmacy)
1996, 1997  Nominated, Teacher of the Year (I.S.U. College of Pharmacy)
1992  1st Place Senior Division, Oral Competition Section, 5th Annual Excellence in Research Competition (University of Florida College of Pharmacy)
1990  Teaching Assistant of the Year (University of Florida College of Pharmacy)

**Academic Committees**

*University of Florida*

2006 – current  Active Learning Ad hoc Committee
2003 - current  Curriculum Committee – maintain updated outcomes revisions for the committee, created email survey to assess active learning
2003 - current  Assessment Committee
2005 - 2006  Masters in Medication Therapy Management ad hoc Committee
2005- 2006  Pharmacy Skills ad hoc Committee

*Nova University*
1999-2002  Admissions Committee
1999    Patient Care Management Committee

I.S.U.
1997-1998  Pharmaceutical Sciences Faculty Search Committee
1997-1998  Curricular Affairs Committee
1997-1998  Faculty Affairs Committee
1996-1997  General Collection and Government Documents Committee
1995-1997  Graduate Education and Faculty Research Affairs Committee
1995-1996  Writing Assessment Committee

Professional Memberships
2002-current  Alachua County Association of Pharmacists
1994-current  American Association of Colleges of Pharmacy
2006-2007  American Association of Health-Systems Pharmacists
1982-current  Kappa Psi Pharmaceutical Fraternity
1983-current  Rho Chi Society
1988-2002  American Association of Pharmaceutical Scientists

Professional Licensure
1985-current  Florida Registered Pharmacist

Extracurricular Activities
2003-current  Soccer and Basketball Coach, St. Patrick Interparish School / YMCA
2005  Judge - 18th Annual College of Pharmacy Research Showcase poster competition
1998  Soccer Coach- Pocatello, ID
1996,1998  Science Fair Judge, Indian Hills Elementary School
1995-1996  Assistant Soccer Coach- Pocatello, ID
ANTHONY PALMIERI III, Ph.D.

University of Florida
Department of Pharmaceutics
1600 SW Archer Road
Gainesville, Florida 32610

Office: (352) 273-7868
P4-31
JHMHC
E mail: Palmieri@cop.ufl.edu

BACKGROUND SUMMARY

Presently on the faculty at the University of Florida College of Pharmacy in the Department of Pharmaceutics. Twenty-five years of progressive responsibilities in an intellectual property management and technology transfer position coupled with ten years as a professor of pharmaceutics at major universities. Demonstrated and proven ability to set a vision, goals and direction of a department. Demonstrated leadership skills in a departmental and organizational setting. Successfully led projects across management lines where reporting relationships were often difficult to establish, no precedent existed and the use of creative problem solving and communication skills were necessary. President of a national scientific academy and a major inter-fraternal organization including setting a vision and goals for these organizations during a critical growth period. Author of over 80 publications and presentations on intellectual property, pharmaceutics, pharmacy education and the history of pharmacy. Has interacted extensively with USAN and WHO to obtain non-proprietary names for Pharmacia and Upjohn. Currently Chairman of the USAN Council. Consultant and Expert Witness on patent litigation involving controlled release dose forms, excipients, bioequivalence, for numerous litigations. Expert witness for Pentech Pharmaceuticals before the Office of Generic Drugs.

PROFESSIONAL EXPERIENCE

UNIVERSITY OF FLORIDA 2000 – Present

Assistant Clinical Professor of Pharmaceutics 2006 - Present

- Responsibilities include advising on intellectual property, teaching graduate and undergraduate courses in clinical biochemistry, dose form design, sustained release and dissolution.

Assistant Director, Office Technology Licensing 2000 - 2006

- Evaluating the University’s intellectual property portfolio in the life sciences and providing assistance in the protection and marketing of this intellectual property.
- Negotiating and drafting legal documents including license agreements, option agreements, stock agreements, materials transfer agreements, confidential disclosure agreements and/or providing guidance and oversight in the drafting of such agreements.
- Coordinating licensing activities with the intake of new invention disclosures and with the patent prosecution of new disclosures.
- Managing the University’s active licenses and contractual obligations in the assigned areas in the life sciences.
Manager, Technology Protection

- Managed three Ph.D. professionals responsible for providing accurate, critically evaluated, concise, strategic patent information concerning company and competitor patents.
- Evaluated commercial potential of inventions, and educated the scientific community on intellectual property issues. Determined patentability of inventions.
- Made decisions and recommendations on filing worldwide patents, USAN names, INN names. Reviewed publications prior to release outside of the company.
- Evaluated competitor patented compounds and technologies as potential acquisitions. Also evaluated patents considered for in-licensing and served on numerous corporate committees such as the US patent committee, the US Trademark Committee and various process improvement teams.
- Copyright transfer agent.

Manager, Technology Protection and Tracking 1994 – 1996


Responsibilities included patent decisions, manuscript review, negotiation of scientific and monetary terms for research and scientific collaborations between Upjohn, other companies, academia and government agencies.


Associate Professor of Pharmaceutics

PREVIOUS TEACHING RESPONSIBILITIES

- Dose Form Design
- Physical Pharmacy
- Pharmacy Seminar
- Biopharmaceutics and Pharmacokinetics
- Calculations
- Problems in Pharmacy
ADMINISTRATIVE EXPERIENCE

- Chair Contributed Papers Section, AIHP (2004-2006)
- Chair APRS Basic Pharmaceutics Section, APRS (2004-2005)
- Chair-elect APRS Basic Pharmaceutics Section, APRS (2002-2004)
- Councilor, American Institute History of Pharmacy (2002-2004)
- International officer, Kappa Psi Pharmaceutical Fraternity (1999-2007)
- Member at-large Basic Pharmaceutics Section, APRS (1999-2001)
- Plainwell School Board: Vice President and Treasurer (1998-1999)
- President, Academy of Pharmaceutical Research and Sciences (1990)
- Chairman-Elect, Academy of Pharmaceutical Research and Science (1989)
- Member, Industrial Advisory Board, University of Rhode Island (1990-2000)
- Member, Industrial Advisory Board, Creighton University (1991-2000)
- Chairman, Basic Pharmaceutical Sciences Section APRS-APhA (1988)
- President, College Fraternity Editors Association (1988-1989)
- President-elect, College Fraternity Editors Association (1987-1988)
- Secretary, College Fraternity Editors Association (1986-1987)
- Treasurer, College Fraternity Editors Association (1985-1986)
- Member of the Board of Directors, College Fraternity Editors Association (1983-1990)
- Secretary, Faculty Senate, University of Wyoming (1982-1983)
- Editor, The Mask of Kappa Psi, a quarterly magazine, circulation 15,000 (1980-1984)
- Member of various university committees such as the Vice-President for Finance Search Committee, Research Coordination, Health Sciences College Review, University Development, Promotion and Tenure.
- Chairman of University of Wyoming Graduate School Committee.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Academy of Pharmaceutical Research and Science
- American Association of Pharmaceutical Scientists
- American Pharmaceutical Association
- Sigma Xi
- American Association of Colleges of Pharmacy

- College Fraternity Editors Association
- American Institute of the History of Pharmacy
- Kappa Psi Pharmaceutical Fraternity
- Rho Chi
NATIONAL PROFESSIONAL COMMITTEE SERVICE

- APhA Handbook of Pharmaceutical Excipients, 2nd ed., Steering Committee Chairman
- APhA Handbook of Pharmaceutical Excipients 3rd ed., Laboratory Chairman
- APhA Scientific Affairs Reference Committee Chairman (1992)
- Kappa Psi, various national committees (1980 -present)
- APhA Scientific Affairs Policy Committee Chairman (1990)
- APRS Policy Committee, Chairman (1989-1990)
- APRS Policy Committee, Vice-Chairman (1988)
- APhA Policy Advisory Committee (1988)
- APhA Reference Committee on Scientific Affairs, Chairman (1988)
- APRS Policy Committee, Vice-Chairman (1988)
- AIHP Committee on Membership (1987-present)
- AAPS Professional Affairs Committee (1986-1987)
- APhA Policy Committee on Educational Affairs (1986-1987)
- APS Professional Affairs Committee (1985-1986)
- APS Committee on Public Affairs (1984)
- CFEA Membership Committee, Chairman (1984)
- College Fraternity Editors Long-Range Planning Committee (1982-1984)
- AIHP Committee on Nominations (1983)
- APS Committee on Resolutions (1983)
- AIHP Committee on Preservation of Sources, Chairman (1981-1983)
- AACP Council of Sections Administrative Board, Representative from the Pharmaceutics Sections (1981-1983)
- Academy of Pharmaceutical Sciences Dissolution Methodology Committee (1977)

PROFESSIONAL RECOGNITION AND AWARDS

- Fellow, APhA Academy of Pharmaceutical Sciences (1994)
- Editor Emeritus, THE MASK of Kappa Psi (1994)
- College Fraternity Editor's Association, Ford Award for outstanding service (1994)
- University of Rhode Island, College of Pharmacy Leadership Award (1990)
- Adjunct Professor, Creighton University School of Pharmacy (1991-present)
- PMA Faculty Fellow (1978)
- Lederle Pharmacy Faculty Award (1977)
- University of Wyoming Faculty Professional Growth Award (1977)
- Bristol Award (1971)
PHARMACIST LICENSURE

- Rhode Island
- Georgia

EDUCATION

- University of Rhode Island, B.S. Pharmacy
- University of Rhode Island, M.S. Pharmacy
- University of Georgia, Ph.D. Pharmaceutics

CONTINUING EDUCATION

- Covey Seven Habits of Highly Effective People Training
- Career Development Workshop
- Assertiveness Training
- Problem-Solving and Decision-Making
- Perceptive Management
- Pharmacology Review
- Coaching, Counseling, Communications and Conflict Management
- Communications and Problem-Solving

RESEARCH INTERESTS

- Industrial Academic Interactions
- Pharmaceutical Patents
- Dose Form Design
- Microencapsulation and Other Sustained Release Delivery Systems
- Drug Release from Suppositories
- History of Pharmacy
- Development of Student Experiments for the Laboratory
- Development and Evaluation of Student Admission Methods

GRANTS

- Summer Research Fellowship, The University of Wyoming, 1976.
- Sandoz Research Grant Dissolution of Suppositories, 1982.
- Various travel grants to attend national and international meetings.
REFEREED PUBLICATIONS


BOOKS AND CHAPTERS IN BOOKS


5. Palmieri, A., Introduction to Pharmacokinetics, Pharmat, Inc. - A Continuing Education Course for Pharmacists, Vol. VIII, #16. This course has been updated and formatted for use on the IBM-PC (1986).


PRESENTATIONS


44. Palmieri, A., A Model for Multivariate Prediction of Academic Success of Transfer Students in Pharmacy Schools, Annual Meeting of District 7, NABP-AACP, Casper, WY, 1976.


JOURNAL AND BOOK REVIEWS

- Reviewer for The Handbook of Nonprescription Drugs, published by APhA.
- Textbooks Reviewed for Am. J. Pharm. Ed.:
  a) "The Hydrophobic Effect" by C. Tanford, AM. J. PHARM. ED., 44:318.
  b) "Sustained and Controlled Release Drug Delivery Systems" by J.R. Robinson, AM. J. PHARM. ED., 43:165.
  c) "Microencapsulation and Related Drug Processes" by P.F. Darcy, AM. J. PHARM. ED., 48:455.
  d) "Validation of Aseptic Pharmaceutical Processes" by Carleton and Agalloco, AM. J. PHARM. ED.
  e) "Remington's Pharmaceutical Sciences", AM. J. PHARM. ED.

OTHER PUBLICATIONS

1. Palmieri, A., My heroes have always been pharmacists, American Pharmacy (Leadership Forum), Vol. NS30, No. 6, p. 64, June 1990.


7. Palmieri, A., There are No Pills Anymore, (letter to the editor), HOSPITAL PHARMACY, 16:627, 1981.


10. Palmieri, A., Comment on Dr. Clinical Series, (letter to the editor), DRUG INTELLIGENCE
AND CLINICAL PHARMACY, 10:656, 1976.


Dr. Vikram Arya is a Senior Clinical Pharmacology Reviewer in the Office of Clinical Pharmacology (OCP), Center for Drug Evaluation and Research (CDER), FDA. He earned his Ph.D. in Pharmaceutics from the University of Florida, Gainesville, FL, in 2003. He has several publications in peer reviewed journals and has presented at various national and international conferences. He is a Fellow of the American College of Clinical Pharmacology (ACCP). He holds an Adjunct Clinical Professor (Special Title) appointment in the Department of Pharmacy Practice at Mercer University, Atlanta, GA. He serves as the Section Editor in the Journal of Clinical Pharmacology (JCP) and is a member of the Editorial Board of JCP and International Journal of Clinical Pharmacology and Therapeutics (IJCPT).

Dr. Jeffrey Barrett is Associate Professor of Pediatrics and Pharmacology at the Children's Hospital of Philadelphia (CHOP) and University of Pennsylvania. He is also the Director of the Laboratory for Applied PK/PD within the Clinical Pharmacology and Therapeutics Division at CHOP. Prior to joining CHOP, Dr. Barrett spent 13 years in the pharmaceutical industry most recently at Aventis Pharmaceuticals where he was Global Head of Biopharmaceutics supporting late stage development. He received his B.S in Chemical Engineering from Drexel University in 1986 and his Ph.D. in Pharmaceutics from the University of Michigan in 1990 under Dr. John G. Wagner. He has been a faculty member of the Pharmaceutical Education and Research Institute (PERI) as a lecturer for the Pharmacokinetics and Nonclinical Statistics training courses since 1992 and was a member of both the PhRMA and FDA Expert Panels on Individual and Population Bioequivalence. Dr. Barrett has co-authored over 50 manuscripts and has given 35 invited lectures on a variety of topics related to clinical drug development. He founded the Mid-Atlantic Population Approach Users Group in 1992 and is a member of the Advisory Boards of the East Coast Population Approach Group, the American Association of Pharmaceutical Scientists (AAPS) Bioequivalence and Population Pharmacokinetics Focus Groups, and the Innaphase Corporation. Dr. Barrett is a member of AAPS, ASCPT, ACCP and ASPET and was former Chair.
of the Delaware Valley Drug Metabolism Discussion Group. He was elected to Fellow of the American College of Clinical Pharmacology in 2000 and was awarded the Tanabe Young Investigator Award in 2002. Dr. Barrett was also recently elected to the Board of Regents of ACCP and as Vice-Chair of the Clinical Sciences Section of AAPS.

Focus at Children's Hospital of Philadelphia:

Dr. Barrett's current efforts in conjunction with the mission of the Clinical Pharmacology and Therapeutics Division are focused on the investigation of sources of variation in pediatric pharmacokinetics and pharmacodynamics. Applied clinical pharmacologic investigation coupled with modeling and simulation strategies are pursued with the intention of developing rational dosing guidance in various pediatric populations for both marketed and exploratory compounds. Clinical trial simulation is to be utilized prospectively to explore design dependencies and parameter sensitivities. Dr. Barrett also directs the Laboratory for Applied PK/PD which is focused on the development of pharmacometric approaches to advance PK/PD, novel biomarker development and disease progression modeling.

Research Interests / Current Efforts

"The focus of my research is really driven by two objectives: (1) the utilization of PK/PD modeling and simulation techniques to establish links between drug exposure, actions, and therapeutic outcomes and (2) pursuit of therapeutic drug monitoring (TDM) in conjunction with modeling and simulation strategies to improve the management of pediatric drug therapy within CHOP." The list below describes ongoing efforts and research topics I am currently exploring. - Development of physiologically-based PK models to explore maternal to fetal drug transfer, - Population-based PK model development in support of ongoing/proposed study drugs (Heparin, Midazolam and Actinomycin-D), - Data warehousing and data mining approaches in bio- and medical informatics, - Development of novel biomarkers for the investigation of heparin and LMWH patient management through anticoagulant PK/PD, - Exploration of physiologic - developmental PK/PD models which predict drug exposure in various pediatric populations based on drug substance /physiochemical characteristics in conjunction within adult PK/PD behavior, - Exploration of trial design characteristics for optimal pediatric drug trials focused on safety, PK, PK/PD and/or efficacy through clinical trial simulation.

Robert Baughman, PharmD, PhD

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Dr. Baughman received his B.Sc. from Loyola University in 1974, and both Pharm.D. (1978) and Ph.D. (Pharmaceutical Chemistry, 1982) degrees from the University of California, San Francisco. He has held research positions at Lederle Laboratories, Genentech, Penederm, Cholestech, and Emisphere Technologies. He is currently the Managing Director, Corporate Strategy at Emisphere while also serving as a consultant to the pharmaceutical and venture capital industries.

Dr. Baughman's research interests include characterizing absorption mechanisms for macromolecules, 

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optimizing oral drug delivery, the disposition of therapeutic peptides and proteins, and the effect of disease states on drug pharmacokinetics. His publications include more than 130 manuscripts and abstracts in these areas, and he has authored three book chapters on the kinetics of therapeutic proteins. He co-edited the book *Therapeutic Proteins: Pharmacokinetics and Pharmacodynamics* (W.H. Freeman, 1992), and serves on the editorial board of the International Journal of Clinical Pharmacology and Therapeutics. He has conducted pharmacokinetic studies on over 15 recombinant products, including clinical pharmacokinetic trials with rhInsulin, rtPA, rhGH, rTNFα and rIFN-g.

Dr. Baughman is a past Chairman of the Biotechnology Section of the American Association of Pharmaceutical Scientists (AAPS), and in 1994 was elected to a three year term as the association’s Treasurer. He served on the AAPS Executive Council from 1995 – 1997. He sits on the advisory board of the American College of Clinical Pharmacology and holds an adjunct faculty appointment in Pharmaceutical Biotechnology at the University of Florida, College of Pharmacy. He is a member of AAPS, ACS, CRS, Rho Chi and Rho Pi Phi.

Drug & Biotechnology Development, LLC (D&BD) is a comprehensive consortium of experienced clinicians, pharmaceutical scientists, regulatory strategists and business development experts that provide product and business development assistance and solutions for the pharmaceutical, biotech, medical product and related industries. From project conception to product launch, D&BD provides a focused approach to the pharmaceutical and clinical development of drugs, devices and biologics for regulatory submissions. D&BD has extensive experience with all phases of product development, including pre-clinical, clinical (Phase I-IV), CMC (analysis, formulations, process, production), outsourcing, CRO oversight and regulatory interactions, document preparation, review and filings.

