Earning Your Ph.D. in Pharmaceutical Sciences

CLICK THE TABS TO ADVANCE

UNC | ESHELMAN SCHOOL OF PHARMACY

OUR PROMISE

At the UNC Eshelman School of Pharmacy everything we do begins and ends with the patient in mind.

In our research labs we are innovating to overcome pain, sickness and disease. In our classrooms we are preparing future leaders who will transform pharmaceutical sciences and healthcare.

Our mission is to help people live longer, healthier lives. We are reinventing the way students learn, discovering solutions for the world's most challenging health issues and revolutionizing patient care.

We invite you to join us in

Advancing medicine for life

OUR MISSION

We are preparing the next generation of scientists, clinicians and practitioners to discover innovative solutions to the world's most challenging health care issues.

- Autoimmune Disease
- Cardiovascular Disease
- Rare Diseases
- HIV
- Metabolic Disorders
- Prescription Drug Abuse & Misuse
- Kidney Disease
- Blood Borne Diseases
- Pulmonary Disease
- Liver Disease
- Infectious Disease
- Inflammation
- Cancer
- Neurological Disorders
- Mental Illness
- Medication Costs
- Access to Patient Care
- Medication Optimization

OUR PH.D. PROGRAM

Our Ph.D. in pharmaceutical sciences at the UNC Eshelman School of Pharmacy offers a broad range of disciplines to prepare students for success as pharmaceutical scientists in academia, industry and regulatory agencies. The program combines aspects of chemistry, biology, biochemistry, pharmacy, pharmacology, engineering and economics.

Applicants to our Ph.D. program must choose a concentration in one of four academic divisions, each of which corresponds to a stage in the drug-development cycle.

Our Ph.D. students typically graduate in four to five years.

Our goal is to help people live longer, healthier lives

DRUG DISCOVERY

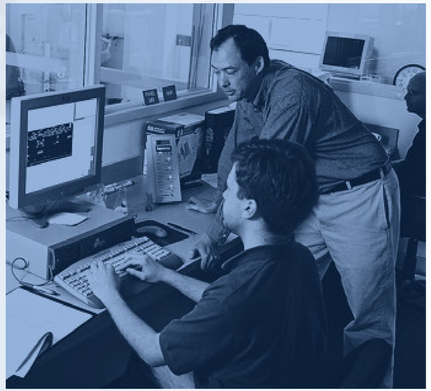
Chemical Biology and Medicinal Chemistry Admissions Contact:
Drew Lee, Ph.D.
drewlee@unc.edu
919.966.7821

DIVISION: CHEMICAL BIOLOGY AND MEDICINAL CHEMISTRY

The CBMC Ph.D. program prepares scientists to find and characterize new therapeutic targets and agents by seamlessly blending chemistry and biology.

Research Focus Areas:

- Synthetic Chemistry
- Medicinal Chemistry
- Chemical Biology
- Structural Biology
- Assay Development
- High Throughput Screening
- Neuropharmacology
- Rational Drug Design
- Computer Aided Drug Design
- Cheminformatics


DRUG DELIVERY

DIVISION: PHARMACOENGINEERING AND MOLECULAR PHARMACEUTICS

The DPMP Ph.D. program develops scientists who identify and deliver successful compounds and therapies applying knowledge in chemistry, engineering, immunology, neurology and biochemistry.

DPMP also offers an emphasis in pharmacoengineering, an emerging discipline that integrates engineering methods with pharmaceutical sciences.

Research Focus Areas:

Pharmacoengineering
Nanomedicine and Nanotechnologies
Gene Delivery
Cell-Based Therapies
Immunoengineering
Analytical & Polymer Chemistry
Pharmacokinetics
Molecular Pharmaceutics

Pharmacoengineering and Molecular Pharmaceutics Admissions Contact:
Philip C. Smith, Ph.D.
pcs@email.unc.edu
919.962.0095

DRUG OPTIMIZATION

DIVISION: PHARMACOTHERAPY AND EXPERIENTIAL THERAPEUTICS

The DPET Ph.D. program develops scientists who conduct translational research that integrates biomedical and pharmaceutical sciences in laboratory-based models and humans. There are two tracks in the DPET Ph.D. curriculum, one for clinicians (those with a Pharm.D. or M.D.) and one for non-clinicians.

