



# **Graduate Student Handbook 2019-20**

*Department of Pharmacology & Therapeutics*

# Table of Contents

<a href="#"><u>Department Directory</u></a> .....	3
<a href="#"><u>Primary Faculty</u></a> .....	3
<a href="#"><u>Research Faculty</u></a> .....	3
<a href="#"><u>Post Doctoral Associates</u></a> .....	3
<a href="#"><u>Graduate Students</u></a> .....	4
<a href="#"><u>Research Staff</u></a> .....	4
<a href="#"><u>Administration Staff</u></a> .....	4
<a href="#"><u>Emeritus Faculty</u></a> .....	5
<a href="#"><u>Joint/Courtesy Staff</u></a> .....	5
<a href="#"><u>History of Department</u></a> .....	6
<a href="#"><u>Graduate Training Programs</u></a> .....	10
<a href="#"><u>Requirements for Graduate Training</u></a> .....	11
<a href="#"><u>Available Courses</u></a> .....	15
<a href="#"><u>Responsible Conduct of Research</u></a> .....	16
<a href="#"><u>Dissertation Guidelines</u></a> .....	17
<a href="#"><u>Pharmacology Immersion Program</u></a> .....	18
<a href="#"><u>Roster of Current Students</u></a> .....	19
<a href="#"><u>Additional Information</u></a> .....	20

# Department Directory

## Primary Faculty:

Name	Title	Phone #	Email	Room #
Bird, Jonathan, PhD	Asst. Prof	352-294-8633	<a href="mailto:j.bird@ufl.edu">j.bird@ufl.edu</a>	R5-126
Guryanova, Olga, MD, PhD	Asst. Prof	352-294-8590	<a href="mailto:oguryanova@ufl.edu">oguryanova@ufl.edu</a>	CGRC-260
Harrison, Jeffrey, PhD	Professor	352-627-9208	<a href="mailto:jharriso@ufl.edu">jharriso@ufl.edu</a>	R5-254
Kopinke, Daniel, PhD	Asst. Prof	352-294-5355	<a href="mailto:dkopinke@ufl.edu">dkopinke@ufl.edu</a>	R5-208
Law, Brian, PhD	Assoc. Prof	352-273-9423	<a href="mailto:bklaw@ufl.edu">bklaw@ufl.edu</a>	R5-210
Levitt, Erica, PharmD, PhD	Asst. Prof	352-294-8651	<a href="mailto:erica.levitt@ufl.edu">erica.levitt@ufl.edu</a>	R5-130
Martens, Jeffrey, PhD	Professor & Chair	352-294-5352	<a href="mailto:martensj@ufl.edu">martensj@ufl.edu</a>	R5-234
Munger, Steven, PhD	Professor & Vice Chair	352-294-5749	<a href="mailto:steven.munger@ufl.edu">steven.munger@ufl.edu</a>	R5-250
Papke, Roger, PhD	Professor	352-392-4712	<a href="mailto:rlpapke@ufl.edu">rlpapke@ufl.edu</a>	R5-295
Rowe, Thomas, PhD	Assoc. Prof	352-273-9421	<a href="mailto:tomrowe@ufl.edu">tomrowe@ufl.edu</a>	R5-224
Sweeney, Lee, PhD	Professor	352-273-9416	<a href="mailto:lsweeney@ufl.edu">lsweeney@ufl.edu</a>	R5-216
Urs, Nikhil, PhD	Asst. Prof	352-294-5727	<a href="mailto:nikhilurs@ufl.edu">nikhilurs@ufl.edu</a>	R5-128
Wesson, Daniel, PhD	Assoc. Professor	352-294-8767	<a href="mailto:danielwesson@ufl.edu">danielwesson@ufl.edu</a>	R5-204