Dr. Marcus E. Brewster is a Senior Research Fellow and Head of the Department of Drug Delivery Research at the Janssen Research Foundation, Beerse Belgium. He also serves on the faculty of the University of Florida, College of Pharmacy as an Adjunct Associate Professor. He received his BS degree from Mercer University in 1978 and his Ph.D. from the University of Florida in 1982 working with Prof. Nicholas Bodor. Dr.
Brewster also spent two years as a Visiting Scientist at the Weizmann Institute of Science in Rehovot, Israel (1996-97). He has published 146 journal articles, written or contributed to over 20 book chapters and proceedings and holds 12 patents. He is an member of several editorial boards and a recipient of the Johnson and Johnson Excellence in Science Award. Dr. Brewster's main research interests include the use of chemically modified cyclodextrin derivatives for pharmaceutical application, brain-targeted drug delivery through the use of chemical delivery systems and the application of molecular orbital and other computational approaches in addressing items of chemical and biological concern.

Staffan Edsbäcker, PhD
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Age 48, married, 2 children 15 and 18 yrs; Chemical engineer, M.Sci 1979; Joined Astra 1980 (Dept of Metabolism and Pharmacokinetics); Ph D 1986 ("Studies on the metabolic fate and pharmacokinetics of budesonide"); Assoc Prof., Experimental Clinical Pharmacology, Faculty of Medicine, Univ of Lund 1997-current; Section Head from 1990 - March 1999; Scientific Adviser at Experimental Medicine, AstraZeneca R&D Lund for 6 global AstraZeneca projects March 1999-June 2001; Secondment as Sr Director, Experimental Medicine, AstraZeneca Pharmaceuticals LP, Wilmington USA 2001-2003; Currently Sr Scientific Advisor for GI and respiratory projects. Preclinical experience in metabolism (tissue homogenates, isolated perfused tissues); Human pharmacology experience in traditional pharmacokinetics (exploratory and documentative); Lung, nasal and gut deposition studies using various techniques (modelling, scintigraphy, charcoal block etc); Interaction and tolerability studies; Scientific marketing activities; Regulatory issues (Experimental Medicine responsibility for 6 NDAs). Staffan has published about 30 full length original papers, 12 book chapters and reviews, and about 50 abstracts dealing with the deposition, pharmacokinetics and systemic pharmacodynamics of topical corticosteroids in healthy subjects and patients with asthma, rhinitis and inflammatory bowel diseases. Invited lecturer at several conferences. Tutor for 2 PhD students, one of whom defended his thesis in October 1998.

Ron Evens is President of MAPS 4 Biotec, Inc, consulting to biotechnology segment of pharmaceutical

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industry concerning medical affairs roles of communications, information, and clinical trials (peri-approval and post launch). Dr. Evens is clinical professor at University of Florida, College of Pharmacy. Ron serves on the Board of Directors of Cheladerm, Inc (drug company), Healthcare Distribution Management Association Healthcare Foundation and American Society of Health-Systems Pharmacists Research and Education Foundation (Vice-Chairman); and three Dean's Advisory Boards for Colleges of Pharmacy at Universities of Florida, Kentucky and Midwestern. Invited presentations exceed 150 at national and state associations or universities. Publications are over 100, including 10 book chapters and 40 journal articles. Previously (12 years, 1989-2001) at Amgen, he created and was Senior Director and Head of Professional Services Department. Professional Services was responsible for medical communications/education, marketing support, phase 2 & 4 studies, field based clinical liaisons, and product information for marketed and pipeline products. Also, he created and was Senior Director and Head of PeriApproval Research at Amgen (2000-2001). Prior to Amgen, Dr. Evens was Associate Director, Clinical Research and Medical Services at Bristol-Myers Co. (1984-89); Associate Professor and Acting Chairman of Department of Pharmacy Practice at University of Tennessee Health Sciences Center, Memphis, TN (1981-84); Associate Professor & Director of Drug Information Center at University of Texas at Austin, College of Pharmacy, and University of Texas Center for Health Sciences, College of Medicine, San Antonio (1974-81).

CV

Dr. González is President of P'Kinetics International, Inc. specializing in biopharmaceutics and pharmacokinetics research. Dr. González was previously President of GloboMax Américas and prior to that was Director of Biopharmaceutics and Pharmacokinetics at Schering Research, Miami (formerly Key Pharmaceuticals, Inc). His research has concentrated on the pharmacokinetic and pharmacodynamic evaluation of extended-release oral and transdermal drug delivery systems as well as in vitro/in vivo correlations. Prior to joining the pharmaceutical industry, Dr. González was on the Pharmacy faculty at Purdue University with teaching and graduate research responsibilities in clinical pharmacokinetics. Dr. González has been active in AAPS since its inception and was Chair of the Pharmacokinetics Section in 1995. He also served on the organizing committees of the first four AAPS/FDA SUPAC Workshops and was Co-Chair of the Organizing Committee for the first Pharmaceutical Congress of the Americas held in March, 2001. Dr. Gonzalez is also a member of the Controlled-Release Society, the American College of Clinical Pharmacology, and the American Society of Health-System Pharmacists. He serves on the editorial advisory boards of the European Journal of Pharmaceutics and Biopharmaceutics and the International Journal of Clinical Pharmacology and Therapeutics.
Dr. Gonzalez-Rothi is Professor of Medicine and Pharmaceutics at the University of Florida. Since joining the faculty in 1982, he has also been a Staff Physician at the Gainesville VA Medical Center, and since 1991 has had a joint appointment in the Department of Pharmaceutics and was granted Graduate Research Faculty Status. He is Chief of the Pulmonary and Respiratory Therapy Section at the Gainesville VA Medical Center and Acting Chief of the Division of Pulmonary and Critical Care at the University of Florida. Dr. Gonzalez-Rothi’s major faculty responsibilities have centered on clinical teaching and education, where he has been recognized in the College of Medicine as the recipient of various teaching awards over the years. Most recently, he was awarded a State of Florida University-wide Teaching Incentive Performance Award, Dr. Gonzalez-Rothi has also been involved in education extramurally, as invited Program Faculty in clinical symposia, as well as in public education via radio and television. He is the recipient of a National Institutes of Health Tuberculosis Academic Award, for the promotion of tuberculosis education at the medical center, as well as to health professionals and the public throughout the State of Florida. He has been recognized by the Florida Voluntary Health Association as Medical Volunteer of the Year for his efforts in educating the citizens of Florida. He was selected as Founding Member of the University of Florida Society of Teaching Scholars. Dr. Gonzalez-Rothi is listed in Woodward and White's "The Best Doctors in America: Southeast Region". Dr. Gonzalez-Rothi’s research interests have centered on interactions between inhaled particles and lung macrophage functions, for which he has identified specific smoking-associated defects, and described functional abnormalities in macrophages of patients with alveolar proteinosis. His interest in this area shifted to exploiting the phagocytic capacity of macrophages in developing targeted drug delivery to the lungs by the use of liposomal vesicles, specifically to deliver antmycobacterials and glucocorticoids, He has sustained continuous extramural support since joining the faculty, has served on Graduate Student doctoral committees, and as peer-reviewer for scholarly journals and grant review sections. He is alveolar/co-author of 37 peer reviewed publications, two book chapters and multiple abstracts on various clinical and research topics.

Ulrike Graefe-Mody, PhD
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Dr. Graefe-Mody is working in Clinical Pharmacokinetics/Pharmacodynamics at Boehringer Ingelheim Pharma GmbH & Co. KG, Germany. Her responsibilities include the conduct of clinical pharmacokinetic/pharmacodynamic studies in the course of drug development and approval of new drug candidates in various therapeutic areas. This also includes POP PK/PD modeling and trial simulation to support drug development. Prior to joining Boehringer Ingelheim, Dr. Graefe received her Diploma in Biology in 1997 and PhD degree in Pharmaceutical Biology in 2001 from the University of Wuerzburg, Germany. Her thesis focused on the clinical pharmacokinetics and bioavailability of phenolic compounds in phytomedicines, which was carried out in cooperation with Prof. Hartmut Derendorf at the University of Florida, Gainesville, FL. In 2001, Dr. Graefe-Mody received the Carl-Wilhem-Scheele Award of the German Pharmaceutical Society for outstanding dissertations in Pharmaceutical Sciences.
Dr. Jurgens received his Bachelor of Science in Pharmacy from Drake University. After working in retail pharmacy for a year and a half, he enrolled at the University of Florida and completed his PhD in the Pharmaceutical Sciences in 1973. He initially started out in academia, but after 3 years moved into the pharmaceutical industry. Over the last 25 years, he has moved through various departments, worked in several pharmaceutical companies and has had increasing areas of responsibilities. The first half of his career he developed expertise in formulations, parenterals and project management. The last 14 years, Dr. Jurgens has done clinical research in GI, CNS, female health care and most recently oncology. He has lectured in drug development and clinical in major academic institutions throughout the country. Currently, he owns several patents and has over 40 publications. He is on several scientific advisory boards for academic institutions and companies. He is professionally affiliated with Rho Chi, Kappa Psi, ACRP, ASHP, ACCP, and DIA. He is also a registered pharmacist. Dr. Jurgens currently resides near Clearwater, Florida and is a regionally based medical science liaison in the Medical Affairs department at Ligand Pharmaceuticals - a biotech firm located in San Diego, California.

Mr. Kiman Kim is a deputy director of herbal medicine management team at Korea Food and Drug Administration (KFDA). He is responsible for herbal medicine approval, pharmaceutical company inspection, and international collaboration at KFDA. He received his bachelor of pharmacy degree from Seoul National University, Republic of Korea in 1983, and got a master of pharmaceutics degree from the same university in 1985. He was a senior researcher developing drug dosage forms and drug delivery systems at the research center of Yuhan Pharmaceutical Co. in Korea (1985—1990). He was with the Seoul Metropolitan Government as a pharmaceutical inspector (1993—1996), and has been working for KFDA since 1996. Since 1993 he has inspected hundreds of pharmaceutical companies in Korea and in the world as a pharmaceutical inspector. He researched the harmonization activities in the drug approval process between the USA, Europe and Asia with particular emphasis on biopharmaceutics and pharmacokinetics under the supervision of Dr. Hartmut Derendorf at University of Florida (2002—2004). He published a paper with Dr. Derendorf concerning the differences in the drug pharmacokinetics between East Asians and Caucasians.
and the role of genetic polymorphisms in 2004. He is interested in building the international harmonization of herbal medicine approval and study.

Dr. Sriram Krishnaswami is an Associate Director in Clinical Pharmacology at Pfizer Global R&D based in Ann Arbor, MI. He received his B.S. in Pharmacy in 1996 from the Birla Institute of Technology and Science, Pilani, India and Ph.D. in Pharmacokinetics/Pharmacodynamics in 2000 from the University of Florida, Gainesville. Dr. Krishnaswami is responsible for representing the clinical pharmacology function in development teams and during interactions with regulatory authorities. His current research activities include designing dose-finding strategies using modeling and simulation for new chemical entities in the inflammation/dermatology therapeutic area where treatments for diseases such as rheumatoid arthritis, psoriasis and osteoarthritis and prevention of allograft rejection are pursued. Dr. Krishnaswami has published over 30 articles, abstracts, a book chapter and presentations with focus on PK/PD modeling and pediatric pharmacology. He is chair-elect of the AAPS modeling and simulation focus group and peer reviews manuscripts for the Journal of Clinical Pharmacology.

Dr. Michael Kurowski, became a Licensed Pharmacist in 1977 and then went on to study Pharmaceutical Chemistry and received his PhD from the Freie Universität Berlin in 1980. He continued his education, receiving his MD from Friedrich Alexander Universität, Erlangen-Nuremberg, Germany in 1986. In 1989 he was Privatdozent, Senior Lecturer for Pharmacology and Toxicology at the Friedrich Alexander Universität, Erlangen-Nuremberg, and then in 1992 became a Specialist for Clinical Pharmacology, Charite, Humboldt Universität, Berlin. In addition to being Co-editor of the Journal Pharmacotherapy, Dr. Kurowski has been a consultant to the community of practicing physicians and Ciba-Geigy, a member of the "Drugs Commision", Charite, University Hospital, and is an Associate Professor of Pharmacology and Toxicology, Martin Luther Universität Halle Wittenberg. Dr. Kurowski has received numerous awards and fellowships for his work. Dr. Kurowski has been involved in clinical studies and analytics of analgesic and novel antiretroviral compounds

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since 1997 at the Private Practise Laboratory Medicine and was a Founder Therapia GmbH. He supervises not only PhD candidates but also medical students who are required to write a thesis in Germany. In addition to more than 50 publications in prestigious scientific journals he published 3 books.

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Richard is currently the Executive Director and Head of Clinical Pharmacokinetics and Pharmacodynamics at Pfizer Global Research and Development in Ann Arbor, Michigan. Prior to joining Pfizer (formerly Parke-Davis/Warner Lambert) in 1998, he was Senior Scientific Director at Phoenix International Life Sciences (now MDS) in Montreal, Canada. From 1984 to 1991, Richard was Assistant Professor then Associate Professor and Vice Chairman for Research at the University of Tennessee, Memphis. From 1980 – 1984 he worked at the University of Ottawa Health Sciences Centre in Ottawa, Canada. His research over the past 25 years has been focused on how to integrate pharmacokinetic and pharmacodynamic information to provide improved drug therapy in patients. He is a fellow of the American College of Clinical Pharmacology and the American College of Clinical Pharmacy and a member of the Editorial Board for Clinical Pharmacology and Therapeutics. Richard is a graduate of the University of Minnesota (Pharm.D.) and the University of Toronto (B.Sc. Pharmacy).

Lawrence J. Lesko, PhD
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Lawrence J. Lesko, Ph.D. is Director of the Office of Clinical Pharmacology and Biopharmaceutics (OCPB) in the Center for Drug Evaluation and Research (CDER) at the Food and Drug Administration (1995-present). This Office is responsible for the review and evaluation of the biopharmaceutic, pharmacokinetic and pharmacodynamic data contained in IND's and New Drug Applications (NDA's). Dr. Lesko is also Chair of the Clinical Pharmacology Section of the Medical Policy Coordinating Committee, and Co-Chair of the Biopharmaceutics Coordinating Committee, in CDER that is responsible for developing guidelines for industry. Dr. Lesko currently represents FDA on the Common Technical Document (Efficacy) Working Group.
in the International Conference on Harmonization. Dr. Lesko was previously Associate Director of Research at the FDA where he was responsible for developing and managing the Product Quality Research Program in the Office of Generic Drugs (1992-95). Prior to joining FDA, Dr. Lesko was Vice President of PharmaKinetics Laboratories (1988-92) and Associate Professor of Pharmaceutics at the University of Maryland at Baltimore (1981-88). He also held an appointment in the Laboratory of Neuroscience, National Institute on Aging, National Institutes of Health, from 1985-1988 investigating the effects of age on the pharmacokinetics and pharmacodynamics of drug substances. He was a Laboratory Director in the Clinical Pharmacology Division of the University of Massachusetts Medical Center from 1979-1981 and was on the faculty of the Massachusetts College of Pharmacy from 1973-1979. Dr. Lesko received his B.S. and Ph.D. degrees in pharmaceutics from Temple University in Philadelphia, Pennsylvania and was board certified in Clinical Pharmacology by the American Board of Clinical Pharmacology in 1992. In 1998, Dr. Lesko was awarded the Outstanding Alumni Award from Temple University. He is a member and Fellow of American Association of Pharmaceutical Sciences and serves as Chair of the Drug Development and Regulatory Science Section of American Association of Clinical Pharmacology and Therapeutics. Dr. Lesko is a Fellow and a member of the Board of Regents of the American College of Clinical Pharmacology. He is also the FDA’s Federal Liaison to European Federation for Pharmaceutical Sciences. Dr. Lesko has authored or co-authored over 125 peer-reviewed articles in biopharmaceutics and clinical pharmacology and he is a frequent speaker at national and international meetings.

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Mr. Nicola Luciani is a Registered Pharmacist with the Ontario College of Pharmacy, having received his Bachelor of Science Degree in Pharmacy from the University of Toronto in June 1994. He currently holds the position of Pharmacy Manager with Dell Pharmacy in Hamilton, Ontario, Canada and has been working for Dell since September 1994. Mr. Luciani is an accomplished Compounding Pharmacist specializing in Veterinary Medicine and Advanced Sports Medicine. Mr. Luciani also holds a Doctorate of Acupuncture from Medicina Alternativa, received in April 2000. He has additional special interests in Nutrition, Anti-Aging and Botanical Medicine. He is currently a Board Member of SportPharm Pharmaceuticals, California, USA. Mr. Luciani is a Consultant and Lead Facilitator for Medisca Network Inc. for Certificate Programs in Pharmacy specific to Pharmaceutical Compounding; accredited by and offered at the University of Florida College of Pharmacy.

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Maureen A. McKenzie, Ph.D. is the Chief Executive Officer of DENALI BioTechnologies, L.LC. Dr. McKenzie
has almost 20 years of experience in biotechnology as an entrepreneur, researcher and executive, and founded the first and only company in Alaska dedicated to pharmaceutical and nutraceutical discovery and development from boreal territories. DENALI BioTechnologies focuses on plants, microbes, and marine organisms that thrive in harsh habitats, with special emphasis on novel molecules from psychrophiles (“cold-lovers”). Dr. McKenzie was Affiliate Assistant Professor in the Department of Physiology and Pharmacology at the College of Veterinary Medicine of Iowa State University, Ames, in 1994, and was an Assistant Professor of Chemical Biology and Pharmacognosy and member of the Laboratory for Cancer Research in the College of Pharmacy at Rutgers, The State University of New Jersey, New Brunswick, from 1990-1993. From 1989-1990, she was a Research/Teaching Specialist in the Departments of Biochemistry and Environmental and Community Medicine of the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School, Piscataway, New Jersey. Dr. McKenzie was a Staff Fellow Scientist in the Diabetes Branch of the National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, Maryland, from 1987-1989. Prior to graduate school, she was a Microbiologist for the Mobil Oil Corporation, Princeton, New Jersey, from 1979-1981. Dr. McKenzie received a Diabetes Research and Education Foundation Fellowship in basic research from the Hoechst-Roussel Corporation (1990-1992), The New Jersey State Commission for Cancer Research -Ciba Geigy Corporation Award for Scientific Excellence in Cancer Research (1992), and the Epsilon Award for Teacher of the Year in the College of Pharmacy at Rutgers University (1993). She was selected by the American Chemical Society in 1993 as a Preceptor for Science Experience for the Economically Disadvantaged. In 1994, she was chosen by the Des Moines Register as an Iowa “Up and Comer” for extraordinary leadership in business. In 1995, she received the Linda K. Neuman Award for the Professions by the Quad-Cities Women’s Encouragement Board, and was honored as a “Woman of Spirit and Note” in the community. She served on the Board of Directors of the Quad-Cities Chapter of the American Red Cross in 1995. She has authored or co-authored numerous peer-reviewed articles, patents and is the editor-in-chief of the Encyclopedia of Medicinal Plants scheduled for publication in 2006. Dr. McKenzie holds a Ph.D. in Biochemistry from a joint program of Rutgers, the University of Medicine and Dentistry of New Jersey and Princeton University (1987), a M.S. in Food Science from Rutgers (1982) and a B.S. in Nutrition/Food Technology from Iowa State University (1978).

