



THE UNIVERSITY of
MISSISSIPPI
GRADUATE PROGRAMS

Overview

The University of Mississippi is recognized as a major research institution and is a part of the R-1: Doctoral Universities (Highest Research Activity by the Carnegie Classification of Institutions of Higher Education) group.

The School of Pharmacy ranks amongst the top 10 colleges of pharmacy in external research funding (as per the 2014 and 2015 Institutional Rankings published by American Association of College of Pharmacy). Three of the school's four academic departments offer a Master of Science in Pharmaceutical Sciences and a Doctor of Philosophy in Pharmaceutical Sciences: BioMolecular Sciences (emphases in environmental toxicology, medicinal chemistry, pharmacognosy, pharmacology), Pharmaceutics and Drug Delivery, and Pharmacy Administration.

Each of these programs offers opportunities to study with nationally and internationally recognized research scientists. Taught in a supportive environment, these programs prepare students for teaching and research positions in academia, or administrative and research positions in the pharmaceutical, chemical, agrochemical, food and health care, and government agencies. Our diverse graduate community includes outstanding faculty and students from around the globe, and their cutting-edge research and scholarship reflect tremendous vitality, impact, and significance.

BioMolecular Sciences Department

Environmental Toxicology

Environmental toxicology is the multidisciplinary study of various chemical, biological, and physical agents on living organisms. Through research and course work, students study the effects of environmental contaminants and stressors on the environment, wildlife, and human health, and come to understand the basic and applied research needed to set environmental policy and regulations. The program contributes scientific information that allows economic growth in a climate of high-quality, cost-effective health services and ecologically meaningful environmental stewardship. Research interests of the faculty include quantifying environmental contaminants and assessing their impact on environmental and human health.

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www.pharmacy.olemiss.edu/etrp

Medicinal Chemistry

Medicinal Chemistry applies chemical and biological principles to the study of compounds capable of exerting specific effects on biological systems. Medicinal chemists design, synthesize, and characterize compounds for managing or treating disease states. Knowledge of both chemical and biological sciences, as well as biophysical principles, are required to rationally design and discover novel therapeutic agents, and to understand and predict the properties that provide substances with drug-like attributes. Areas of current faculty interest include antimicrobial and anticancer chemotherapy, cardiovascular drugs, CNS-active agents, drugs affecting the endocrine system, toxicological aspects of drug or drug-like molecules in biological systems, computer remodeling, and simulation.

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www.pharmacy.olemiss.edu/biomolecularsciences/divisions/medicinal_chemistry

Pharmacognosy

Pharmacognosy is the study of bioactive natural products found in plants, microbes and animals, from which nearly half of all therapeutic agents have come or were derived. While addressing such challenges as the impact of natural products on humans and the environment, faculty and students conduct research leading to new methods for analyzing drugs, toxins and herbal preparations; new therapeutic agents, pest controls and herbal medicines; and increased understanding of the pharmacology, ecology and biochemistry of molecules produced by nature. Faculty interests include the search for new antimicrobial and anti-cancer drugs, CNS-active agents, molecular probes for studying drug-receptor interactions, polyphenols from fruits, semisynthetic modifications of natural products, and ecological relations of marine organisms.

Pharmacognosy Coordinator: Marc Slattery, Ph.D.

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www.pharmacy.olemiss.edu/pharmacognosy

Pharmacology

Pharmacology is the study of chemical agents of therapeutic value. Through course work and basic and applied research, students come to understand the underlying causes of various diseases, the mechanisms of action of substances used to manage or treat them, and potential adverse effects of drugs. With a goal of preserving and protecting health and the environment, areas of current faculty interest include research on the effects of drugs on cardiovascular disease, nervous system disorders, obesity, diabetes, and cancer.

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www.pharmacy.olemiss.edu/biomolecularsciences/divisions/pharmacology

Pharmaceutics and Drug Delivery Department

Pharmaceutics

Pharmaceutics is the art and science of delivering the right amount of therapeutic agents to the right places at the right times. Faculty conduct research to identify problems related to drug delivery (e.g., biological barriers, physical and chemical characteristics of molecules) and develop solutions to overcome them. Students come to understand the biopharmaceutical principles of drug delivery through course work and research that expose them to all facets of product research and development, including a variety of cutting-edge technologies. In addition to pre-formulation, formulation, and novel drug-delivery systems, areas of current faculty interest include product R&D, drug metabolism, drug dependence and tolerance, pharmacodynamics, solid-state characterization, and molecular modeling of physical processes.

Pharmaceutics Chair and Coordinator: Michael A. Repka, D.D.S., Ph.D.

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Pharmacy Administration Department

Pharmacy Administration

The pharmacy administration faculty includes experts in the fields of pharmaceutical marketing and management, socio-behavioral sciences, and health outcomes research. Some areas of inquiry include the marketing and economics of pharmaceuticals, patient and provider behaviors in the health care system, the evolving role of pharmacists in delivering quality health care, pharmacy management strategies, health-related quality of life, and outcomes associated with the use of pharmaceuticals. The unifying goal of these topics is to find solutions aimed at improving the use of pharmaceuticals and patient outcomes in a cost-effective manner. Graduates of the program often pursue careers in academia, the pharmaceutical industry, managed care, and government agencies.

Pharmacy Administration Chair and Coordinator: Donna West-Strum, Ph.D.

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www.pharmacy.olemiss.edu/phad



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