## Research Faculty:

Name	Title	Supervisor	Phone #	Email	Room #
Hammers, David	Research Asst. Prof	Dr. Sweeney	352-294-5661	<a href="mailto:dhammers@ufl.edu">dhammers@ufl.edu</a>	R5-171
Hook, Sven "Peter"	Research Asst. Prof	Dr. Sweeney	352-294-5661	<a href="mailto:shook@ufl.edu">shook@ufl.edu</a>	R5-171
Jahn, Stephen	Lecturer	Dr. Martens	352-294-5543	<a href="mailto:scjahn@ufl.edu">scjahn@ufl.edu</a>	R5-220
Law, Mary, PhD	Research Asst. Prof	Dr. Martens	352-273-9434	<a href="mailto:marylaw@ufl.edu">marylaw@ufl.edu</a>	R5-120
Pondugula, Santhi	Research Asst. Prof	Dr. Guryanova	352-273-5906	<a href="mailto:psanthi@ufl.edu">psanthi@ufl.edu</a>	CGRC-275-G
Uhkanov, Kirill	Asst. Research Scientist	Dr. Martens	352-273-9432	<a href="mailto:Kirill.ukhanov@ufl.edu">Kirill.ukhanov@ufl.edu</a>	R5-240
Zhang, Yi, PhD	Research Asst. Professor	Dr. Martens	352-376-1611*5046	<a href="mailto:yizhang@ufl.edu">yizhang@ufl.edu</a>	VAMC

## Post Doctoral Associates:

Name	Supervisor(s)	Phone #	Email	Room #
Cansler, Hillary	Dr. Wesson	352-294-8768	<a href="mailto:Hillary.cansler@ufl.edu">Hillary.cansler@ufl.edu</a>	R5-156
Harris, Sharonda	Dr. Urs	352-273-8349	<a href="mailto:ssharris@ufl.edu">ssharris@ufl.edu</a>	R5-273
Koh, Gar Yee	Dr. Munger	352-273-8587	<a href="mailto:gkoh@ufl.edu">gkoh@ufl.edu</a>	R5-285
Pena Bravo, Jose	Dr. Wesson	352-294-8768	<a href="mailto:jpenabravo@ufl.edu">jpenabravo@ufl.edu</a>	R5-156
Quadri, Marta	Dr. Papke/Horenstein	352-294-5661	<a href="mailto:marta.quadri@chem.ufl.edu">marta.quadri@chem.ufl.edu</a>	R5-171
Ryu, Sangeun	Dr. Wesson	352-273-8768	<a href="mailto:s.ryu@ufl.edu">s.ryu@ufl.edu</a>	R5-156
Shabashvili, Daniil	Dr. Guryanova	352-273-5906	<a href="mailto:danshaba@ufl.edu">danshaba@ufl.edu</a>	CGRC-275-G
Varga, Adrienn "Ada"	Dr. Levitt	352-294-8653	<a href="mailto:adrienn.varga@ufl.edu">adrienn.varga@ufl.edu</a>	R5-136
Wright, Katherine	Dr. Wesson	352-294-8768	<a href="mailto:wright.k@ufl.edu">wright.k@ufl.edu</a>	R5-156

## Graduate Students:

Name	Mentor	Concentration	Phone #	Email	Room #
Bateman, Jordan	Dr. Levitt	Pharmacology	352-294-8653	<a href="mailto:jordanbateman@ufl.edu">jordanbateman@ufl.edu</a>	R5-136
Behammanesh, Ghazaleh	Dr. Bird	Pharmacology	352-294-8634	<a href="mailto:ghazaleh.behmann@ufl.edu">ghazaleh.behmann@ufl.edu</a>	R5-144
Feng, Yang	Dr. Guryanova	Cancer	352-273-5906	<a href="mailto:yang.feng@ufl.edu">yang.feng@ufl.edu</a>	CGRC
Habif, Jay	Dr. Martens	Pharmacology	352-273-9432	<a href="mailto:julia.habif@ufl.edu">julia.habif@ufl.edu</a>	R5-240
Hart, Cora	Dr. Sweeney	Pharmacology	352-294-5661	<a href="mailto:coracrocket@ufl.edu">coracrocket@ufl.edu</a>	R5-171
Koutzoumis, Dimitri	Dr. Torres	Pharmacology	352-273-8349	<a href="mailto:dkoutzo1@ufl.edu">dkoutzo1@ufl.edu</a>	R5-273
Kulkarni, Aishwarya	Dr. Wesson	Pharmacology	352-294-8768	<a href="mailto:akulkarni1@ufl.edu">akulkarni1@ufl.edu</a>	R5-156
Moretta, Jordan	Dr. Martens	Pharmacology (Master's)	352-273-9432	<a href="mailto:morettaj@ufl.edu">morettaj@ufl.edu</a>	R5-240
Norris, Alessandra	Dr. Kopinke	Pharmacology	352-294-5359	<a href="mailto:alessandranorris@ufl.edu">alessandranorris@ufl.edu</a>	R5-148
Saunders, Sandy	Dr. Levitt	Pharmacology	352-294-8653	<a href="mailto:sesaunders@ufl.edu">sesaunders@ufl.edu</a>	R5-136
Venugopal, Kartika	Dr. Guryanova	Cancer	352-273-5906	<a href="mailto:kartikav@ufl.edu">kartikav@ufl.edu</a>	CGRC
Wang, Yixiao	Dr. Lobanova	Pharmacology	352-273-8791	<a href="mailto:wangyixiao@ufl.edu">wangyixiao@ufl.edu</a>	
Xie, Chao	Dr. Martens	Pharmacology	352-273-9432	<a href="mailto:xiechao@ufl.edu">xiechao@ufl.edu</a>	R5-240
Zimmerman, Arthur	Dr. Munger	Pharmacology	352-273-8587	<a href="mailto:arthur.zimmerman@ufl.edu">arthur.zimmerman@ufl.edu</a>	R5-136