Markus Müller, M.D. is Professor and Head of the Department of Clinical Pharmacology of the Medical University Vienna / Vienna General Hospital in Austria. He has received his M.D. from the University of Vienna Medical School with highest possible honours (sub auspiciis praesidentis rei publicae). He was trained in Emergency Medicine, Oncology, Endocrinology, Infectious Diseases, Chemotherapy and Angiology and is board certified for Internal Medicine, Clinical Pharmacology and Emergency Medicine. He holds the position of a Professor for Internal Medicine and Clinical Pharmacology. Dr. Müller serves as a European Expert for the European Agency for the Evaluation of Medicinal Products (EMEA) in London, UK and is a frequent speaker at international meetings and a reviewer for several biomedical and pharmaceutical journals and scientific societies. He has published over 150 original articles in the field of clinical pharmacology and has received several awards including Tanabe Award of the American College of Clinial Pharmacology (ACCP) in acknowledgement of innovations in clinical pharmacology trials and the Billroth Award of the Austrian Board of Physicians.

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Markus Müller, M.D. is Professor and Head of the Department of Clinical Pharmacology of the Medical University Vienna / Vienna General Hospital in Austria. He has received his M.D. from the University of Vienna Medical School with highest possible honours (sub auspiciis praesidentis rei publicae). He was trained in Emergency Medicine, Oncology, Endocrinology, Infectious Diseases, Chemotherapy and Angiology and is board certified for Internal Medicine, Clinical Pharmacology and Emergency Medicine. He holds the position of a Professor for Internal Medicine and Clinical Pharmacology. Dr. Müller serves as a European Expert for the European Agency for the Evaluation of Medicinal Products (EMEA) in London, UK and is a frequent speaker at international meetings and a reviewer for several biomedical and pharmaceutical journals and scientific societies. He has published over 150 original articles in the field of clinical pharmacology and has received several awards including Tanabe Award of the American College of Clinical Pharmacology (ACCP) in acknowledgement of innovations in clinical pharmacology trials and the Billroth Award of the Austrian Board of Physicians.

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Education in Pharmacy (1962 – 1966) and Food Chemistry (1966-1968) at the University of Freiburg/Germany. PhD (Pharmacognosy) Freiburg, 1971; habilitation (Pharmaceutical Biology) Freiburg, 1976; assoc. Professor of Pharmaceutical Biology, Techn. Univ. of Braunschweig/Germany 1977-1986; full Professor and chair of Pharm. Biology and Phytochemistry, Univ. of Münster/Germany, 1986-2004. Since Oct 2004 Prof. em.; Dr.h.c. of the Ovidius University, Constanța, Romania (2004). Honorary member of the Society of Medicinal Plant Research (GA; 2005). Scientific areas: Phytochemistry, physiological activity and biopharmaceutical aspects of traditionally used medicinal plants and their constituents. Biochemistry and physiology of secondary constituents of plants and insects, in particular the cyanogenic compounds; >190 papers in these fields; >160 lectures; >120 posters together with coworkers and students. Teaching experiences: Analytics of natural products and plant secondary constituents; Phytochemistry and biochemistry of nature-derived drugs; Pharmacology of crude drugs and plant derived compounds; Pharmacognosy (microscopy) of crude drug material; Morphology and anatomy of plants. Member of the Committee of Experts "Pharmaceutical Biology (Pharmacognosy)" of the German Pharmacopoeia (since 1987); Member of the "Board of Directors" of the Gesellschaft für Arzneipflanzenforschung (Society of Medicinal Plant Research, 1981-2005) and the "Board of Directors" of the Gesellschaft für Phytotherapie (Society of Phytopharmacy, 1995-2004); deputy-member of the Commission E of the Federal Institute of Medicinal Products and Medical Advices (2002-2004). Coeditor of Planta Medica 1983 - 1992; Editor in Chief of Planta Medica - Natural Products and Medicinal Plant Research" (1993 - 2004), since then Senior Editor of Planta Medica.

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Associate Director for Chemical Development (1989-1992; Director of Chemistry (1992), Pharmatec, Inc., Alachua, FL. Director of chemistry (1992-95); Senior Director of Chemistry (1995-1998), Pharmos Corporation, Alachua, FL. Founder, President and CEO, Alchem Laboratories Corporation, Alachua, FL (1996-);

**Awards:** The "N. Teclu" award for chemistry granted by the Romanian Academy (1980), **Honors, Distinctions:** Fellow, American Association of Pharmaceutical Scientists, Fellow, American Institute of Chemists, Who’s Who in: Frontiers of Science and Technology; World; Science and Engineering; South and Southeast; America (Marquis). Men of Achievement, Dictionary of International Biography, The International Who’s Who of Intellectuals, American Men and Women of Science. Courtesy Professor, CDD, University of Florida; Inaugural Member of the Advisory Board, Florida Center for Heterocyclic Compounds, University of Florida. Professional Membership: ACS, AIC, AAAS, AAPS, IUPAC, New York Academy of Sciences, International Society of Quantum Biology and Pharmacology, Association de Pharmacie Galenique Industrielle.

Chairman at the First World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology; International Advisory Board, International Conferences on Drug Optimization via Retrometabolism; Inaugural Member of the Florida Center for Heterocyclic Compounds Industrial Advisory Board; Guest Editor of a "hot topic" issue of Current Pharmaceutical Design; Member Editorial Advisory Board Letters in Drug Design & Delivery. **Scientific Activity:** 126 publications, 23 patents, 127 presentations. **Expertise:** organic, pharmaceutical, medicinal and theoretical chemistry. Drug design, synthesis and evaluation of novel drugs, prodrugs, chemical drug delivery systems; chemistry of synthetic cannabinoids. Basic research scale-up product and process development.

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Dr. Shashank Rohatagi is a Senior Director in Translational Medicine and Clinical Pharmacology Department at Daiichi Sankyo Pharma Development (DSPD), Edison, NJ, since August, 2004. I am currently responsible for the pharmacokinetic and pharmacodynamic analysis (population and two-stage) of new drug candidates and line extension projects and oversee all 14C labeled pharmacokinetic studies. Previous to joining DSPD, Dr. Rohatagi was a Director, Drug Metabolism and Pharmacokinetics at Aventis.
Pharmaceuticals in Bridgewater, N.J, since 1996. He received a PhD degree in Pharmaceutics from the University of Florida, Gainesville, FL in 1995 and an MBA degree from St. Joseph's University in 2000. His main interest is in elucidating pharmaceutical principles especially pharmacokinetics and pharmacodynamics in the field of asthma, oncology, immunology, cardiovascular disease, diabetes and central nervous system (CNS). He has currently published more than 50 peer-reviewed articles, given more than 60 poster or oral presentations at various national and international meetings. He is currently a member of American Association of Pharmaceutical Scientists (AAPS), American College of Clinical Pharmacology (ACCP), American Society of Clinical Pharmacology and Therapeutics (ASCPT) and American Academy of Allergy, Asthma, and Immunology (AAAAI). He is a Fellow of American College of Clinical Pharmacology. He serves on the Editorial Board of the Journal of Clinical Pharmacology and peer review manuscripts for the International Journal of Clinical Pharmacology and Therapeutics.

Hans Schreier, PhD

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Dr. Hans Schreier is a founder and CEO of MCS Micro Carrier Systems GmbH, a formulation development company based in Neuss, Germany. He received his dipl. pharm. ETH degree in 1976 and his Dr. sc. nat. degree in 1981 from the Swiss Federal Institute of Technology (ETH) Zurich, Switzerland, followed by postdoctoral training from 1981-1983 at the University of California – San Francisco (UCSF) and a Senior Scientist position at Liposome Technology, Inc., in Menlo Park, California from 1983-1986. During his academic career, he held appointments as Assistant Professor and Associate Professor of Pharmaceutics at the University of Florida College of Pharmacy (1986-1993) and Associate Professor of Medicine at Vanderbilt University School of Medicine (1993-1995). He has been a founder, Director and the Principal Scientist of Advanced Therapies, Inc., a nonviral gene delivery company (1995-1998) and is a co-founder of ARyx Therapeutics, Los Altos Hills, CA, a virtual drug discovery and pharmaceutical development company. He is the Executive Director of Liposome Research Days, Inc., a non-profit organization (since 1994) and co-organizer of the biennial international "Liposome Research Days" conference. He has published over 70 articles, reviews and book chapters and holds several patents. He is the editor of a recent book on 'Drug Targeting Technology: Physical, Chemical and Biological Methods' (Marcel Dekker, 2001). He is an Editorial Board member of the Journal of Liposome Research, and a member and elected Governor (1996-1999) of the Controlled Release Society (CRS). He maintains extensive professional links with individuals, companies, agencies and scientific organizations in the US, Europe, Japan, and Australia.

Sean Sullivan, PhD

Vical Inc.
San Diego CA
email: ssullivan@vical.com
Dr. Sullivan has been in the field of drug delivery for the past 13 years with emphasis being placed on increasing the effectiveness of drugs and decreasing side effects. Areas of therapeutic applications have included infectious disease (HIV, HSV and Hepatitis), arthritis and cancer. The drug delivery vehicles have included both liposomes and polymers for small molecular weight, such as doxorubicin and large molecular weight drugs, such as oligonucleotides and plasmids. For the past 6 years, his research efforts have applied this technology toward the development of non-viral gene delivery systems. Non-viral gene delivery systems consist of plasmid DNA encoding a therapeutic gene isolated from bacteria and formulated with either cationic lipids or polymers yielding transfection complexes. The cationic lipid based transfection complexes were developed for transfection of tumor endothelial cells for the purpose of inhibiting tumor angiogenesis. A combination of peptide targeting to receptors on tumor endothelial cells and control of therapeutic gene expression by proliferating endothelial cell promoters are being developed to yield selective delivery and therapeutic gene expression to the tumor vasculature. In addition, polymer based formulations are being developed for intramuscular administration. The purpose is to convert the transfected muscle cells into bioreactors for expression and secretion of therapeutic proteins into the blood stream. His present research program is focused on applying these technologies to the treatment of cancer, with emphasis being placed upon brain cancer.

Melanie Pecins-Thompson, PhD
Email: mpecinsthompson@ufl.edu

Dr. Thompson received her B.S. from University of Florida in 1989, and her Ph.D. in Pharmaceutical Science from the University of Florida in 1993. She held a research position at the Oregon National Primate Research Center. While at the Oregon National Primate Research Center, Dr. Thompson received a National Research Service Award which funded her postdoctoral studies. She was also a recipient of A Women in Endocrinology travel award. Her primary research interests are the effects of steroid hormones on serotonin neural function. She has also taught Endocrinology at Portland State University. Dr. Thompson is married with three children ages 3, 5 and 10.

Markus Veit, PhD
Managing Director
International Drug Regulatory Services

http://www.cop.ufl.edu/safezone/pat/ec/adjunct_faculty.htm 2/19/2008
In addition to his duties as Managing Director, Dr. Veit teaches at the University of Frankfurt School of Pharmacy, at the Humboldt University, Berlin and at the College of Pharmacy, University of Florida, where he conducts a two week course on the quality and efficacy of herbal medicinal products. Dr. Veit received his PhD from Julius Maximilians University, Würzburg Germany in 1990. In 1998 he received the Egon-Stahl-Price award from the International Society of Medicinal Plant Research. His current research interests include Bioanalytical methods for active ingredients in herbal medicinal products, Quality of herbal medicinal products, Pharmacokinetics and bioavailability of plant phenolics, Pharmacodynamics of plant phenolics, and the efficacy of herbal medicinal products. Dr. Veit has more than 50 peer reviewed publications. He is a member of the Member, German Pharmacopeia: Expert committee Pharmaceutical Chemistry, Chair, Scientific Expert Committee, German Pharmaceutical Manufacturers Research Association, Member, German Pharmaceutical Manufacturers Association, Expert committee on analytics and hygiene, Member, German Pharmaceutical Manufacturers Association, Expert committee on validation, Member, German Pharmaceutical Manufacturers Association, Expert committee on herbal medicinal products, a Member of the Society of medicinal plant research, in addition to being on the Expert committee on clinical studies.

Susan Way, PhD

Email: sway@rdg.boehringer-ingelheim.com

Dr. Way received her BS in Chemistry and Biology from Georgetown College, Georgetown, KY in 1983. She later received her Ph.D. in Pharmaceutical Sciences from the University of Kentucky in 1992. She has worked in the pharmaceutical industry since 1992 and is experienced in both solid and non-solid dosage form development. She is currently a Senior Principal Scientist in the Pharmaceutics Department at Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT. where her responsibilities include preclinical and clincial dosage form development and preformulation. This includes discovery interfacing to assist in the selection of compounds entering development. Her research interests include solubilization of poorly water soluble compounds, promotion of oral absorption, as well as in vitro/in situ models for assessing drug transport.

Return to Pharmaceutics Home Page
The Department of Pharmaceutics offers the Doctor of Philosophy in pharmaceutical sciences. Pharmaceutics is the scientific endeavor concerned with the design, formulation, evaluation, and use of drug delivery systems. A foundation in physical chemistry, chemistry, mathematics, and in the life sciences, is necessary. Its domain extends from studies of the physiochemical properties of drugs and related molecules to investigations of the mechanisms of physiological processes affecting drug delivery and therapeutic effectiveness. The Department's general focus involves studying the design and evaluation of traditional and novel dosage forms for delivering drug molecules and macromolecules. The design involves physical chemical studies and development of analytical techniques involving spectroscopy and chromatography. Evaluation includes development of sensitive analytical techniques for the drug in biological fluids and subsequent biopharmaceutical and clinical pharmacokinetic studies.

**PHA 5121: Advanced Clinical Pharmacokinetics (2)** An advanced course on pharmacokinetics and pharmacodynamics of the time course of drugs in the body. Pharmacokinetic aspects include absorption, distribution, metabolism, and elimination. Pharmacodynamic aspects include quantitative relationships between drug concentration and wanted or undesired effects. Spring term.

**PHA 5172: Biotechnology and Pharmacy Practice (3)** Principles of recombinant DNA technology needed to interact and communicate as a pharmaceutical scientist in biotechnology. Recombinant peptide and protein drugs, including protein purification, stability, quality control, and dosage form design. Fall term.
**PHA 6115: Equilibria, Complexations, and Interactions of Drugs (3)**
Models for drug interactions in solution. Physical chemistry characteristics of drugs and their complexes in pharmaceutical systems.

**PHA 6116: Drug Stability (3)** Drug degradation mechanisms, shelf-life determination, and drug product stabilization from industrial and pharmacy practice perspectives. Fall term even years.

**PHA 6118: Molecular Diversity (2)** Combinatorial and high throughput methods to generate leads for drug discovery and accelerated drug development.

**PHA 6125: Pharmacokinetics and Biopharmaceutics (3)**
Compartmental analysis with computers. Spring term, even years.

**PHA 6170C: Pharmaceutical Product Formulation (3)** Rationale and design of pharmaceutical dosage forms. Fall term, odd years.

**PHA 6183: Pharmaceutical Gene Delivery (3)** This course is designed for graduate students, whose research is related to gene delivery. The course include three sections: 1) lectures of vector design and construction including review of related molecular biology and cell biology; 2) lectures of gene delivery systems (both viral and nonviral vectors) and their applications; 3) recent progress of gene therapy for human diseases. In this section, each student selects one topic and gives a presentation. Odd years.

**PHA 6185: Pharmaceutical Drug Development (3)** Drug development from discovery to post-market surveillance. Good manufacturing process (GMP), good clinical practice (GCP), and good laboratory practice (GLP); intellectual property, regulatory agencies, generic approvals and case studies.

**PHA 6416: Pharmaceutical Analysis I (3)** Theory and applications of relevant analytical techniques for analysis of drugs in biological samples. Spring term, odd years.
**PHA 6427: Pharmacogenetics of Drug Metabolism and Transport (2):** Examination of factors that affect drug disposition and response including genetics, as well as, additional factors such as environment, diet, age, and concurrent drug therapy and health status. Students will acquire an understanding of pharmacogenetics/pharmacogenomics in the context of variability in drug disposition and the application of pharmacogenetics to drug development and drug treatment. Offered fall semester in even-numbered years.

**PHA 6440: Seminar in Drug Discovery (1; max: 8)** Weekly presentations of research topics related to drug design and discovery. S/U option.

**PHA 6449: Pharmacogenomics (2):** Pharmacogenetics and pharmacogenomics research design, including utilization of key knowledge from the human genome and HapMap projects, candidate gene, versus genome-wide approaches, other considerations in design of human pharmacogenomics investigations, and approaches to defining functional effects of pharmacogenetic candidates. Students will acquire knowledge and skills to undertake pharmacogenomics research. Offered fall semester in odd-numbered years

**PHA 6938: Seminar Series**
The current Ph.D. in Pharmaceutical Sciences with specialization in Pharmacy graduate program is offered by the Department of Pharmaceutics. The departmental faculty has decided to use 'track' method for accommodating the diversity of the Department's graduate population, its multi- and interdisciplinarity.

The focus of the Department of Pharmaceutics, which houses the Center for Drug Discovery, differs sufficiently from that of other departments as to justify a specialization. The uniqueness of the department is evident in present research activities which encompass basic, applied and clinical investigations in the areas of Biopharmaceutics and Pharmacokinetics, Pharmaceutical Biotechnology, Pharmaceutical Analysis, Drug Delivery, and Drug Discovery. Specifically, Biopharmaceutics and Pharmacokinetics, encompasses the absorption, distribution, metabolism and excretion of drugs in animals and humans, and the relationship between drug concentration and effect; Pharmaceutical Biotechnology includes molecular biology, immunology, and aspects of the delivery of peptide and protein drugs; Pharmaceutical Analysis involves the application of spectroscopy, chromatography, extraction, electrophoresis, immunoassays, and radioisotope assays to drug determination; Drug Delivery includes physical, biological and chemical approaches to drug delivery, formulation and evaluation of dosage forms; and Drug Discovery is associated with receptor-oriented/retrometabolic drug design, computer assisted drug design, chemical/physical approaches to controlled drug delivery, pharmacokinetic-pharmacodynamic correlation approach to improved therapeutic index.