Research Focus Areas:

Drug Metabolism & Transport
Pharmacokinetics
Pharmacodynamics
Pharmacogenomics
Clinical and Translational Research
Experimental Therapeutics
Mechanisms of Drug Toxicity
Pharmacotherapy
Clinical Pharmacology
Nanotechnology

Pharmacotherapy and Experiential Therapeutics Admissions Contact:
Daniel J. Crona, Pharm.D., Ph.D., CPP
crona@email.unc.edu
919.966.4343

PATIENT OUTCOMES

DIVISION: PHARMACEUTICAL OUTCOMES AND POLICY

The DPOP Ph.D. program trains scientists to conduct high-quality research directed at improving the use, patient-centeredness, and cost-effectiveness of pharmaceutical products, technology and services in society. Areas of focus include pharmaceutical policy, pharmacoepidemiology, pharmacoeconomics, and social and behavioral science.

Research Focus Areas:

Pharmacoepidemiology
Economics and Policy
Health Communications and Behavior
Implementation Science
Health Services Research
Pharmacogenomics and Precision Medicine
Data Science

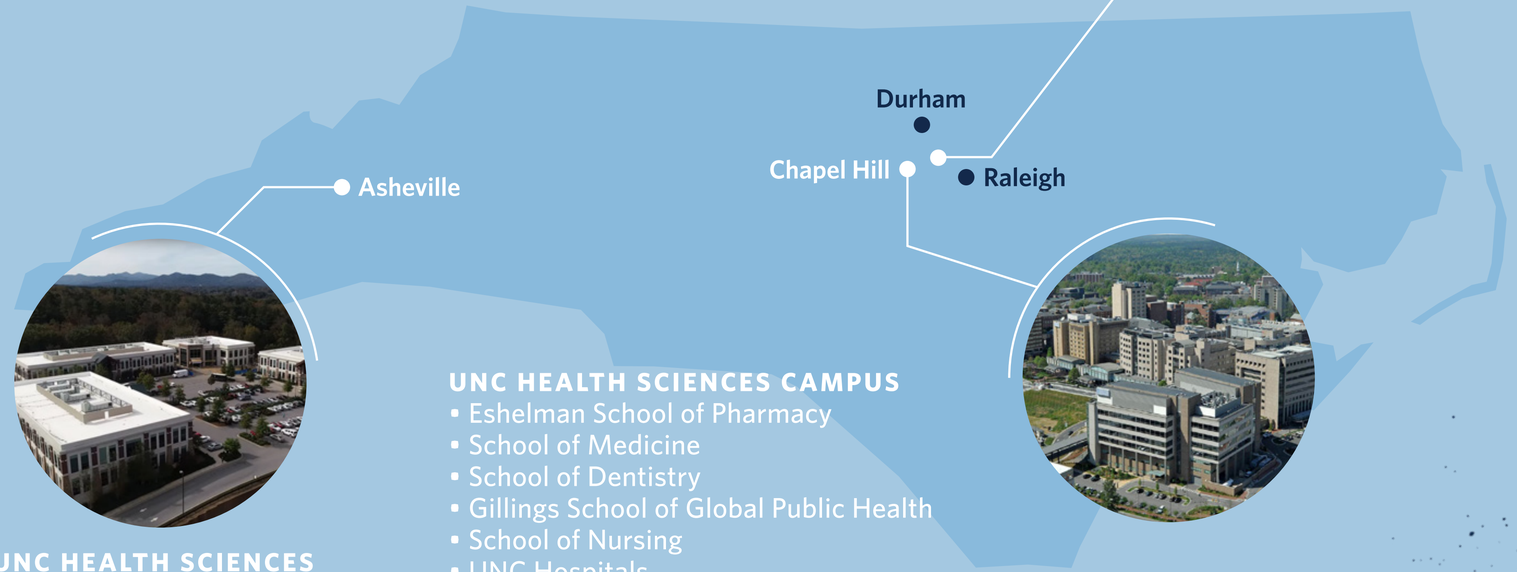
Pharmaceutical Outcomes and Policy Admissions Contact:
Delesha Carpenter, Ph.D., M.S.P.H
dmcarpenter@unc.edu
828.250.3916

HEALTH SCIENCES CAMPUSES

UNC-Chapel Hill is a research intensive and highly collaborative health sciences university. It is a key member of the research triangle which includes Duke University in Durham and N.C. State University in Raleigh. Also situated nearby in the triangle is RTP.

RESEARCH TRIANGLE PARK

Research Triangle Park is host to an abundance of pharmaceutical, biotech and health care companies



UNC HEALTH SCIENCES CAMPUS AT MAHEC

UNC HEALTH SCIENCES CAMPUS

- Eshelman School of Pharmacy
- School of Medicine
- School of Dentistry
- Gillings School of Global Public Health
- School of Nursing
- UNC Hospitals
- UNC Lineberger Comprehensive Cancer Center
- NC TraCS

COLLABORATIVE PARTNERSHIPS

Our culture of low stone walls extends well beyond our walkways. We are partnering with scientists, researchers and clinicians around the world in academia, industry and government to improve human health.

