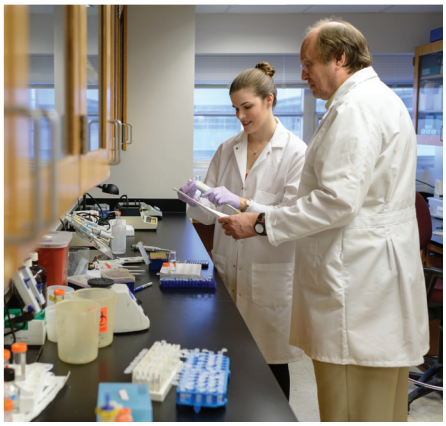
UF | College of Pharmacy
UNIVERSITY of FLORIDA

DEPARTMENT OF PHARMACEUTICS



Research in the department of pharmaceutics at the UF College of Pharmacy encompasses basic, applied and clinical investigations in pharmacokinetics/biopharmaceutics, pharmaceutical analysis, pharmaceutical biotechnology and drug delivery. In addition to teaching, all faculty members are involved in collaborative research projects with clinical and other basic scientists at UF Health, the university's academic health center or on campus. Many maintain collaborative ties with scientists in other universities and the pharmaceutical industry worldwide.

Education and Training

The current Ph.D. program in pharmaceutical sciences with specialization in pharmacy is offered by the department of pharmaceutics. The department has a strong record of placing graduate students and postdoctoral fellows in positions spanning the Federal Drug Administration, industry and academia. The uniqueness of the department is evident in present research activities in the following areas:

- **Biopharmaceutics and Pharmacokinetics** encompass 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.

Center for Pharmacometrics and Systems Pharmacology

The center's purpose is to create a uniquely rigorous and integrative academic translational science program in quantitative clinical pharmacology with a focus on personalized medicine. Integral to this mission is the education and training of doctoral students and postdoctoral fellows in the discipline of drug development and regulatory science. Using systems biology approaches, researchers study drug activities, targets and clinical effects to support and advance translational research. This impacts how new drugs are introduced in the market for improved patient therapies, including personalized medicines. The center is located at the UF Research and Academic Center in Lake Nona, Florida.

Top 10

UF is ranked among the top pharmacy colleges by U.S. News & World Report

DEPARTMENTAL FACTS

25
Ph.D. students

18
postdoctoral fellows

11
faculty members

95
original papers

167
presentations/abstracts

$3.6 million
in annual research awards

Department of Pharmaceutics • Sihong Song, Ph.D., Associate Professor and Graduate Coordinator
P.O. Box 100494 • Gainesville, FL 32610 • 352.273.7867 • shsong@cop.ufl.edu

PHARMACY.UFL.EDU/PC | @UFPHARMACY

UF | College of Pharmacy
UNIVERSITY *of* FLORIDA

DEPARTMENT OF PHARMACEUTICS

Gainesville-Based Research Faculty

Hartmut Derendorf, Ph.D., F.C.P.
Distinguished Professor and Chair

V. Ravi Chandran Professor in Pharmaceutical Sciences

Director, Center for Pharmacometrics and Systems Pharmacology

Pharmacokinetics, Pharmacodynamics and Pharmacometrics
Dr. Derendorf's research is focused on dose optimization during drug development and clinical practice. His group performs preclinical and clinical pharmacokinetic studies frequently combined with microdialysis studies to measure local drug concentrations at sites of interest in the body.

Bonnie Avery, Ph.D.
Clinical Professor

Translational Drug Development
Research interests include drug abuse and addiction, pain, preclinical pharmacokinetics and drug development.

Guenther Hochhaus, Ph.D., F.C.P.
Professor

Pharmacokinetics of Inhaled Glucocorticoids
Dr. Hochhaus evaluates anti-asthma drugs in the body to understand the relationship between the drug and formulation properties of inhalation drugs, their pharmacokinetic and dynamic properties and bioequivalence pharmacodynamic effects.

William Cary Mobley, Ph.D.
Clinical Associate Professor

Research interests include application of instructional design principles to optimize student pharmacist learning and the application of critical thinking and reasoning skills to help develop problem-solving abilities.

Thomas Schmittgen, Ph.D.
Professor

Cancer Therapy
Research interests include cancer therapeutics, exosomes as targeted drug delivery systems and the role of noncoding RNAs in cancer initiation and progression.

Sihong Song, Ph.D.
Associate Professor and Graduate Coordinator

Gene and Stem Cell Therapy
Research interests include adeno-associated virus, or AAV, vector biology, liver and muscle gene delivery, novel function of alpha 1 antitrypsin, or AAT, AAT deficiency and autoimmune and inflammatory diseases.

Lake Nona-Based Research Faculty

Stephan Schmidt, Ph.D., F.C.P.
Associate Professor

Certara Endowed Professor

Associate Director, Center for Pharmacometrics and Systems Pharmacology

Associate Chair, Lake Nona

Pharmacometrics and Systems Pharmacology
Dr. Schmidt's research focuses on the application of quantitative analysis tools to address clinically relevant research questions in the areas of antimicrobial chemotherapy, pediatrics, diabetes, cardiovascular safety and postmenopausal osteoporosis.

Sihem Bihorel, Ph.D., Pharm.D., M.S.
Assistant Professor

Translational Systems Pharmacology and Pharmacometrics in Cancer Medicine
Research interests include leading-edge experimental and computational techniques to rationally optimize sequence combination therapies of anti-cancer drugs; bench-to-bedside, multi-scale, system-based PK/PD models in oncology; novel nanodelivery system development for cancer therapy.

Jürgen Bulitta, Ph.D.
Associate Professor

Combatting Bacterial 'Superbugs'
Research interests include developing and rationally optimizing novel combination dosing strategies, creating novel mechanistic biological insights to develop new antibiotics and using the latest quantitative and systems pharmacology and pharmacometric tools.

Lawrence Lesko, Ph.D., F.C.P.
Professor

Pharmacometrics and Regulatory Decision-Making
Dr. Lesko's research interests are applied and clinically focused in the science of drug development and innovative approaches to supporting regulatory decision-making. This includes the use of modeling and simulation, as well as genetic and non-genetic biomarkers to address problems and issues surrounding the clinical pharmacology of new and established drugs.

Department of Pharmaceutics • Sihong Song, Ph.D., Associate Professor and Graduate Coordinator
P.O. Box 100494 • Gainesville, FL 32610 • 352.273.7867 • shsong@cop.ufl.edu
PHARMACY.UFL.EDU/PC | @UFPHARMACY

PS138393-10/23/17