- Objectives of the Ph.D. Program
- Faculty
- Adjunct Faculty
- Governance
- Recruitment of Students
- Admission Procedures
- Financial Assistance
- Selection of Discipline for Degree and Major Professor
- Supervisory Committee
- Curriculum
- Qualifying Examination
- Final Examination
- Specific Requirements for the Master of Science in Pharmacy Degree

The objectives of the Ph.D. program in the Department of Pharmaceutics are:

- To provide a foundation in the pharmaceutical sciences in general, as well as in the specific tracks identified, with emphasis on pharmacokinetics, biopharmaceutics, pharmaceutical analysis, pharmaceutical technology/drug delivery, pharmacodynamics, pharmaceutical biotechnology, and drug design and discovery.
- To educate individuals capable of conducting independent research and with in-depth specialized knowledge in one of the above areas and to provide a solid educational, technical and experiential foundation for students in the industrial, academic, governmental or other arenas.
- To provide an environment that nurtures and stimulates the research interests and the intellectual
Faculty

Nicholas Bodor, PhD, Graduate Research Professor, Director, Center for Drug Discovery

Research Interests:
Design of drugs with improved therapeutic index, based on retrometabolic concepts, design of new chemical and physical delivery systems, computer assisted drug design, drug transport and metabolism, and theoretical mechanistic organic chemistry. Ongoing research is performed in all of the areas mentioned.

Veronika Butterweck, PhD, Assistant Professor,

Research Interests:
Research program focuses on the study of herbal medicines with CNS activity. Specific areas of focus include the investigation of plants with antidepressant or anxiolytic activity, phytomedicines for the treatment of restlessness and sleep disturbances and herbal remedies for the prevention of alcohol dependency.

Hartmut Derendorf, PhD, Professor of Pharmaceutics

Research Interests:
Correlation of pharmacokinetic and pharmacodynamic behavior of drugs (corticosteroids, analgesics, antibiotics); analysis of drugs and metabolites in biological fluids by HPLC- pharmacodynamic evaluations by pharmaco-electroencephalography (EEG); pharmacokinetics in sickle cell patients.

Reginald Frye, PharmD, PhD, Associate Professor

Research Interests
Dr. Frye's clinical research program has focused on the identification and characterization of factors that contribute to interindividual variability in drug response. Current focus is on genetic and non genetic (e.g., age, disease) factors that cause variability in drug metabolism, which can be assessed with in vivo probes that can measure the activity of specific drug- metabolizing enzymes in individual subjects. Dr. Frye has received funding for his research from the Pharmaceutical Industry and the National Institutes of Health.

Leslie Hendeles, PharmD, Professor

Research Interests:
Leslie Hendeles, PharmD, is Professor of Pharmacy and Pediatrics in the Colleges of Pharmacy and Medicine, at the University of Florida. He received his PharmD degree from the University of Southern California in 1969. His current interests are improving adherence to asthma medications and delivery of inhaled drugs to young children. Dr. Hendeles has authored numerous articles and book chapters on the clinical pharmacology of drugs for asthma and allergic rhinitis. He has received national recognition-for outstanding contribution to the literature from both the American Society of Hospital Pharmacists and the American College of Clinical Pharmacists as well as the American Pharmaceutical Association's award for Lifetime Research Achievement. He is a consultant to the FDA's Pulmonary Division and serves on the Coordinating Committee of NIH's National Asthma Program. The University of Southern California

http://www.cop.ufl.edu/safezone/pat/pc/phd_prg.htm
selected him as their 1993 Outstanding Alumnus, and students in the Working Professional Pharm.D. program at UF selected him as their Outstanding Faculty of the Year for 2002. Dr. Hendeles provides advice on drug therapy to physicians and teaches in the Pediatric Pulmonary Clinic at UF.

**Guenther Hochhaus, PhD, Professor of Pharmaceutics,**

Research Interests:
Dr. Hochhaus' research includes the development of novel analytical techniques for the measurement of drugs in biological fluids by chromatographic and immunological techniques- the metabolism, pharmacokinetic and pharmacodynamic properties of opioid peptides, pharmacokinetic/dynamic (PK/PD) behavior of anti-asthmatic drugs and their relevance for the formulation of targeted pulmonary delivery systems.

**Jeffrey Hughes, PhD, Professor of Pharmaceutics,**

Research Interests:
Dr. Hughes' long term goals are to elucidate the physicochemical parameters of antisense oligonucleotides and other macromolecules which influence their cellular permeability and disposition. After a basic understanding is achieved he intends to use these principles to develop better delivery systems for oligonucleotides and other biotechnology derived products.

**Julie Johnson, PharmD, FCCP, BCPS, Professor and Chair, Dept. Pharmacy Practice**

Research Interests:
Dr. Johnson's research focus is cardiovascular drug pharmacogenomics, disease-gene associations that may be relevant to pharmacogenomics, and the influence of race/ethnicity on drug response and pharmacogenomics. She currently has studies ongoing in the areas of hypertension, heart failure, ischemic heart disease and obesity, with a primary focus on proteins that are drug targets and the impact of their genetic polymorphisms on drug response and disease. Her research has been continuously funded by the National Institutes of Health and/or the American Heart Association since 1990.

**Taimour Y. Langae, MSPH, PhD, Research Assistant Professor, Dept. Pharmacy Practice**

Taimour Y. Langae, MSPH, Ph.D., is Research Assistant Professor in the Department of Pharmacy Practice at the University of Florida (UF) College of Pharmacy and Director of the UF Center for Pharmacogenomics Genotyping Core Laboratory. Before joining the UF faculty in 2002, he completed three years of post-doctoral fellowship in Immunology and Molecular Biology, and Microbiology and Molecular Genetics working on developing HIV vaccine at the College of Medicine University of Montreal and High Density DNA chips for Pseudomonas aeruginosa at the College of Medicine University of Florida.

Dr. Langae's research interests are focused on pharmacogenetics (genetic-based variability in drug response) in cardiovascular and auto-immune diseases and developing microarray-based technology methods to facilitate disease diagnosis, genotyping of patients and discovering disease-gene associations.

**Cary Mobley, PhD, Clinical Associate Professor**

Research Interests:
Use of liposomes for pulmonary delivery and as oral vaccine adjuvants. Conceptual integration of the pharmacy curriculum.
Anthony Palmieri III, PhD, RPh, Clinical Associate Professor
Dr. Palmieri's major responsibilities include licensing of pharmaceutical and life sciences intellectual property. Palmieri holds a BS and MS in pharmacy from the University of Rhode Island and the Ph.D. from the University of Georgia. Prior to his present position he was at The Upjohn Company for sixteen years. Palmieri was Professor of Pharmacy at the University of Wyoming. He is the author of numerous scientific, academic, and historical papers. He served as the Laboratory Editor for the third edition of the Handbook of Pharmaceutical Excipients. Palmieri is very active on the national level of Kappa Psi Pharmaceutical Fraternity and is currently the national vice-president. Palmieri is past chairman of APRS. Currently he is Chair-elect of the Basic Sciences section. He is a fellow of APhA-APRS and has authored chapters on dissolution, microencapsulation, pharmaceutical excipients and history of pharmacy.

Michael A. Schwartz, PhD, Professor of Pharmaceutics, Dean Emeritus
Dr. Schwartz will lecture in graduate courses related to dosage forms and drug stability in the program.

Sihong Song, PhD, Associate Professor
Research Interests:
Dr. Song's interests are in 1) improvement of safety and efficiency of rAAV vector by understanding molecular mechanisms of persistence and integration of the AAV genome in mammalian cells and 2) the use of recombinant Adeno-Associated Virus (rAAV) vectors mediated gene transfer to develop gene therapy approaches for common diseases such as diabetes and arthritis.

Amber Beitelshees, PharmD, Assistant Professor
Amber Beitelshees, PharmD, MPH, is Assistant Professor in the Department of Pharmacy Practice at the University of Florida College of Pharmacy. She received her Pharm.D. degree from the University of Florida in 2001. She then completed a residency in Pharmacy Practice at the University of Illinois Medical Center at Chicago. In 2005, Dr. Beitelshees completed her postdoctoral fellowship in Cardiovascular Pharmacogenomics and Master of Public Health degree in epidemiology. After serving on faculty at Washington University in St. Louis School of Medicine she returned to the University of Florida in 2007. Her research is aimed at investigating the metabolic effects of cardiovascular medications and the pharmacogenomics of diabetic cardiovascular disease.

Rhonda Cooper-DeHoff, PharmD, Research Assistant Professor
Dr. Cooper-DeHoff joined the Division of Cardiovascular Medicine Faculty in September 1999, having previously held a research pharmacist position at Shands UF. My primary responsibilities have been focused in research, both clinically and administratively. In clinical research, she is currently PI on an NIH (NHLBI) funded K23 5 year grant entitled Metabolic Effects of Antihypertensive Drugs. Additionally, Dr. Cooper-DeHoff is a co-investigator on 2 NIH grants focused in the area of pharmacogenetics and hypertension. In 2001 she received a New Investigator Award from the American Heart Association. In research administration, she serves as the Associate Director for the Clinical Trials Section of the Division of Cardiovascular Medicine. In this capacity she oversees the development, facilitation, and management of investigator initiated and extramurally funded clinical research.

Leslie Hendeles, PharmD, Professor
Leslie Hendeles, PharmD, is Professor of Pharmacy and Pediatrics in the Colleges of Pharmacy and Medicine, at the University of Florida. He received his PharmD degree from the University of Southern California in 1969. His current interests are improving adherence to asthma medications and delivery of

http://www.cop.ufl.edu/safezone/pat/pc/phd_prp.htm 2/25/2008
inhaled drugs to young children. Dr. Hendeles has authored numerous articles and book chapters on the clinical pharmacology of drugs for asthma and allergic rhinitis. He has received national recognition for outstanding contribution to the literature from both the American Society of Hospital Pharmacists and the American College of Clinical Pharmacists as well as the American Pharmaceutical Association’s award for Lifetime Research Achievement. He is a consultant to the FDA’s Pulmonary Division and serves on the Coordinating Committee of NIH’s National Asthma Program. The University of Southern California selected him as their 1993 Outstanding Alumnus, and students in the Working Professional Pharm.D. program at UF selected him as their Outstanding Faculty of the Year for 2002. Dr. Hendeles provides advice on drug therapy to physicians and teaches in the Pediatric Pulmonary Clinic at UF.

**Julie Johnson, PharmD, FCCP, BCPS, Professor and Chair, Dept. Pharmacy Practice**

Julie A. Johnson, Pharm.D., FCCP, BCPS is Professor and Chair of the Departments of Pharmacy Practice, Professor of Pharmaceutics and Professor of Medicine (Cardiovascular Medicine) at the University of Florida Colleges of Pharmacy and Medicine, and Director, University of Florida Center for Pharmacogenomics. She joined the faculty at the University of Florida in May 1998. Prior to her appointment on the UF faculty, she spent 9 years on the University of Tennessee College of Pharmacy faculty. She received her B.S. in Pharmacy from the Ohio State University and her Pharm.D. from the University of Texas at Austin and the University of Texas Health Science Center at San Antonio. Following her Pharm.D., she completed a post-doctoral fellowship in cardiovascular pharmacology/pharmacokinetics at the Ohio State University.

Dr. Johnson's research focus is cardiovascular drug pharmacogenomics, disease-gene associations that may be relevant to pharmacogenomics, and the influence of race/ethnicity on drug response and pharmacogenomics. She currently has studies ongoing in the areas of hypertension, heart failure, ischemic heart disease and obesity, with a primary focus on proteins that are drug targets and the impact of their genetic polymorphisms on drug response and disease. Her research has been continuously funded by the National Institutes of Health and/or the American Heart Association since 1990.

Dr. Johnson is presently serving a four year term on the Nonprescription Drugs Advisory Committee of the Food and Drug Administration. She is also serving a five year term on the Pediatric Heart Disease Clinical Research Network Protocol Review Committee for the National Heart Lung and Blood Institute at NIH. She is on the editorial boards of the journals Pharmacogenetics and Pharmacotherapy and serves as manuscript reviewer for numerous other scientific journals.

Dr. Johnson's awards include the University of Tennessee Excellence in Teaching Award from the Student Government Association (1996), induction as Fellow of the American College of Clinical Pharmacy (1996), the Ohio State University Alumni Association William Oxley Thompson Award for early career achievement (1997), the Outstanding Faculty Award from the University of Florida Working Professional Pharm.D. Program (2001), the Philip C. and Ethel E. Ashby Lecturer at the University of Oklahoma (2003), the Albert Ebert 31st Annual Lecturer at University of Illinois (2003) and the Leon I Goldberg Young Investigator Award from the American Society for Clinical Pharmacology and Therapeutics (2004).

**Issam Zineh, PharmD, Assistant Professor**

**Research Interests:**

Issam Zineh, Pharm.D., is Assistant Professor in the Department of Pharmacy Practice at the University of Florida College of Pharmacy. Dr. Zineh received his Pharm.D. from Northeastern University (Boston) in 2000. He then went on to Duke University Medical Center where he completed his residency in Pharmacy Practice. Dr. Zineh came to the University of Florida as a post-doctoral fellow in cardiovascular pharmacogenomics in August 2001 and completed his training in December 2003. His research has focused on how polymorphisms in the 1-adrenergic receptor and type-A natriuretic peptide receptor genes contribute to variability in response to various pharmacological agents. Currently, his research focuses on the immunomodulatory effects of cardiovascular and endocrine drugs commonly used in clinical practice. Dr. Zineh has received numerous awards for both his research and clinical...
service including the American Society for Clinical Pharmacology and Therapeutics Presidential Trainee Award (2003), the American He

Adjunct Faculty

Adjunct faculty will be selected by the faculty of the department and the center based on the suggestion of individual faculty member(s) and a departmental ballot. The role of adjunct faculty is to give guest lectures in graduate courses offered by the department and the center upon mutual agreement between the course coordinator and the adjunct faculty, and to advise students in graduate research (The adjunct faculty, the student, and the chair of the supervisory committee should decide about the level of involvement by the adjunct faculty). Participation in supervisory committees by an adjunct faculty will be governed by the guidelines given in the current Graduate Catalog of the University of Florida.

Richard H. Hammer, PhD, Professor Emeritus

Research Interests:
Design, synthesis, and pharmacological testing of novel soft anticholinergic analogs of atropine and scopolamine as non-toxic short-acting mydriatics, antiperspirants, and cardiovascular agents.

Vikram Arya, PhD, FCP

Dr. Vikram Arya is a Senior Clinical Pharmacology Reviewer in the Office of Clinical Pharmacology (OCP), Center for Drug Evaluation and Research (CDER), FDA. He earned his Ph.D. in Pharmaceutics from the University of Florida, Gainesville, FL, in 2003. He has several publications in peer reviewed journals and has presented at various national and international conferences. He is a Fellow of the American College of Clinical Pharmacology (ACCP). He holds an Adjunct Clinical Professor (Special Title) appointment in the Department of Pharmacy Practice at Mercer University, Atlanta, GA. He serves as the Section Editor in the Journal of Clinical Pharmacology (JCP) and is a member of the Editorial Board of JCP and International Journal of Clinical Pharmacology and Therapeutics (IJCPT).

Jeffrey Barrett, PhD, FCP

Dr. Barrett is Global Head of Biopharmaceutics at Aventis Pharmaceuticals. He received his B.S. in Chemical Engineering from Drexel University in 1986 and his Ph.D. in Pharmaceutics from the University of Michigan in 1990 under Dr. John G. Wagner. From 1990 to 1994 he was a Senior Research Pharmacokineticist at Merck Research Laboratories and from 1994 to 1997 he was the Director of Pharmacokinetics and Computer Resources at Somerset Pharmaceuticals. He was most recently at DuPont Pharmaceuticals where he was Director of Clinical Pharmacokinetics. Dr. Barrett has an adjunct appointment at the University of Florida (Pharmaceutics Department, College of Pharmacy). He has been a faculty member of the Pharmaceutical Education and Research Institute (PERI) as a lecturer for the Pharmacokinetics and Nonclinical Statistics training courses since 1992. Dr. Barrett has co-authored over 40 manuscripts. He founded the Mid-Atlantic Population Approach Users Group in 1992 and is a member of the Advisory Boards of the East Coast Population Approach Group, the AAPS Bioequivalence Focus Group, and the Innaphase Corporation. He was the co-developer of the NM-Win program (a windows-based front-end for NONMEM). Dr. Barrett is a member of AAPS, ASCPT, ACCP and ASPET and was former Chair of the Delaware Valley Drug Metabolism Discussion Group. He is a Fellow of the American College of Clinical Pharmacology. His research interests include: pharmacokinetics and pharmacodynamics, surrogate marker validation, computer applications for nonlinear mixed effect modeling, and bioequivalence. He is a current member of both the PhRMA and FDA Expert Panels on Individual and Population Bioequivalence.

Robert A. Baughman, PhD, Vice President and Director of Research & Development
Emisphere Technologies, Inc.

Research Interests:
Characterizing absorption mechanism for macromolecules, optimizing oral drug delivery, the disposition

http://www.cop.ufl.edu/safezone/pat/pc/phd_prg.htm 2/25/2008
of therapeutic peptides and proteins, and the effect of disease states on drug pharmacokinetics. Dr. Baughman has conducted pharmacokinetic studies on over 15 recombinant products, including clinical pharmacokinetic trials with tPA, rhGH, TNF and rIFN-b.

**Robert Bell, PhD**, Vice President of New and Proprietary Drug Development Barr Laboratories

Drug & Biotechnology Development, LLC (D&BD) is a comprehensive consortium of experienced clinicians, pharmaceutical scientists, regulatory strategists and business development experts that provide product and business development assistance and solutions for the pharmaceutical, biotech, medical product and related industries. From project conception to product launch, D&BD provides a focused approach to the pharmaceutical and clinical development of drugs, devices and biologics for regulatory submissions. D&BD has extensive experience with all phases of product development, including pre-clinical, clinical (Phase I-IV), CMC (analysis, formulations, process, production), outsourcing, CRO oversight and regulatory interactions, document preparation, review and filings.

**Marcus E. Brewster, PhD**, Director of Drug Delivery
Janssen Pharmaceutica, Belgium

Research Interests:
Dr. Brewster has three main research interests including (1) The use of cyclodextrins and chemically modified cyclodextrins as solubilizing and stabilizing pharmaceutical excipients. These approaches have been applied to improving parenteral dosing forms. (2) The use of quantum mechanical (molecular orbital) approaches to examine problems of biological and chemical importance. Applications include evaluating enzymatic pathways and drug stabilities. (3) Organ targeting and especially brain targeting of drugs using redox and other technologies.