	Drug Discovery	Development & Evaluation	Care Delivery & Practice
Academic Divisions	CBMC	DPMP	DPET	DPOP	PACE
Research Centers	Center for Integrative Chemical Biology & Drug Discovery	Center for Nanotechnology in Drug Delivery	Center for Pharmacogenomics & Individualized Therapy Institute for Drug Safety Sciences Center for Medication Optimization
University Partnerships	School of Medicine, School of Nursing, Gillings School of Global Public Health, School of Dentistry, UNC Lineberger Comprehensive Cancer Center, UNC Hospitals, NC TraCS		
External Partnerships	Pharmaceutical & Biotechnology Companies, Academic Institutions, Healtcare Systems & Community-based Practitioners, Research Institutes, Foundations, Healtcare Provider Organizations, Healthcare Payers, Professional Organizations		

Eshelman Institute for Innovation (EII)

Accelerating the ***NEXT STEP*** in innovation through training, funding and support

"It is critical to have close collaboration between chemists, biologists and physicians ... It is absolutely essential to drug discovery."

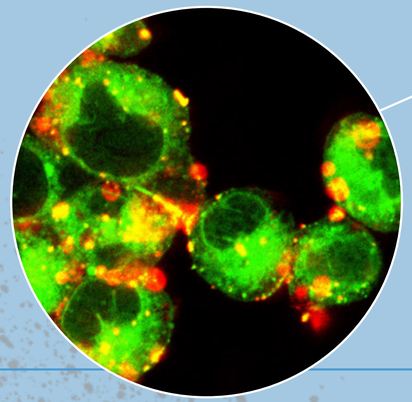
Stephen Frye, Ph.D.
Director of the Center for Integrative Chemical Biology and Drug Discovery

IGNITING INNOVATION

The Eshelman Institute for Innovation (EII) was established in 2014 with a $100 million commitment from Dr. Fred Eshelman.

The EII provides faculty, staff, students and partners resources to pursue high-risk, high-reward ideas that advance innovation in education, research, and patient care.

Ph.D. students are eligible to apply for support for bold research ideas that accelerate the translation of innovative products, services and technologies that will make a positive difference in human health.



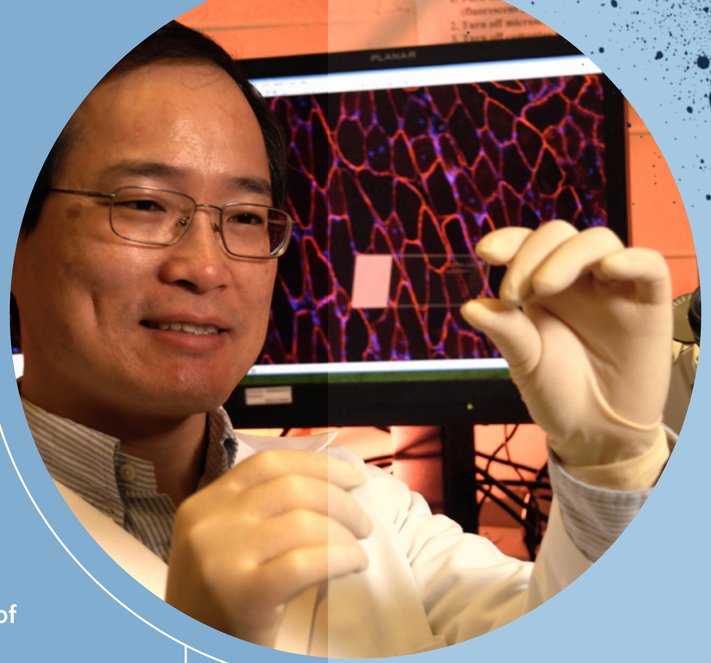
Accelerating the ***NEXT STEP*** in Innovation

CAREER OUTLOOK

What can you do as a pharmaceutical scientist?
You can draw on a wide range of disciplines to discover, test and manufacture new drugs and therapies, as well as evaluate their effectiveness and safety.

Where can you work?
Pharmaceutical scientists work at pharmaceutical and biotechnology companies, academia, regulatory agencies such as the Food and Drug Administration and national laboratories such as the National Institutes of Health.

What fields do pharmaceutical scientists work in?
- Analysis and pharmaceutical quality
- Biotechnology
- Clinical pharmacology and translational research
- Drug design and discovery
- Formulation design and development
- Pharmacoengineering
- Pharmacokinetics, pharmacogenetics, pharmacodynamics and drug metabolism
- Physical pharmacy and biopharmaceutics
- Regulatory sciences
- Social and behavioral pharmacy
- Pharmacoepidemiology
- Pharmaceutical outcomes



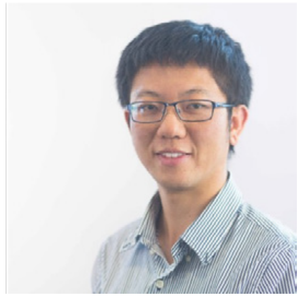
What is the career outlook?