**Staffan Edsbäcker, PhD**, Astra Zeneca

Research Interests:
Age 48, married, 2 children 15 and 18 yrs; Chemical engineer, M.Sci 1979; Joined Astra 1980 (Dept of Metabolism and Pharmacokinetics); Ph D 1986 ("Studies on the metabolic fate and pharmacokinetics of budesonide"); Assoc Prof., Experimental Clinical Pharmacology, Faculty of Medicine, Univ of Lund 1997-current; Section Head from 1990 - March 1999; Scientific Adviser at Experimental Medicine, AstraZeneca R&D Lund for 6 global AstraZeneca projects March 1999-June 2001; Secondment as Sr Director, Experimental Medicine, AstraZeneca Pharmaceuticals LP, Wilmington USA 2001-2003; Currently Sr Scientific Advisor for GI and respiratory projects. Preclinical experience in metabolism (tissue homogenates, isolated perfused tissues); Human pharmacology experience in traditional pharmacokinetics (exploratory and documentative); Lung, nasal and gut deposition studies using various techniques (modelling, scintigraphy, charcoal block etc); Interaction and tolerability studies; Scientific marketing activities; Regulatory issues (Experimental Medicine responsibility for 6 NDAs). Staffan has published about 30 full length original papers, 12 book chapters and reviews, and about 50 abstracts dealing with the deposition, pharmacokinetics and systemic pharmacodynamics of topical corticosteroids in healthy subjects and patients with asthma, rhinitis and inflammatory bowel diseases. Invited lecturer at several conferences. Tutor for 2 PhD students, one of whom defended his thesis in October 1998.

**Ronald Evens, PharmD**, MAPS 4 Biotec Inc.

Research Interests:
Ron Evens is President of MAPS 4 Biotec, Inc, consulting to biotechnology segment of pharmaceutical industry concerning medical affairs roles of communications, information, and clinical trials (peri-approval and post launch). Dr. Evens is clinical professor at University of Florida, College of Pharmacy. Ron serves on the Board of Directors of Cheladerm, Inc (drug company), Healthcare Distribution Management Association Healthcare Foundation and American Society of Health-Systems Pharmacists Research and Education Foundation (Vice-Chairman); and three Dean's Advisory Boards for Colleges of Pharmacy at Universities of Florida, Kentucky and Midwestern. Invited presentations exceed 150 at
national and state associations or universities. Publications are over 100, including 10 book chapters and 40 journal articles. Previously (12 years, 1989-2000) at Amgen, he created and was Senior Director and Head of Professional Services Department. Professional Services was responsible for medical communications/education, marketing support, phase 2 & 4 studies, field based clinical liaisons, and product information for marketed and pipeline products. Also, he created and was Senior Director and Head of PeriApproval Research at Amgen (2000-2001). Prior to Amgen, Dr. Evens was Associate Director, Clinical Research and Medical Services at Bristol-Myers Co. (1984-89); Associate Professor and Acting Chairman of Department of Pharmacy Practice at University of Tennessee Health Sciences Center, Memphis, TN (1981-84); Associate Professor & Director of Drug Information Center at University of Texas at Austin, College of Pharmacy, and University of Texas Center for Health Sciences, College of Medicine, San Antonio (1974-81).

Mario Gonzalez, PhD, President P'Kinetics International

Research Interests:
Dr. González is President of P'Kinetics International, Inc. specializing in biopharmaceutics and pharmacokinetics research. Dr. González was previously President of GloboMax Américas and prior to that was Director of Biopharmaceutics and Pharmacokinetics at Schering Research, Miami (formerly Key Pharmaceuticals, Inc). His research has concentrated on the pharmacokinetic and pharmacodynamic evaluation of extended-release oral and transdermal drug delivery systems as well as in vitro/in vivo correlations. Prior to joining the pharmaceutical industry, Dr. González was on the Pharmacy faculty at Purdue University with teaching and graduate research responsibilities in clinical pharmacokinetics. Dr. González has been active in AAPS since its inception and was Chair of the Pharmacokinetics Section in 1995. He also served on the organizing committees of the first four AAPS/FDA SUPAC Workshops and was Co-Chair of the Organizing Committee for the first Pharmaceutical Congress of the Americas held in March, 2001. Dr. Gonzalez is also a member of the Controlled-Release Society, the American College of Clinical Pharmacology, and the American Society of Health-System Pharmacists. He serves on the editorial advisory boards of the European Journal of Pharmaceutics and Biopharmaceutics and the International Journal of Clinical Pharmacology and Therapeutics.

Ricardo Gonzalez-Rothi, MD, Associate Professor of Medicine, Pulmonary Division

Research Interests:
Dr. Gonzalez-Rothi is board certified in Internal Medicine with a Pulmonary Medicine subspecialty. His research interests center around targeted drug delivery to the lung via the aerosol route, specifically delivery of anti-mycobacterials and corticosteroids to pulmonary alveolar macrophages. He is presently involved in a multidisciplinary project to design liposome formulations of various corticosteroids in order to modulate lung macrophage functions. Besides in vitro studies on macrophage cell lines, which include receptor binding assays and a variety of immune macrophage functions, various pharmacokinetic aspects of intrapulmonary delivery of liposomal corticosteroid formulations will be studied in vivo. Dr. Gonzalez-Rothi is on the NASA Space Shuttle Medical Support Team.

Ulrike Grafe-Mody, PhD, Boehringer Ingelheim Pharma GmbH & Co.

Research Interests:
Dr. Grafe-Mody is working in Clinical Pharmacokinetics/Pharmacodynamics at Boehringer Ingelheim Pharma GmbH & Co. KG, Germany. Her responsibilities include the conduct of clinical pharmacokinetic/pharmacodynamic studies in the course of drug development and approval of new drug candidates in various therapeutic areas. This also includes POP PK/PD modeling and trial simulation to support drug development. Prior to joining Boehringer Ingelheim, Dr. Graefe received her Diploma in Biology in 1997 and PhD degree in Pharmaceutical Biology in 2001 from the University of Wuerzburg, Germany. Her thesis focused on the clinical pharmacokinetics and bioavailability of phenolic compounds.

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in phytomedicines, which was carried out in cooperation with Prof. Hartmut Derendorf at the University of Florida, Gainesville, FL. In 2001, Dr. Graefe-Mody received the Carl-Wilhem-Scheele Award of the German Pharmaceutical Society for outstanding dissertations in Pharmaceutical Sciences.

Ray Jurgens, PhD

Dr. Jurgens received his Bachelor of Science in Pharmacy from Drake University. After working in retail pharmacy for a year and a half, he enrolled at the University of Florida and completed his PhD in the Pharmaceutical Sciences in 1973. He initially started out in academia, but after 3 years moved into the pharmaceutical industry. Over the last 25 years, he has moved through various departments, worked in several pharmaceutical companies and has had increasing areas of responsibilities. The first half of his career he developed expertise in formulations, parenterals and project management. The last 14 years, Dr. Jurgens has done clinical research in GI, CNS, female health care and most recently oncology. He has lectured in drug development and clinical in major academic institutions throughout the country. Currently, he owns several patents and has over 40 publications. He is on several scientific advisory boards for academic institutions and companies. He is professionally affiliated with Rho Chi, Kappa Psi, ACRP, ASHP, ACCP, and DIA. He is also a registered pharmacist. Dr. Jurgens currently resides near Clearwater, Florida and is Manager, Scientific Affairs for Berlex Laboratories, a USA Division of Schering AG.

Kiman Kim, MS

Research Interests:

Mr. Kiman Kim is a deputy director of herbal medicine management team at Korea Food and Drug Administration (KFDA). He is responsible for herbal medicine approval, pharmaceutical company inspection, and international collaboration at KFDA. He received his bachelor of pharmacy degree from Seoul National University, Republic of Korea in 1983, and got a master of pharmaceutics degree from the same university in 1985. He was a senior researcher developing drug dosage forms and drug delivery systems at the research center of Yuhan Pharmaceutical Co. in Korea (1985—1990). He was with the Seoul Metropolitan Government as a pharmaceutical inspector (1993—1996), and has been working for KFDA since 1996. Since 1993 he has inspected hundreds of pharmaceutical companies in Korea and in the world as a pharmaceutical inspector. He researched the harmonization activities in the drug approval process between the USA, Europe and Asia with particular emphasis on biopharmaceutics and pharmacokinetics under the supervision of Dr. Hartmut Derendorf at University of Florida (2002—2004). He published a paper with Dr. Derendorf concerning the differences in the drug pharmacokinetics between East Asians and Caucasians and the role of genetic polymorphisms in 2004. He is interested in building the international harmonization of herbal medicine approval and study.

Sriram Krishnaswami, PhD

Dr. Sriram Krishnaswami is an Associate Director in Clinical Pharmacology at Pfizer Global R&D based in Ann Arbor, MI. He received his B.S. in Pharmacy in 1996 from the Birla Institute of Technology and Science, Pilani, India and Ph.D. in Pharmacokinetics/Pharmacodynamics in 2000 from the University of Florida, Gainesville. Dr. Krishnaswami is responsible for representing the clinical pharmacology function in development teams and during interactions with regulatory authorities. His current research activities include designing dose-finding strategies using modeling and simulation for new chemical entities in the inflammation/dermatology therapeutic area where treatments for diseases such as rheumatoid arthritis, psoriasis and osteoarthritis and prevention of allograft rejection are pursued. Dr. Krishnaswami has published over 30 articles, abstracts, a book chapter and presentations with focus on PK/PD modeling and pediatric pharmacology. He is chair-elect of the AAPS modeling and simulation focus group and peer reviews manuscripts for the Journal of Clinical Pharmacology.

Michael Kurowski, PhD,MD
Dr. Michael Kurowski, became a Licensed Pharmacist in 1977 and then went on to study Pharmaceutical Chemistry and received his PhD from the Freie Universität Berlin in 1980. He continued his education, receiving his MD from Friedrich Alexander Universität, Erlangen-Nuremberg, Germany in 1986. In 1989 he was Privatdozent, Senior Lecturer for Pharmacology and Toxicology at the Friedrich Alexander Universität, Erlangen-Nuremberg, and then in 1992 became a Specialist for Clinical Pharmacology, Charite, Humboldt Universität, Berlin. In addition to being Co-editor of the Journal Pharmacotherapy, Dr. Kurowski has been a consultant to the community of practicing physicians and Ciba-Geigy, a member of the "Drugs Commision", Charite, University Hospital, and is an Associate Professor of Pharmacology and Toxicology, Martin Luther Universität Halle Wittenberg. Dr. Kurowski has received numerous awards and fellowships for his work. Dr. Kurowski has been involved in clinical studies and analytics of analgesic and novel antiretroviral compounds since 1997 at the Private Practice Laboratory Medicine and was a Founder Therapia GmbH. He supervises not only PhD candidates but also medical students who are required to write a thesis in Germany. In addition to more than 50 publications in prestigious scientific journals he published 3 books.

Richard Lalang, PhD

Research Interests:

Richard is currently the Executive Director and Head of Clinical Pharmacokinetics and Pharmacodynamics at Pfizer Global Research and Development in Ann Arbor, Michigan. Prior to joining Pfizer (formerly Parke-Davis/Warner Lambert) in 1998, he was Senior Scientific Director at Phoenix International Life Sciences (now MDS) in Montreal, Canada. From 1984 to 1991, Richard was Assistant Professor then Associate Professor and Vice Chairman for Research at the University of Tennessee, Memphis. From 1980 – 1984 he worked at the University of Ottawa Health Sciences Centre in Ottawa, Canada. His research over the past 25 years has been focused on how to integrate pharmacokinetic and pharmacodynamic information to provide improved drug therapy in patients. He is a fellow of the American College of Clinical Pharmacology and the American College of Clinical Pharmacy and a member of the Editorial Board for Clinical Pharmacology and Therapeutics. Richard is a graduate of the University of Minnesota (Pharm.D.) and the University of Toronto (B.Sc. Pharmacy).

Lawrence J. Lesko, PhD

Lawrence J. Lesko, Ph.D. is Director of the Office of Clinical Pharmacology and Biopharmaceutics (OCPB) in the Center for Drug Evaluation and Research (CDER) at the Food and Drug Administration (1995-present). This Office is responsible for the review and evaluation of the biopharmaceutic, pharmacokinetic and pharmacodynamic data contained in IND's and New Drug Applications (NDA's). Dr. Lesko is also Chair of the Clinical Pharmacology Section of the Medical Policy Coordinating Committee, and Co-Chair of the Biopharmaceutics Coordinating Committee, in CDER that is responsible for developing guidances for industry. Dr. Lesko currently represents FDA on the Common Technical Document (Efficacy) Working Group in the International Conference on Harmonization. Dr. Lesko was previously Associate Director of Research at the FDA where he was responsible for developing and managing the Product Quality Research Program in the Office of Generic Drugs (1992-95). Prior to joining FDA, Dr. Lesko was Vice President of PharmaKinetics Laboratories (1988-92) and Associate Professor of Pharmaceutics at the University of Maryland at Baltimore (1981-88). He also held an appointment in the Laboratory of Neuroscience, National Institute on Aging, National Institutes of Health, from 1985-1988 investigating the effects of age on the pharmacokinetics and pharmacodynamics of drug substances. He was a Laboratory Director in the Clinical Pharmacology Division of the University of Massachusetts Medical Center from 1979-1981 and was on the faculty of the Massachusetts College of Pharmacy from 1973-1979. Dr. Lesko received his B.S. and Ph.D. degrees in pharmaceutics from Temple University in Philadelphia, Pennsylvania and was board certified in Clinical Pharmacology by the American Board of Clinical Pharmacology in 1992. In 1998, Dr. Lesko was awarded the Outstanding Alumni Award from Temple University. He is a member and Fellow of American Association of Pharmaceutical Sciences and serves as Chair of the Drug Development and Regulatory Science Section.
Nicola Luciani, BS

Research Interests:

Mr. Nicola Luciani is a Registered Pharmacist with the Ontario College of Pharmacy, having received his Bachelor of Science Degree in Pharmacy from the University of Toronto in June 1994. He currently holds the position of Pharmacy Manager with Dell Pharmacy in Hamilton, Ontario, Canada and has been working for Dell since September 1994. Mr. Luciani is an accomplished Compounding Pharmacist specializing in Veterinary Medicine and Advanced Sports Medicine. Mr. Luciani also holds a Doctorate of Acupuncture from Medicina Alternativa, received in April 2000. He has additional special interests in Nutrition, Anti-Aging and Botanical Medicine. He is currently a Board Member of SportPharm Pharmaceuticals, California, USA. Mr. Luciani is a Consultant and Lead Facilitator for Medisca Network Inc. for Certificate Programs in Pharmacy specific to Pharmaceutical Compounding; accredited by and offered at the University of Florida College of Pharmacy.

Maureen A. McKenzie, PhD

Maureen A. McKenzie, Ph.D. is the Chief Executive Officer of DENALI BioTechnologies, L.L.C. Dr. McKenzie has almost 20 years of experience in biotechnology as an entrepreneur, researcher and executive, and founded the first and only company in Alaska dedicated to pharmaceutical and nutraceutical discovery and development from boreal territories. DENALI BioTechnologies focuses on plants, microbes, and marine organisms that thrive in harsh habitats, with special emphasis on novel molecules from psychrophiles (“cold-lovers”). Dr. McKenzie was Affiliate Assistant Professor in the Department of Physiology and Pharmacology at the College of Veterinary Medicine of Iowa State University, Ames, in 1994, and was an Assistant Professor of Chemical Biology and Pharmacognosy and member of the Laboratory for Cancer Research in the College of Pharmacy at Rutgers, The State University of New Jersey, New Brunswick, from 1990-1993. From 1989-1990, she was a Research/Teaching Specialist in the Departments of Biochemistry and Environmental and Community Medicine of the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School, Piscataway, New Jersey. Dr. McKenzie was a Staff Fellow Scientist in the Diabetes Branch of the National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, Maryland, from 1987-1989. Prior to graduate school, she was a Microbiologist for the Mobil Oil Corporation, Princeton, New Jersey, from 1979-1981. Dr. McKenzie received a Diabetes Research and Education Foundation Fellowship in basic research from the Hoechst-Roussel Corporation (1990-1992), The New Jersey State Commission for Cancer Research -Ciba Geigy Corporation Award for Scientific Excellence in Cancer Research (1992), and the Epsilon Award for Teacher of the Year in the College of Pharmacy at Rutgers University (1993). She was selected by the American Chemical Society in 1993 as a Preceptor for Science Experience for the Economically Disadvantaged. In 1994, she was chosen by the Des Moines Register as an Iowa “Up and Comer” for extraordinary leadership in business. In 1995, she received the Linda K. Neuman Award for the Professions by the Quad-Cities Women’s Encouragement Board, and was honored as a “Woman of Spirit and Note” in the community. She served on the Board of Directors of the Quad-Cities Chapter of the American Red Cross in 1995. She has authored or co-authored numerous peer-reviewed articles, patents and is the editor-in-chief of the Encyclopedia of Medicinal Plants scheduled for publication in 2006. Dr. McKenzie holds a Ph.D. in Biochemistry from a joint program of Rutgers, the University of Medicine and Dentistry of New Jersey and Princeton University (1987), a M.S. in Food Science from Rutgers (1982) and a B.S. in Nutrition/Food Technology from Iowa State University (1978).

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Markus Müller, MD
Markus Müller, M.D. is Head of the Department of Clinical Pharmacokinetics at the University of Vienna Medical School / Vienna General Hospital in Austria. He is also Co-Chair of the Clinical Pharmacology Section of the Austrian Pharmacological Society and the Austrian delegate to the European Association for Clinical Pharmacology and Therapeutics. He holds the position of an ao.Professor for Internal Medicine and Clinical Pharmacology. He has received his M.D. from the University of Vienna Medical School with highest possible honours (sub auspiciis praesidentis rei publicae). He was trained in Emergency Medicine, Oncology, Endocrinology, Infectious Diseases, Chemotherapy and Angiology and is board certified for Internal Medicine in Austria. Dr. Müller is a frequent speaker at international meetings and a reviewer for several biomedical and pharmaceutical journals and scientific societies. He has published over 70 original articles in the field of clinical pharmacology and has received several national awards including the Achievement Award of the Austrian Ministry of Science and the Billroth Award of the Austrian Board of Physicians.

Adolf Nahrstedt, PhD

Emil Pop, PhD
pharmaceutical, medicinal and theoretical chemistry. Drug design, synthesis and evaluation of novel
drugs, prodrugs, chemical drug delivery systems; chemistry of synthetic cannabinoids. Basic research
scale-up product and process development.

**Lakshmi Putcha, PhD, FCP**

**Shashank Rohatagi, PhD, MBA**

Dr. Rohatagi, is a Distinguished Scientist in Global Biopharmaceutics, Aventis Pharmaceuticals, NJ.
Global Biopharmaceutics Dept. uses PK/PD modeling/simulation methodologies and conducts
biopharmaceutics related clinical studies to support the development and approval of drug candidates.
Prior to joining Aventis Pharmaceuticals (formerly Rhone Poulenc Rorer) in 1996, Dr. Rohatagi was
senior pharmacokineticist at Somerset Pharmaceuticals, Tampa, FL. He received a PhD degree in
Pharmaceuticals from the University of Florida, Gainesville, FL in 1995 and an MBA degree from St.
Joseph's University in 2000. Dr. Rohatagi received his B.Pharmacy degree from Birla Institute of
Technology and Science, Pilani, India in 1991. His main interest is in elucidating pharmaceutical
principles especially pharmacokinetics and pharmacodynamics in the field of asthma, cardiovascular
disease and CNS. Dr. Rohatagi has currently published more than 30 peer reviewed articles, given more
than 40 poster or oral presentations at various national and international meetings. He is currently a
Fellow of American College of Clinical Pharmacology. He serves on the Editorial Board of the Journal of
Clinical Pharmacology.

**Hans Schreier, PhD**

Dr. Hans Schreier is a founder and CEO of MCS Micro Carrier Systems GmbH, a formulation
development company based in Neuss, Germany. He received his dipl. pharm. ETH degree in 1976 and
his Dr. sc. nat. degree in 1981 from the Swiss Federal Institute of Technology (ETH) Zurich, Switzerland,
followed by postdoctoral training from 1981-1983 at the University of California – San Francisco (UCSF)
During his academic career, he held appointments as Assistant Professor and Associate Professor of
Pharmaceutics at the University of Florida College of Pharmacy (1986-1993) and Associate Professor of
Medicine at Vanderbilt University School of Medicine (1993-1995). He has been a founder, Director and
the Principal Scientist of Advanced Therapies, Inc., a nonviral gene delivery company (1995-1998) and is
a co-founder of ARYx Therapeutics, Los Altos Hills, CA, a virtual drug discovery and pharmaceutical
development company. He is the Executive Director of Liposome Research Days, Inc., a non-profit
organization (since 1994) and co-organizer of the biennial international "Liposome Research Days"
conference. He has published over 70 articles, reviews and book chapters and holds several patents. He
is the editor of a recent book on 'Drug Targeting Technology: Physical, Chemical and Biological
Methods' (Marcel Dekker, 2001). He is an Editorial Board member of the Journal of Liposome Research,
and a member and elected Governor (1996-1999) of the Controlled Release Society (CRS). He
maintains extensive professional links with individuals, companies, agencies and scientific organizations
in the US, Europe, Japan, and Australia.

**Sean Sullivan, PhD**

Dr. Sullivan has been in the field of drug delivery for the past 13 years with emphasis being placed on
increasing the effectiveness of drugs and decreasing side effects. Areas of therapeutic applications have
included infectious disease (HIV, HSV and Hepatitis), arthritis and cancer. The drug delivery vehicles
have included both liposomes and polymers for small molecular weight, such as doxorubicin and large
molecular weight drugs, such as oligonucleotides and plasmids. For the past 6 years, his research efforts
have applied this technology toward the development of non-viral gene delivery systems. Non-viral gene
delivery systems consist of plasmid DNA encoding a therapeutic gene isolated from bacteria and
formulated with either cationic lipids or polymers yielding transfection complexes. The cationic lipid based
transfection complexes were developed for transfection of tumor endothelial cells for the purpose of

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inhibiting tumor angiogenesis. A combination of peptide targeting to receptors on tumor endothelial cells and control of therapeutic gene expression by proliferating endothelial cell promoters are being developed to yield selective delivery and therapeutic gene expression to the tumor vasculature. In addition, polymer based formulations are being developed for intramuscular administration. The purpose is to convert the transfected muscle cells into bioreactors for expression and secretion of therapeutic proteins into the blood stream. His present research program is focused on applying these technologies to the treatment of cancer, with emphasis being placed upon brain cancer.

Melanie Pecins-Thompson, PhD

Dr. Thompson received her B.S. from University of Florida in 1989, and her Ph.D. in Pharmaceutical Science from the University of Florida in 1993. She held a research position at the Oregon National Primate Research Center. While at the Oregon National Primate Research Center, Dr. Thompson received a National Research Service Award which funded her postdoctoral studies. She was also a recipient of A Women in Endocrinology travel award. Her primary research interests are the effects of steroid hormones on serotonin neural function. She has also taught Endocrinology at Portland State University.

Markus Veit, PhD

Academic Positions: January 1991 – December 1996: Lecturer and position equivalent to an Assistant Professor (C1) since 1.4.1997: position equivalent to an Assistant Professor (C2), Department of Pharmaceutical Biology, University, Würzburg, Germany Non academic positions: since October 1999: Managing & Scientific Director, Zentralinstitut für Arzneimittelforschung GmbH. Since December 1999: Scientific Director of the German Pharmaceutical Manufactures Research Association

Susan Way, PhD

Dr. Way received her BS in Chemistry and Biology from Georgetown College, Georgetown, KY in 1983. She later received her Ph.D. in Pharmaceutical Sciences from the University of Kentucky in 1992. She has worked in the pharmaceutical industry since 1992 and is experienced in both solid and non-solid dosage form development. She is currently a Senior Principal Scientist in the Pharmaceutics Department at Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT, where her responsibilities include preclinical and clinical dosage form development and preformulation. This includes discovery interfacing to assist in the selection of compounds entering development. Her research interests include solubilization of poorly water soluble compounds, promotion of oral absorption, as well as in vitro/in situ models for assessing drug transport.

Governance

Decisions concerning curricular revision and student admissions are made after the department faculty has met to discuss such matters and each faculty member has voted on that particular issue.

Recruitment of Students

The PhD program of the Department of Pharmaceutics is listed in the graduate catalog, and is advertised in mailings to well qualified graduates of the University of Florida and on the College of Pharmacy Home Page on the Internet.

Admission Policies and Procedures

The College of Pharmacy adheres to the minimum standards set forth by the Graduate School:

- A grade point average (GPA) of at least 3.0 (4-point system);
- Three (3) letters of recommendation.

In addition to the above requirements, foreign applicants must have:

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All international students seeking admission to the Graduate School must submit satisfactory scores on the GRE General Test.

Although a formal interview is not required at this time, applicants are encouraged to visit the department/center prior to or during the application process.

Financial Assistance
It is the general policy of the Department of Pharmaceutics that all students accepted to pursue graduate studies receive support in the form of a teaching or research assistantship, or show evidence of adequate support from a fellowship or other source. Currently, the minimum stipend is approximately $14,000/year.

Teaching assistantships are normally provided for a four (4) year period of time contingent upon continuing funding from State sources. A student may receive support for one (1) more year if a relevant reason is presented to the departmental faculty by the major advisor, and the departmental faculty approves the request by majority vote of all the faculty. Except in extenuating circumstances, the department or the center is not financially responsible for any student taking longer than 5 years to complete the doctoral program.

Those students assigned to teach during any given semester by the graduate studies coordinator are appointed Teaching Assistant (0.33 FTE) and are required to work 13.3 hours per week. All graduate students receiving a stipend who are not employed as teaching assistants will be designated Research Assistants or Fellows depending on the source of funds. Stipends are provided so that students may pursue research required to complete their educational programs. Students are expected to diligently pursue that research.

Prior to the beginning of each fiscal year, every graduate student will receive a statement specifying (i) total amount of stipend for that period, (ii) position to which appointed, e.g. TA, R.A., or other, (iii) starting and ending dates of appointment, (iv) assignment for that period, (v) the supervisor for that period, and (vi) other pertinent information. A copy of this document will be kept in the student's personnel file. Students will be asked to sign the form to indicate that it has been read, understood and accepted.

At the end of each fiscal year, each student will be evaluated on his/her assigned duties by the supervisor in writing. The student has the right to a written rebuttal in case he/she does not agree with the evaluation. The evaluation will also be kept in the student's personnel file.

A professor may usually not have more than three (3) College-supported graduate students at any one time.

A faculty member may support with his/her own funds any number of graduate students in addition to the College-supported graduate students. The stipend paid by the faculty member cannot be used to supplement an existing college supported stipend.

Students are encouraged to apply for national and graduate school fellowships and awards. If a student succeeds in receiving a grant, the department or the center may supplement the student's salary with a fraction of the amount up to the current funding levels (provided the granting agency allows such an arrangement).

Decisions concerning the allocation of state stipends are made by the departmental/center faculty at the same time as a decision is made to admit a particular candidate.

Selection of Discipline for Degree and Major Professor
Upon entering the department, students are required to meet with each faculty member before selecting...
an advisor. Even if a student indicates an interest in working with a particular faculty member, he/she must nevertheless interview with all (graduate) faculty members of the whole department before a final decision is made. However, students who have made individual arrangements with a professor prior to entering the program and are sponsored through non-College funds provided by this professor will not need to go through this selection process.

Students must select a major advisor by the end of their second semester of graduate school but are encouraged to do so as early as possible.

If a student desires to change the major advisor, he/she must discuss the change with the current advisor. If both parties agree to such change, the student can select a new advisor. If the parties cannot come to an agreement concerning the proposed change, then the student and the faculty member must each write a letter to the department chairperson explaining the situation. The student must specify the reason(s) for wanting to change. The advisor's letter must specify the reason(s) for the disagreement and contain an overall evaluation and appraisal of the situation. The department chairperson will evaluate the letters, discuss the situation with both individuals, and make a decision. If the student is permitted to change advisors, he/she will not be allowed to continue the same research project with another faculty member, except if both faculty members agree in writing to the department chairperson that the student should continue the same project under the new advisor.

The department graduate coordinator will advise the student in general policies as set forth in this document. This individual is also responsible for general oversight of the graduate program for quality assurance, assignment of teaching duties, and recruitment of graduate students.

**Supervisory Committee**

The supervisory committee is proposed by the student's major advisor in consultation with the student, nominated by the department chairperson, approved by the Dean of the College of Pharmacy, and appointed by the Dean of the Graduate School. Each committee member should hold Graduate Faculty status with the Graduate School. The Dean of the Graduate School is an ex-officio member of all supervisory committees. The supervisory committee must be appointed no later than the second term of the doctoral program. The student is encouraged to meet with the supervisory committee as often as possible.

The supervisory committee shall consist of at least four (4) members of the Graduate Faculty. At least two (2) members must be from the Department of Pharmaceutics, and at least one (1) member other than the chairperson must be tenured faculty; at least one (1) member must be from a different educational discipline outside the College of Pharmacy. The chairperson need not be tenured, but must hold a full-time tenure track position in the Department of Pharmaceutics.

In unusual cases, the doctoral research may require the guidance of a specialist in an area of study other than that of the supervisory committee chairperson. In such cases, the department chairperson may recommend the appointment of a co-chairperson who should be on the graduate faculty.

**DUTIES OF THE SUPERVISORY COMMITTEE**

- To provide optimum support and guidance to the student to help the student meet his/her academic goals.
- Inform the student of all regulations governing the Ph.D. degree. This does not absolve the student from the responsibility of becoming informed of these regulations.
- To meet soon after appointment with the student to consider the student's individual goals and proposed program, and evaluate the student's progress to date.
- To conduct the student's **written** qualifying examination after the student has completed all required course work. The supervisory committee should also assist in the departmental oral qualifying exam. After successful completion of the written and oral exam the committee will also
discuss and approve the student's dissertation topic, and, if the student has passed the examination to the committee's satisfaction, recommend the student's admission to candidacy.

- The supervisory committee should monitor and evaluate the student's progress and give clear directions as to the final work plan leading to graduation. It is recommended that the committee meets once a year before the student advances to candidacy and every six months thereafter to review the student's research and to make suggestions for completion of research, and approve that the student is ready to write up the dissertation as soon as the major advisor and student believe that the research is nearing completion.
- To conduct the final oral examination in defense of the thesis.

Curriculum
A minimum of 90 semester hours beyond the Bachelor's degree is required for the doctoral degree. All credits earned in the approved degree program count toward this minimum. Course work must be 5000 level or higher. Courses for major credit must be taken by letter grade, except for those courses listed as S/U in the catalog.

Each student, together with his/her committee, will put together a course program of study specifically designed to meet the student's interest this will include the following core courses:

- A statistics course: Statistics STA 6166 (4 credits), or Analysis of Research Data STA 6201 (3 credits)
- A Drug Metabolism Course (For example PHA 6425 or Pharmacogenomics PHA 6449)
- Ethics Course (VME 676 or equivalent)
- Grant Writing Course (ALS 6046 or equivalent)
- Pharmaceutical Analysis (PHA 6416)

Course Schedule for required courses

PHA 6414 Pharmaceutical Analysis Spring 2007, Spring 2009, ODD Numbered Years

PHA 6425 Drug Metabolism & Toxicity Fall 2005, Fall 2007, Fall 2009; ODD Numbered Years

VME 6767 Ethics Spring 2006, Spring 2007

ALS 6046 Grant Writing Spring semesters

Students with adequate training in any of the above courses may apply for exemption from such courses, but they must have credit for a minimum of thirty (30) semester hours of approved didactic courses. The remaining course requirements can be fulfilled by completion of electives from the provided list or the graduate catalog selected in consultation with the students advisory committee. It is also essential that the student ensure that they have a basic understanding of Pharmaceutics either by taking the appropriate classes or from previous education. They should be proficient in the basics sciences at a minimum to the same degree as students in the professional program. QUESTIONS WILL BE ASKED DURING THE ORAL QUALIFYING EXAM Following is a list of approved courses. Course numbers may change, and courses may be added or deleted upon approval by the Faculty.

The following are course the students should consider taking to become familiar with Pharmaceutics

PHA 5172 Pharmaceutical Biotechnology Fall 2005, Fall 2006, Fall 2007

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**LIST OF APPROVED GRADUATE COURSES:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
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<tbody>
<tr>
<td>PHA 5161</td>
<td>Pharmaceutical Biotechnology (3 credits)</td>
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<tr>
<td>PHA 5475</td>
<td>Synthesis of Prodrugs (3 credits)</td>
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<tr>
<td>PHA 5515</td>
<td>Introduction to Pharmacology (1 credit)</td>
</tr>
<tr>
<td>PHA 5516</td>
<td>Pharmacological Basis of Therapeutics (4 credits)</td>
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<tr>
<td>PHA 5517</td>
<td>Pharmacology II (4 credits)</td>
</tr>
<tr>
<td>PHA 6115</td>
<td>Equilibria, Complexations, and Interactions of Drugs (3 credits)</td>
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<tr>
<td>PHA 6116</td>
<td>In Vivo and In Vitro Stability of Drugs (3 credits)</td>
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<tr>
<td>PHA 6118</td>
<td>Molecular Diversity (2 credits)</td>
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<tr>
<td>PHA 6125</td>
<td>Advanced Pharmacokinetics (3 credits)</td>
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<tr>
<td>PHA 6170C</td>
<td>Pharmaceutical Product Formulation (3 credits)</td>
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<tr>
<td>PHA 6354</td>
<td>Natural Medicinal Products (3 credits)</td>
</tr>
<tr>
<td>PHA 6416</td>
<td>Pharmaceutical Analysis I (3 credits)</td>
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<tr>
<td>PHA 6508</td>
<td>Mammalian Physiology (4 credits)</td>
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<tr>
<td>PHA 6509</td>
<td>Mammalian Physiology (4 credits)</td>
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<tr>
<td>BCH 6206</td>
<td>Advanced Metabolism (3 credits)</td>
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<tr>
<td>BCH 6740</td>
<td>Advanced Physical Biochemistry (3 credits)</td>
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<tr>
<td>BCH 7515</td>
<td>Enzyme Kinetics and Mechanisms (2 credits)</td>
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<tr>
<td>BMS 5201</td>
<td>Introduction to Biochemistry and Molecular Biology (3 credits)</td>
</tr>
<tr>
<td>BMS 5520C</td>
<td>Principles of Physiology (2 credits)</td>
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<tr>
<td>BMS 6400</td>
<td>Introduction to Pharmacology (5 credits)</td>
</tr>
<tr>
<td>BMS 6402</td>
<td>Autonomic and Cellular Pharmacology (2 credits)</td>
</tr>
<tr>
<td>CAP 5506</td>
<td>Programming Language Principles (3 credits)</td>
</tr>
<tr>
<td>CAP 6627</td>
<td>Expert Systems (3 credits)</td>
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<tr>
<td>CAP 6652</td>
<td>Artificial Intelligence Concepts (3 credits)</td>
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<tr>
<td>CAP 6653</td>
<td>Neural Networks for Computing (3 credits)</td>
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<tr>
<td>CHM 4411</td>
<td>Physical Chemistry (4 credits)</td>
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<tr>
<td>CHM 5224</td>
<td>Basic Principles for Organic Chemistry (3 credits)</td>
</tr>
<tr>
<td>CHM 5235</td>
<td>Organic Spectroscopy (3 credits)</td>
</tr>
<tr>
<td>CHM 5275</td>
<td>The Organic Chemistry of Polymers (2 credits)</td>
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<tr>
<td>CHM 5305</td>
<td>Chemistry of Biological Molecules (3 credits)</td>
</tr>
<tr>
<td>CHM 5514</td>
<td>Chemical Computations (2 credits)</td>
</tr>
<tr>
<td>CHM 6154</td>
<td>Chemical Separations CHM 6155 - Spectrochemical Methods (3 credits)</td>
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<tr>
<td>CHM 6225</td>
<td>Advanced Principles of Organic Chemistry (4 credits)</td>
</tr>
<tr>
<td>OHM 6226</td>
<td>Advanced Synthetic Organic Chemistry (3 credits)</td>
</tr>
<tr>
<td>CHM 6211</td>
<td>Chemistry of High Polymers (2 credits)</td>
</tr>
<tr>
<td>CHM 6480</td>
<td>Elements of Quantum Chemistry (3 credits)</td>
</tr>
<tr>
<td>CHM 6520</td>
<td>Chemical Physics (3 credits)</td>
</tr>
<tr>
<td>CHM 6720</td>
<td>Chemical Dynamics (3 credits)</td>
</tr>
<tr>
<td>CHS 5110</td>
<td>Radiochemistry (2 credits)</td>
</tr>
<tr>
<td>CHS 5110L</td>
<td>Radiochemistry Laboratory (3 credits)</td>
</tr>
<tr>
<td>GMS 6500</td>
<td>Introduction to Pharmacology (5 credits)</td>
</tr>
<tr>
<td>GMS 6563</td>
<td>Molecular Pharmacology (3 credits)</td>
</tr>
<tr>
<td>GMS 6735</td>
<td>Neuropharmacology (3 credits)</td>
</tr>
<tr>
<td>GMS 7593</td>
<td>Principles of Drug Action (2 credits)</td>
</tr>
<tr>
<td>MBS 7423</td>
<td>Principles of Drug Action (2 credits)</td>
</tr>
<tr>
<td>STA 6166</td>
<td>Statistical Methods in Research I (4 credits)</td>
</tr>
<tr>
<td>STA 6167</td>
<td>Statistical Methods in Research II (4 credits)</td>
</tr>
<tr>
<td>STA 6200</td>
<td>Fundamentals of Research Design (2 credits)</td>
</tr>
</tbody>
</table>

- ALL GRADUATE STUDENTS should register for (a) the 1 credit Pharmaceutics Department

http://www.cop.ufl.edu/safezone/pat/pcc/phd_prv.htm

2/25/2008
research seminar each semester, using number PHA 6938 (Research Seminar; 1 credit; S/U option; maximum 3 credits).