$151,700

MEAN SALARY

AAPS.ORG

PHARMACEUTICAL SCIENCE CAREERS



HAO CAI, Ph.D.
DPET, 2016
Associate Scientist, Genentech Inc.

"The PhD program at the UNC Eshelman School of Pharmacy provided me both the scientific and professional training that is required for my career development. I was able to identify my career path and obtain the right skills through the guidance from my PhD advisor, well-designed courses, and the ideal academic environment in the school."

JULIE LAUFFENBURGER, Pharm.D., Ph.D.
DPOP, 2014
Instructor in Medicine at Harvard Medical School and Instructor in the Department of Epidemiology at Harvard School of Public Health

"My experiences at the UNC Eshelman School of Pharmacy afforded me innumerable opportunities for interdisciplinary collaboration, best possible training in research and experiences in teaching that have been instrumental for my career."

JASMINE LUZUM, Pharm.D., Ph.D., BCPS
DPET, 2013
Assistant Professor, University of Michigan College of Pharmacy

"The vast diversity of research expertise in DPET and the UNC Eshelman School of Pharmacy exposed me to many different directions for my research career, in my coursework, lab rotations, and collaborations. It allowed me to explore and then focus my research interests. I strongly believe that the quality and the rigor of earning a PhD in the UNC Eshelman School of Pharmacy is widely recognized, regardless if your career path is academia, industry, or regulatory. It certainly helped me earn my current position, and it gives me confidence in the success of my independent research career."

NADER MONIRI, Ph.D.
CBMC, 2004
Associate Dean for Research and Professor of Pharmaceutical Sciences, College of Pharmacy, Mercer University

"My time as a graduate student at the UNC Eshelman School of Pharmacy was very memorable, both professionally and personally. The graduate program allowed me to take the seed of scientific curiosity that was within me and make it fruitful by providing technical training as well as developing higher order skills in order to solve real-world problems related to human health and disease."

DYLAN GLATT, Ph.D.
DPMP, 2016
Research Scientist, Formulation Process Development, Gilead Sciences

"The UNC Eshelman School of Pharmacy provided a wonderful environment and set of experiences to transition into the role I serve today. The facilities are exceptional, perhaps world class, with access to technical equipment and highly trained experts. The didactic curriculum provided the fundamentals to understand problems often faced by a development scientist and speak the language of peers in my group at Gilead."

GET STARTED

1

DEGREE AND GPA REQUIREMENTS

A minimum 3.0 GPA and a bachelors degree or its international equivalent with an accredited institution, with a standard collegiate curriculum in pharmacy, chemistry, biochemistry, biology, engineering, pharmaceutical sciences, or an related field.

2

TAKE THE GRE

To be considered for admission, applicants must take the GRE general test within five years of your admissions date. To send your scores, select the University of North Carolina at Chapel Hill Graduate School (institution #5816) as a score recipient. Most foreign applicants must provide acceptable scores on the Test of English as a Foreign Language (TOEFL).

3

SELECT A DIVISION OR SPECIALIZATION

Applicants must select only one choice on their application for their Division of interest or specialization. If more than one selection is made, only the first choice on their application will be considered. Applicants should also describe this choice in their statement of purpose.

4

STATEMENT OF PURPOSE

Prepare a concise personal statement that explains:

- Why did you choose this field?
- Why did you choose our school?
- Why did you choose your specialization?
- What do you bring to our program?
- If you are interested in specific research areas or faculty.

5

ONLINE APPLICATION

Apply through the UNC Graduate School. Requirements:

- Fee of $90.00
- Transcripts
- 3 Letters of Recommendation
- GRE Test Scores
- Statement of Purpose
- Additional materials are required for international applicants

COMPENSATION PACKAGE

All students in the Ph.D. program in Pharmaceutical Sciences are fully-funded. The compensation package includes:

- Competitive Stipend
- Health Insurance
- Tuition and Fees
- Opportunities for Professional Development

CONTACT US:

For general questions about admission to our Ph.D. in pharmaceutical sciences programs, contact: pharmacy_admissions@unc.edu.

To visit the School before applying, please contact:

Aaron J. Todd, MS
Assistant Director, Graduate Programs
aaron@unc.edu

START HERE:
http://gradschool.unc.edu/admissions/instructions.html

ON-CAMPUS INTERVIEW

In early January/late February, selected applicants will be invited to visit Chapel Hill for a weekend to interview and engage with faculty and students.

www.pharmacy.unc.edu

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MAKE A DIFFERENCE