- FOR NON-CANDIDATES: Graduate students who have not yet attained candidacy for the Ph.D. should register for PHA 7979 (Advanced Research; 1 to 9 credits).
- FOR CANDIDATES: Candidates for the Ph.D. degree should register for PHA 7980 (Research for Doctoral Dissertation; 1 to 15 credits).

Qualifying Examination
Satisfactorily passing the qualifying examination is a requirement for admission to candidacy, i.e., when the student actually becomes a candidate for the Ph.D. degree. In order to take the qualifying examination, the student must (i) have a minimum 3.00 GPA; (ii) have completed letter-grade course work; (iii) have completed all core courses; and (iv) be registered at the time the examination is taken. Exceptions (e.g., if a core course is not offered, but the student has fulfilled all other requirements and has formulated a research program) may be granted by the supervisory committee. It is expected that the qualifying exam will focus on the student’s own prepared NIH grant proposal but in addition background information from course work and a general questions of pharmaceutics is also expected of the student.

General Guidelines

- The format for the comprehensive examination will be a combined written/oral examination.
- The comprehensive examination should be completed at or about the time when all course work is completed and no later than eight months prior to scheduling of the dissertation defense. It is expected that the oral comprehensive examination will be taken by the end of the third year in the graduate program.
- The written part of the comprehensive examination committee for each student will be chaired by a faculty member in the Department of Pharmaceutics who is a member of the graduate faculty. The student’s academic advisor will be a member of the committee but may not be the committee chair. Composition of the committee will be consistent with University guidelines for dissertation committees (i.e., at least four faculty members with the majority being graduate faculty). It is anticipated that the examination committee will subsequently serve as the dissertation committee.
- The comprehensive examination committee members will have a meeting prior to the comprehensive examination to discuss lines of questioning and to address core competencies (relative to each focus area). The chair of the examination committee will communicate the proceedings of this meeting to the Graduate Program Administrator. The oral part of the exam is open to the entire department.

Guidelines for proposal Preparation

1. The topic of the research proposal must be an original research project. The topic may be the student’s proposed dissertation research. A written abstract of the research proposal, maximum of one page in length, should be examined and approved by the academic advisor and the oral comprehensive examination committee prior to preparation of the complete proposal.

2. The written proposal, maximum of 10 pages of text plus references, prepared in the format of a granting agency (e.g., NIH R03) should be distributed along with "key" references to the committee at least 14 days prior to the oral comprehensive examination.

3. The graduate student will give an oral presentation that should be succinct, yet complete (approximately 20-30 minutes), and be supported by visual aids (slides/overheads).

4. The committee will identify questions relevant to each research focus area, which may include but not be limited to:

http://www.cop.ufl.edu/safezone/pat/pc/phd_prg.htm

2/25/2008
- Literature evaluation skills
- Writing skills
- Scientific background
- Study design
- Utility of animal models of disease or conditions relative to the human situation
- Analytical methods
- Clinical measurement methods
- Data and statistical analysis skills
- Differentiation of clinical and statistical significance
- Basic Sciences covered in the Professional Program (Physical Pharmacy, Biochemistry, Pharmacokinetics, Biochemistry, Pharmacology, Medicinal Chemistry and Statistics)

5. The final evaluation by the dissertation committee should be communicated to the student and the graduate academic affairs committee utilizing the following scale:

a. Pass - With written feedback on strengths and weaknesses

b. Remedial work needed:
   - Specific needs for additional learning experiences (e.g., scientific area, statistics, writing, etc.) may be identified.
   - Remedial work may include a minor rewrite of the proposal or a major rewrite and re-defense of the proposal.
   - Remedial work must be completed within six months from the time of examination.

c. Fail - A student who fails the qualifying examination will be terminated from the Ph.D. program.

---

**Oral Comprehensive Examination**

**Guidelines for Proposal Preparation**

**Procedures**

Oral comprehensive exam proposals are to be submitted on NIH grant application form PHS 398 continuation pages (rev. 12/04) and prepared according to the directions in the application packet, with the exceptions noted below. Forms and instructions are available on the internet at:

http://grants.nih.gov/grants/funding/phs398/phs398.html

**Research Plan**

http://www.cop.ufl.edu/safezone/pat/pn/phd_prgr.htm
Do not exceed a total of ten pages for the following parts (a-d): Specific Aims, Background and Significance, Progress Report/Preliminary Studies, and Experimental Design and Methods. Tables and figures are included in the ten page limitation. Applications that exceed the page limitation or PHS requirements for type size and margins (Refer to PHS 398 application for details) will be returned for revision. The ten page limitation does not include parts e through i. (Human Subjects, Vertebrate Animals, or Literature Cited).

(a) - Specific Aims – (1 page). List the broad, long-term objectives and what the specific research proposed in this application is intended to accomplish, e.g., to test a stated hypothesis, create a novel design, solve a specific problem, or develop new technology.

(b) - Background and Significance – (2-3 pages). Briefly sketch the background leading to the present application, critically evaluate existing knowledge, and specifically identify the gaps that the project is intended to fill. State concisely the importance and healthcare relevance of the research described in this application by relating the specific aims to the broad, long-term objectives.

(c) - Preliminary Studies/Progress Report – (2-3 pages). Use this section to provide an account of the students'/academic advisors' preliminary studies pertinent to the application information that will also help to establish the feasibility of the proposed project.

(d) - Research Design and Methods – (4-5 pages). Describe the research design and the procedures to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted. Describe any new methodology and its advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. As part of this section, provide a tentative sequence or timetable for the project.

See [http://grants.nih.gov/grants/funding/phs398/section_1.html#8_research](http://grants.nih.gov/grants/funding/phs398/section_1.html#8_research) for complete instructions regarding sections (e) and (f).

(e) – Human Subjects Research

(f) – Vertebrate Animals

(g) – Literature Cited. (No page limits). List all references. Each reference must include the title, names of all authors, book or journal, volume number, page numbers, and year of publication. The reference should be limited to relevant and current literature. While there is not a page limitation, it is important to be concise and to select only those literature references pertinent to the proposed research.

Final Examination
After submission of the original copy of the dissertation to the Graduate School (see below) and completion of all other work for the degree, and the appropriate dates and time intervals will follow the guidelines set forth by the University of Florida Graduate School, as detailed in the Graduate Catalog.

An announcement of the scheduled examination must be submitted in writing to the Dean of the Graduate School by the chairperson of the supervisory committee at least ten (10) working days prior to the scheduled date. An announcement of the examination is sent at least one (1) week prior to the date of examination to faculty members in the College of Pharmacy, inviting them to attend.

At least four (4) faculty members, including all members of the supervisory committee, must be present at the final oral portion of the final examination. The four (4) faculty members must be Graduate Faculty members. Only the official members of the supervisory committee may sign the dissertation signature pages.
Assuming the candidate is successful, the Final Examination Report shall be signed by all faculty members attending the examination. The dissertation, original and copies, are to be signed by the official members of the supervisory committee and by the Dean of the College of Pharmacy. The signed Final Examination Report and the original copy of the dissertation should be returned to the Graduate School after the dissertation has been corrected.

Every candidate for a doctoral degree is required to prepare and present a dissertation that shows independent investigation, and is acceptable in form and content to the supervisory committee and to the Graduate School. Since all doctoral dissertations will be published by microfilm, it is necessary that the work be of publishable quality and that it be in a form for publication. A draft copy of the dissertation must be given to the supervisory committee at least one month prior to the defense. This allows time for any major changes to be made. A final copy of the thesis should be circulated to the committee at least one week before the final defense.

All copies of the dissertation, except the original copy and the Health Center copy, must be provided as a hard bound copy by the student. The original copy and the second copy of the dissertation must be presented to the Dean of the Graduate School on or before the date specified in the University Calendar.

Students will not generally be admitted for studies toward an M.S. in this specialization. However, a student admitted to the doctoral program may be allowed to graduate with a Masters in Pharmacy subject to approval by the students supervisory committee. The M.S. in Pharmaceutical Sciences is described in the graduate catalog and requires the completion of a thesis or dissertation.

**Specific Requirements for the Master of Science in Pharmacy Degree**

**Graduate Student Classification:**

Students pursuing the Master of Science in Pharmacy degree are classified 7PH.

**Degree Requirements:**

Unless otherwise specified, for any master' degree, the student must carry a minimum of 30 credits including no fewer than 24 hours of regular course work and up to 6 credits in thesis research as a graduate student at the University of Florida, of which no more than six semester hours of course work earned with a grade A, B+ or B may be transferred from institutions approved by the Dean of the Graduate School.

**Major:**

All course work for a master' degree must be in courses open only for graduate credit (5000 and above).

**Credits and Grades:**

The 24 credits of minimum regular course work recommended by the supervisory committee and the supervisory chair, must be taken by letter grade. The student must have a minimum 3.00 GPA for all course work attempted for the degree, and as well, a minimum 3.00 GPA for course work in the major. The course program will be determined by the thesis committee.

**Thesis:**

The candidate is required to prepare and present a thesis acceptable to his/her supervisory committee and the Graduate School. He/she should consult the Graduate School for instructions concerning the forms of the thesis, binding, and the date when the original copy, accompanied by three (3) copies of abstracts are to be submitted to the Graduate School.

**Supervisory Committee for the Master of Science in Pharmacy:**

At least three members selected from the Graduate Faculty must be on the supervisory committee. These members are recommended by the student's supervisory chair, approved by the College Dean for
Research and Graduate Studies, and appointed by the Graduate School. The Dean of the Graduate School is an ex-officio member of all supervisory committees. If a minor is designated, it should be represented by one member of the committee who is on the Graduate Faculty. The committee should be appointed as soon as possible, and no later than the end of the second semester or 24 credits, whichever comes first.

Only members of the Graduate Faculty may be members of the supervisory committee. Names of courtesy faculty, regular faculty, and others not on the Graduate Faculty should not appear on the student's official supervisory committee.

At least three faculty members must be present at the student's final examination, but only members of the official supervisory committee are required to sign the thesis and the report of the final examination.

Residency Requirement:
There is no residency requirement for the master's degree.

Admission to Candidacy:
Admission to candidacy is no longer required for students pursuing master's degrees.

Final Examination:
A written announcement of the examination is sent to the Graduate School Dean and all faculty in the College of Pharmacy. When all of the student's course work is completed, or practically so, and the thesis is in final form, the student's supervisory committee is required to examine him/her in writing or orally on his/her thesis and the subject matter of the courses taken for the degree. The form Report on Thesis/Dissertation and Final Examination should be completed and signed by the official members of the committee, and then by the department chair/center director and the College Dean. This form should then be submitted to the Graduate School.

The Final Examination Record should be submitted to the Graduate School with the thesis by the date specified in the University Calendar. The final examination may not be held any earlier than six months before the degree is to be conferred.

Time Limitation for Completion of The Master of Science in Pharmacy:
All work counted toward the M.S.P. degree must be completed during the seven years immediately preceding the date on which the degree is to be awarded.

Correspondence and Extension Work:
No courses may be taken for graduate credit by correspondence. No extension courses may be used for graduate credit.
CLINICAL PHARMACEUTICAL SCIENCES
COLLEGE OF PHARMACY

PROGRAM GOAL
There is a growing need for clinically-trained individuals who also have sufficient research training to facilitate bench-to-bedside or translational research. Indeed, the need for clinicians trained to work in interdisciplinary, team-oriented research environments was recently highlighted by the National Institutes of Health. The University of Florida College of Pharmacy has established a Clinical Pharmaceutical Sciences training program with a goal to prepare motivated individuals to pursue independent research careers in academia, industry, or government. The current research focus of the program is on understanding genetic and non-genetic factors that contribute to variability in drug response. Selected areas of research include cardiology, transplant/immunology, asthma/pulmonary, psychiatry, and clinical pharmacology/drug metabolism. Students in the program conduct hypothesis-driven clinical research that includes a strong laboratory element. Excellent research facilities are available including state-of-the art bioanalytical and pharmacogenomics laboratories, and an NIH-funded General Clinical Research Center for clinical study conduct. The program is a collaborative effort between the Departments of Pharmacy Practice and Pharmaceutics in the College of Pharmacy. Upon completion of the core/elective curriculum and dissertation, the Doctor of Philosophy (Ph.D.) Degree is awarded.

TYPICAL CURRICULUM

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Pharmacogenetics and Pharmacogenomics (PHA number to be assigned)</td>
<td>2</td>
</tr>
<tr>
<td>Advanced Pharmacokinetics (PHA6125)</td>
<td>3</td>
</tr>
<tr>
<td>Drug metabolism, drug transporters and pharmacogenetics (PHA number to be assigned)</td>
<td>2</td>
</tr>
<tr>
<td>Human Genetics I &amp; II (GMS6012, GMS6015)</td>
<td>2</td>
</tr>
<tr>
<td>Science of Clinical Research (GCRC) (GMS6181)</td>
<td>2</td>
</tr>
<tr>
<td>Epidemiology (HSC6507)</td>
<td>2</td>
</tr>
<tr>
<td>Statistics (multiple courses)</td>
<td>varies</td>
</tr>
<tr>
<td>Clinical Trials (GMS 6813)</td>
<td>2</td>
</tr>
<tr>
<td>Manuscript and Abstract Writing for Clinician/Scientists (GMS6903)</td>
<td>2</td>
</tr>
<tr>
<td>Ethical and Policy Issues in Clinical Research (GMS6931)</td>
<td>2</td>
</tr>
<tr>
<td>Practical Issues in Design and Data Collection (STA6934)</td>
<td>1</td>
</tr>
</tbody>
</table>

Additional curricular programs are available depending on the individual’s background.

TYPICAL TIMELINE:
Year 1 - 2: Completion of Curriculum. Selection of Major Advisor and Graduate Committee.
Year 2 - 3: Completion of elective course-work and the Oral Comprehensive Examination.
Year 3 - : Completion of dissertation research. Dissertation preparation and defense.

Total Credits for Degree Confirmation: Didactic credits > 32 and a total of 90 credit hours with the inclusion of research / dissertation and elective credits. Program duration: approximately 4 years.

WHO SHOULD APPLY? Preference will be given to candidates who have earned a PharmD degree from an accredited school of pharmacy. A student enrolled in the University of Florida PharmD program may pursue a combined Pharm.D./Ph.D. under current College of Pharmacy guidelines.

HOW MUCH DOES IT COST? Licensed pharmacists admitted as Clinical Science Associates may receive a stipend of up to ~$30,000/yr and tuition remission. As a part of training, these students will provide clinical pharmaceutical care in the University of Florida Shands Hospital and have nominal duties as a teaching assistant. Individuals not eligible for pharmacy licensure in Florida can be awarded a Teaching Assistantship, which includes a stipend of ~$15,000/yr and tuition remission.

FOR MORE INFORMATION
Contact  Reginald F. Frye, Pharm.D., Ph.D.                         Julie A. Johnson, Pharm.D.
352-273-5453 or frye@cop.ufl.edu                                  352-273-6004 or johnson@cop.ufl.edu
CURRENTLY ENROLLED GRADUATE STUDENTS – QUESTIONNAIRE AND RESULTS
The College of Pharmacy is assessing the quality of all our graduate degree programs. We need to know what you think of the program to determine how you view your education including the faculty, coursework, research environment, and how the program is enabling you to meet your career objectives. Your responses will be held in the strictest confidence. Thanks for making the College of Pharmacy an even better place.

1. In what academic discipline (field) will you receive your Ph.D.? (total n=63 responses)
   - Pharmaceutics 34
   - Medicinal Chemistry 11 (out of 14 current students)
   - Pharmacodynamics 7
   - Pharmacy Health Care Admin. 11

2. What was your undergraduate major?
   For Pharmaceutics students, 4 biological sciences, 2 biology, 2 biopharmaceutics, 1 botany, 1 BS, 1 chemical engineering, 1 math, 1 microbiology and PharmD, 1 pharmaceutical engineering, 1 pharmaceutical sciences, 1 pharmaceutics, 2 pharmacology, 14 pharmacy, and 1 pharmacy and chemical engineering.

3. Was your undergraduate degree from U.S. institution?

<table>
<thead>
<tr>
<th>All</th>
<th>Pharmaceutics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>19</td>
</tr>
<tr>
<td>No</td>
<td>42</td>
</tr>
<tr>
<td>No Answer</td>
<td>2</td>
</tr>
</tbody>
</table>

4. Presently, I am most interested in a career in:

<table>
<thead>
<tr>
<th>All</th>
<th>Pharmaceutics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academia</td>
<td>18</td>
</tr>
<tr>
<td>Industry</td>
<td>31</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>10</td>
</tr>
</tbody>
</table>

5. If other, please specify
   Answers were: healthcare consulting and small business

With regard to my choosing UF for graduate school, the most important considerations were (rank from 1 to 4)

Note: the survey did not specify whether 1 or 4 was favorable; one student noted in comments that she/he assumed 1 was low and 4 was high

<table>
<thead>
<tr>
<th>Ranking</th>
<th>All Students</th>
<th>Mean</th>
<th>Pharmaceutics</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Reputations of UF</td>
<td>6 16 25 16</td>
<td>2.81</td>
<td>4 10 12 8</td>
<td>2.71</td>
</tr>
<tr>
<td>7. Quality of Faculty and Research</td>
<td>13 13 13 24</td>
<td>2.76</td>
<td>7 8 6 13</td>
<td>2.74</td>
</tr>
<tr>
<td>8. Geographic</td>
<td>9 12 27 15</td>
<td>2.76</td>
<td>4 8 15 7</td>
<td>2.74</td>
</tr>
</tbody>
</table>
9. Stipend level | 12 | 13 | 22 | 16 | 2.67 | 8 | 7 | 12 | 7 | 2.53

How would you rate the following characteristics of your graduate experience?
Key 1- very poor, 5 - excellent

<table>
<thead>
<tr>
<th>Rating</th>
<th>All Students</th>
<th>Mean</th>
<th>Pharmaceutics</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Level, breadth, and content of course</td>
<td>0</td>
<td>3</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td>11. Quality of Instruction</td>
<td>0</td>
<td>5</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td>14. Mentoring Guidance</td>
<td>2</td>
<td>3</td>
<td>14</td>
<td>26</td>
</tr>
<tr>
<td>15. Career Guidance</td>
<td>3</td>
<td>6</td>
<td>25</td>
<td>19</td>
</tr>
<tr>
<td>16. Research Environment</td>
<td>1</td>
<td>6</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>17. Program activities (eg. Seminars)</td>
<td>1</td>
<td>7</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>18. Interactions with fellow students</td>
<td>3</td>
<td>4</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>19. Thesis Advisory</td>
<td>3</td>
<td>6</td>
<td>13</td>
<td>23</td>
</tr>
<tr>
<td>20. Program Administration</td>
<td>2</td>
<td>8</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>21. Regular Feedback regarding progress towards degree</td>
<td>3</td>
<td>10</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>22. Mechanism for addressing grievances</td>
<td>3</td>
<td>8</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>23. Overall level of satisfaction</td>
<td>2</td>
<td>6</td>
<td>11</td>
<td>34</td>
</tr>
<tr>
<td>24. Thesis committee</td>
<td>4</td>
<td>4</td>
<td>13</td>
<td>22</td>
</tr>
</tbody>
</table>

25. If you could make the decision over again, would you attend the University of Florida for your graduate education?

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Pharmaceutics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>45</td>
<td>23</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Not Sure</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Alumni Questionnaire and Survey Results

The College of Pharmacy is assessing the quality of all our graduate degree programs. As a former student your input is an integral part of his process. To that end we are asking you to please take a moment to complete the following survey. Your responses will be held in the strictest confidence. Thanks for making the College of Pharmacy an even better place.

1. In what academic discipline (field) did you receive your Ph.D.?

Total responses - 59
Pharmaceutics - 21

2. How many years did you spend as a full-time student and/or part-time student between receiving your first baccalaureate degree (or first professional degree or equivalent) and receiving your doctorate (including the period you spent on your thesis and/or dissertation)?

<table>
<thead>
<tr>
<th></th>
<th>Years as full-time</th>
<th></th>
<th>Years as part-time</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>Pharmaceutics</td>
<td>All</td>
<td>Pharmaceutics</td>
</tr>
<tr>
<td></td>
<td>4.97 ± 2.16</td>
<td>4.67 ± 1.49</td>
<td>.5-8(n=7 of the 59)</td>
<td>0</td>
</tr>
</tbody>
</table>

3. Which of the following classes, programs, training, seminars, and/or activities were provided to you during your Ph.D. experience to prepare you for your professional life?

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th></th>
<th>Pharmaceutics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Was provided</td>
<td>Was helpful</td>
<td>Would have liked</td>
<td>Was provided</td>
<td>Was helpful</td>
</tr>
<tr>
<td>Leadership/management training</td>
<td>12</td>
<td>10</td>
<td>31</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Interdisciplinary work</td>
<td>14</td>
<td>29</td>
<td>13</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Cross-cultural/international experiences</td>
<td>20</td>
<td>21</td>
<td>13</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Technology Training</td>
<td>17</td>
<td>25</td>
<td>14</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Externships/internships</td>
<td>9</td>
<td>10</td>
<td>33</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Mentoring</td>
<td>19</td>
<td>31</td>
<td>7</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>
4. To what extent did earning a Ph.D. at UF make a difference in your career?

Scale 1 no difference 2 3 4 5 impossible to do without

<table>
<thead>
<tr>
<th>Scale</th>
<th>All</th>
<th>Pharmaceutics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>34</td>
<td>14</td>
</tr>
<tr>
<td>Number of respondents</td>
<td>0 0 1 6 14</td>
<td></td>
</tr>
</tbody>
</table>

5. Please Indicate the sector in which you are currently employed.

<table>
<thead>
<tr>
<th>Sector</th>
<th>All</th>
<th>Pharmaceutics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business or industry</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>Government agency</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>National Laboratory</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Non-profit organization</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Medical facility</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Research-intensive academic institutions</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Teaching-intensive academic institution (liberal arts or community</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>college, Master’s-granting institution)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-employed</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2 still looking</td>
</tr>
</tbody>
</table>

6. In your current position, how do you participate as a scholar in your field? Check all that apply.

<table>
<thead>
<tr>
<th>Activity</th>
<th>All</th>
<th>Pharmaceutics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty position</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Publishing</td>
<td>32</td>
<td>11</td>
</tr>
<tr>
<td>Research</td>
<td>47</td>
<td>16</td>
</tr>
<tr>
<td>Non-profit Work</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Community Service</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>I no long participate as a scholar in my particular field</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

7. If you are now or were previously employed by an institution of higher education: What is/was your faculty rank? Check only one.

<table>
<thead>
<tr>
<th>Faculty rank</th>
<th>All</th>
<th>Pharmaceutics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Associate Professor</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Instructor</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Lecturer</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Adjunct faculty | 3 |  
Other Please specify | 4 |  
Does not apply | 22 | 14 (only two options were associate and assistant professor) |  
Other-all were post-doctoral fellows | 4 |  

8. How would you rate the following characteristics of your graduate experience?  
   Key 1 – worst   5-best  

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Rating 1</th>
<th>Rating 2</th>
<th>N= 59</th>
<th>N = 20, 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level, breadth, and content of course</td>
<td>4.2 ± 0.8</td>
<td>4.29 ± 0.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of Instruction</td>
<td>4.3 ± 0.8</td>
<td>4.10 ± 1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentoring guidance</td>
<td>4.3 ± 1.1</td>
<td>4.24 ± 0.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career guidance</td>
<td>3.4 ± 1.2</td>
<td>3.29 ± 1.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research environment</td>
<td>4.3 ± 0.9</td>
<td>4.19 ± 0.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program activities (e.g. seminars)</td>
<td>4.0 ± 1.1</td>
<td>3.76 ± 1.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactions with fellow students</td>
<td>4.4 ± 0.9</td>
<td>4.15 ± 1.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thesis advisory committee</td>
<td>4.3 ± 0.9</td>
<td>3.95 ± 1.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program administration</td>
<td>3.9 ± 0.9</td>
<td>3.8 ± 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular feedback regarding progress toward degree</td>
<td>4.0 ± 1.0</td>
<td>3.81 ± 1.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanism for addressing grievances</td>
<td>3.7 ± 1.1</td>
<td>3.15 ± 0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall level of satisfaction</td>
<td>4.4 ± 0.9</td>
<td>4.33 ± 0.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thesis committee</td>
<td>4.4 ± 0.9</td>
<td>4.05 ± 1.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


April 16, 2008

To: Dr. Anthony Palmieri, Dr. William Millard
From: University of Florida Pharmaceutics Graduate Program Review Team:
        Cheryl L. Zimmerman, Ph.D. University of Minnesota, Chair
        Rudy Juliano, Ph.D., University of North Carolina
        Iklis Khan, Ph.D. University of Mississippi

The Pharmaceutics Graduate Program Review Team (PRT) visited the University of Florida Department of Pharmaceutics on March 19-20, 2008. Jeffrey Hughes, the graduate program coordinator, was our host and had previously made available to us the “self-study” document for the graduate program. The self-study document was somewhat limited and the PRT needed to specifically request information such as the research funding of individual faculty members, list of graduate students, complete information on the alumni and a list of graduate student publications. Based on the self-study document and our visits with faculty, graduate students and administrators, we report our findings.

**Pharmaceutics Graduate Program Strengths**

1. The Pharmaceutics graduate students are generally satisfied with their educational experience.
   - The students indicate that there are very positive interactions between faculty and students and a good atmosphere for learning.

2. There exist some strong individual peer-reviewed and externally-funded research programs.

3. The faculty members are nationally and internationally recognized among their peers.

4. The newly developed Clinical Pharmacy Ph.D. program is a bright spot in the program.
   - Dr. Johnson and her colleagues have a clearly stated vision for future progress, and are energetically pursuing opportunities for supporting their vision.

5. The research presentations of the graduate students were one of the highlights of our visit. The presentations were of very high quality, and these selected students were bright, well-spoken young scientists.

6. The graduates of the program are highly sought after by employers, particularly the pharmaceutical industry. There are very few graduate programs at the University of Florida that can rival the near-100% placement of the Pharmaceutics Ph.D. graduates in permanent positions, without additional post-doctoral training.
Pharmaceutics Graduate Program Areas for Development (most of these areas are relevant for the “Core” pharmaceutics graduate program, and not the Clinical Pharmacy Ph.D. program).

1. The stipend for graduate students is inadequate and significantly below that of peer institutions, as well as significantly below that of other graduate programs within the UF College of Pharmacy. The inadequate stipend has several serious consequences.
   - There are very few domestic students in the program.
   - The graduate students are very concerned about their health insurance, which apparently covers very little and is of poor quality. The concern about out-of-pocket expenses for health care is exacerbated by the low stipend they receive.
   - The students gave the PRT the impression that, economically, they were barely managing, and one even spoke about considering a second job in order to support themselves.
   - The inequity in stipends both within the department and between departments are of significant concern to the PRT. This inequity is apparently allowed to exist even within individual laboratories.
   - In addition to having a low stipend for graduate students, there are students in program who are self-funded. This would not be allowed in a top-tier pharmaceutics graduate program.
   - The stipends are based on a 0.33 FTE appointment, which is out of line with top-tier pharmaceutics graduate programs, for which the standard is 0.5 FTE.

2. There is a lack of administrative infrastructure to support the graduate program.
   - There is no graduate program assistant (for example, a high-level secretary or professional administrative person) to assist the graduate students in navigating the University of Florida system.
   - The students expressed frustration regarding the lack of a central administrative figure to whom they could go with questions regarding such items as visa status, reimbursements, filing of graduate program documents, etc.
   - The students indicated that they did not wish to bother their faculty advisors with these administrative issues.
   - The PRT was later informed that there was such a person, but there was rapid turnover in the position, and the students expressed frustration that the individuals in that position were unresponsive to their requests.

3. Use of teaching assistant monies to support graduate students is of significant concern. The PRT agrees that it is of value that graduate students do some teaching activities while in their graduate program, but in the present case, these funds are being misused.
   - The graduate program uses teaching assistant funds to subsidize faculty research programs that may attract only modest external funding. If students are being placed in laboratories in which the research is not of high enough quality to obtain substantial external funding, the PRT has a concern that the students are not being trained in cutting-edge research.
   - A large proportion of students are on TA money for most of their time in program. This is out of line with top-tier Pharmaceutics graduate programs.
• Students who are supported by research funding are apparently still required to teach. In some Universities, this would be considered by financial comptrollers to be out of compliance with auditing rules.

4. There are no program funds available for travel support to national meetings, including to the regional graduate student meetings. This support is dependent upon the individual investigator’s ability and willingness to fund their students’ travel.

5. There is no strategy for recruiting domestic students into the program.
  • However, the low stipend would render such a strategy futile, so the stipend issue must be resolved first.

6. The adjunct faculty roster is large, and there is no mechanism for review, no term of appointment, or formal requirements for continued appointment.

7. There is no formal effort for maintaining contact with the graduate program alumni.
  • Individual faculty members do maintain contact with their own graduates, but there is no departmental database.

8. With regards to the Clinical Pharmacy Ph.D. program, the evolution from a fellowship training mentality to a graduate training mentality is incomplete.

It should be noted that many of these issues are beyond the ability of the Graduate Program Coordinator or other faculty members to solve; they require action at the departmental or college levels.

Department of Pharmaceutics (Core) Areas for Development
1. There appears to be no administrative push or indeed, motivation, for increasing peer-reviewed external research funding.
  • Since the graduate students are supported by teaching assistant funds, this reduces the motivation for increasing research funding to support graduate students.
  • Since there is modest research funding, there are few post-doctoral scientists in the department.
    o The department head estimated that the graduate student to post-doctoral ratio was 6:1.
    o Lack of post-doctoral scientists deprives the graduate students of access to important scientific mentoring that can occur on a daily basis within an individual laboratory.

2. There is a lack of appreciation or desire to treat graduate students equitably within and between graduate programs, specifically with regards to stipend levels and teaching responsibilities.
3. There has been very little progress made on issues raised in 1993 review.
   - There is a sense of complacency or lack of ambition with no indication that there is a strong desire for pursuing major improvement in the program.
   - There is a lack of a vision for the future of the graduate program and department.

4. The mechanism for development of departmental discretionary funds is currently of little value for department.
   - The department receives 7.5% of the indirect cost recovery (ICR) that it generates.
   - However, since the external research funds generated are modest, this mechanism is not of great utility.

**College of Pharmacy Strengths**
1. There are few programs at the University of Florida that can boast the national ranking of the College of Pharmacy Professional Pharm.D. Program (#9 in the U.S. in the most recent *U.S. News and World Report* rankings), not to mention the near 100% placement of its professional graduates in highly-paid positions (approximately $100,000 or more per year) immediately after graduation.

2. The College of Pharmacy faculty members are highly regarded among their peers.

**College of Pharmacy Areas for Development**
1. There is a lack of college oversight or even sense of responsibility for the inequities within and between graduate programs in terms of stipend floors, teaching activities, etc.
2. There appears to be a culture of modest expectations for the Pharmaceutics research and graduate program enterprise.
3. There is an apparent lack of interaction among graduate programs of the College of Pharmacy.
4. There does not appear to be transparency in budget allocations.

**University of Florida Areas for Development**
1. College of Pharmacy faculty ambitions have been undermined by lack of central support or recognition, despite their high rankings of the professional program and the outstanding record of placement of their graduates.
   - College of Pharmacy faculty undertook a fund-raising campaign to support the remodeling of research facilities; the re-modeled space was then transferred by Central Administration to the Medical School.
   - School resources have been strained by expansion of class sizes by 100% without University meeting its funding commitments to the College. The College received only 75% of the promised recurring costs.
Recommendations

1. The stipend for the current and future Pharmaceutics graduate students should be immediately raised to the NIH floor for graduate research assistants, with appointments at 0.5 FTE.

2. The inequities in stipends within and between graduate programs should be eliminated. This may require leadership at the level of the College, or even the central administration, if the will to make this happen cannot be generated at the level of the departments.

3. A competent high-level administrative staff member, with specific responsibilities for the Pharmaceutics graduate program should be immediately named. 
   • The performance evaluation of this staff member should be partially based upon the improvement of services to the graduate students.

4. Teaching responsibilities should be limited to a total of 2 semesters for each graduate student.

5. In order to train graduate students, faculty members must have the funds to support each student as a 0.5 FTE graduate research assistant (at the NIH floor for graduate research assistants) for three to four years. 
   • The admissions process each year should be driven by how many faculty members can guarantee such research support.
   • Considering its current size, the graduate program should consider significantly diminishing the size of its entering class for several years, or even skip a year.

6. The College should take the lead in impressing upon the University central administration that the health insurance program for students and post-docs is grossly inadequate.
   • This inadequacy is particularly troubling considering that the University of Florida has a major Academic Health Center on campus.

7. Increase the number of domestic students in the Pharmaceutics graduate program.
   • Setting an adequate stipend is the first step.
   • A formal recruitment program should be undertaken by the College of Pharmacy in order to attract well-qualified students from Florida and the rest of the U.S. to all of the graduate programs in the College.

8. Set clear standards for the appointment of adjunct faculty in terms of contributions to program, and set terms of appointment with scheduled reviews for continuation.

9. Increase specific fund-raising activities for departmental support of student travel.
Response to Pharmaceutics Graduate Program Review

We very much appreciate the input provided by the Program Review Team (PRT). The report will be very helpful in guiding the faculty in deciding on the future structure of the Department’s Graduate Program.

Here are some specific responses:

Pharmaceutics Graduate Program Strengths (1-6)
We appreciate the kind words, thank you very much.

Pharmaceutics Graduate Program Areas for Development

1. We fully agree that our current stipend level is very low and will increase the minimum pay in the future. Obviously, this will also result in a smaller number of graduate students that we will be able to support. We will look into the right balance of stipend and program size and make that decision jointly by faculty discussion and vote. As to the specific points raised:
   a. We will do more to encourage domestic students to join our program. We are hopeful that the Ph.D. Program in Clinical Sciences will facilitate this goal.
   b. We are also very concerned about the student’s health. However, health insurance issues are out of the control of the Department. We will raise this issue with the University administration.
   c. Although we believe that the student speaking about a second job is representative of our student population, we will increase the stipend level as mentioned above.
   d. The inequity of the stipend levels is not induced by the Department but rather by outside funding sources that provide fixed stipend levels. For example, the University has introduced recruitment stipend at very high levels ($25K) to recruit outstanding new students. Some foreign countries provide even higher stipends for their students. It is impossible for us to raise everybody to these externally determined levels so some inequity will always remain. We will try our best to minimize this.
   e. It turns out that after this semester we will no longer have any self-funded students. However, the Department does not feel that it is intrinsically wrong to admit self-funded students as long as they meet all academic requirements. Any Private School would be out of business otherwise, so, frankly, we cannot quite follow the recommendation of the PRT.
   f. The 0.33FTE is mandated by our University and not under the control of the Department.

2. We will review the internal infrastructure and design a more transparent administrative set-up. As was pointed out by the PRT, some recent turn-over in the Office may have contributed to the perceived confusion.

3. The Departmental Faculty strongly believes that teaching is an integral part of Graduate Education and should not be limited to two semesters only. There is a tremendous shortage of future educators in the Pharmaceutics Sciences, and we
feel it is our responsibility to prepare our Graduate Students for potential teaching careers as best as we can.

4. There seems to be a misconception that there is no travel support for graduate students. This year alone many students go overseas to present their work. As a matter of fact, I am not aware of a single student who was denied travel to a conference where he/she wanted to present their research data.

5. As mentioned above, we are working at recruiting domestic students. The Clinical Science Program will help facilitating this.

6. We continuously review the roster and encourage activities by our Adjunct Faculty. This group has been extremely supportive to the Department at absolutely no cost, and the Faculty is somewhat surprised that the PRT considers this as an issue.

7. This is a misconception. We stay in close contact with our alumni. The biannual Global Gator meeting is an event that brings together alumni from around the world. Furthermore, the College keeps a database will all contact information of our graduates.

8. It is not exactly clear what this point is referring to. However, there will be no more Fellows in the program in the future.

**Department of Pharmaceutics (Core) Areas for Development**

1. This is a clear misconception. Of course, there is a continuous encouragement for faculty to seek peer-reviewed external research funding and, of course, like most institutions, we can do better. We agree that post-docs can be helpful in mentoring graduate students. Most of our research groups have post-docs although the number can certainly be increased in the future. We will try to accomplish that.

2. The inequity was addressed earlier, this is almost always imposed externally. Within the department, we try to treat every student equally with all rights and duties.

3. We strongly disagree that there was no progress since 1993. The program size has more than tripled. We had the vision to focus on specific areas (PK/PD, Pharmacogenomics, Gene delivery, Herbal Medicine) and believe that we were correct in doing so. We provide a good education to our students with almost guaranteed employment opportunities and are a little surprised that is perceived as lack of vision. The future structure and philosophy of the program is in the hands of the faculty who all have built up very successful and productive academic programs with great future potential.

4. The IDC rate is not in the control of the Department.