## Research Staff:

Name	Title	Supervisor	Phone #	Email	Room #
Armellini, Megan	Bio Sci II	Dr. Sweeney	352-294-5661	<a href="mailto:armellini5@ufl.edu">armellini5@ufl.edu</a>	R5-171
Baekey, David	Bio Sci IV	Dr. Levitt	352-294-8653	<a href="mailto:dbaekey@ufl.edu">dbaekey@ufl.edu</a>	R5-136
Bhake, Radhika	Bio Sci II	Dr. Sweeney	352-294-5661	<a href="mailto:radbhikabhake@ufl.edu">radbhikabhake@ufl.edu</a>	R5-175
Davis, Bradley	Bio Sci I	Dr. Law	352-273-9433	<a href="mailto:bjdavis@ufl.edu">bjdavis@ufl.edu</a>	R5-152
Del Mar Cortijo Salcedo, Maria	Lab Tech	Dr. Wesson	352-294-8768	<a href="mailto:mariacortijosalc@ufl.edu">mariacortijosalc@ufl.edu</a>	R5-156
Goulet, Aimee	Vet Care Tech	Dr. Sweeney		<a href="mailto:aime.goulet@ufl.edu">aime.goulet@ufl.edu</a>	Vet School
Green, Sara	Lab Tech	Dr. Urs	352-273-9427	<a href="mailto:sara.green@ufl.edu">sara.green@ufl.edu</a>	R5-144
Huang, Zhi	Bio Sci III	Dr. Munger	352-273-8587	<a href="mailto:Zhi@ufl.edu">Zhi@ufl.edu</a>	R5-285
Jiang, Fangfang	Lab Tech I	Dr. Bird	352-294-8634	<a href="mailto:fangfangjiang@ufl.edu">fangfangjiang@ufl.edu</a>	R5-144
Lin, Tianming	Sci, Res. Mgr.	Dr. Sweeney	352-294-5661	<a href="mailto:timlin@ufl.edu">timlin@ufl.edu</a>	R5-175
Liu, Xiaoyan	Res. Cord. 3	Dr. Sweeney	352-294-5661	<a href="mailto:xiaoyanl@ufl.edu">xiaoyanl@ufl.edu</a>	R5-175
Luo, Defang	Bio Sci III	Dr. Harrison	352-294-5125	<a href="mailto:defanluo@ufl.edu">defanluo@ufl.edu</a>	R5-281
Matheny, Michael	Bio Sci III	Dr. Sweeney	352-294-8138	<a href="mailto:mathemk@ufl.edu">mathemk@ufl.edu</a>	L3-135A
Nagy, Christina	Bio Sci II	Dr. Munger	352-273-8587	<a href="mailto:crnagy@ufl.edu">crnagy@ufl.edu</a>	R5-285
Novak, Jonathan	Lab Tech	Dr. Levitt	352-294-8653	<a href="mailto:jon-novak@ufl.edu">jon-novak@ufl.edu</a>	R5-136
Stokes, Clare	Bio Sci III	Dr. Papke	352-392-3257	<a href="mailto:clear@ufl.edu">clear@ufl.edu</a>	R5-277
Stout, Christa	Admin Spec II	Dr. Sweeney	352-294-5357	<a href="mailto:stoutc@ufl.edu">stoutc@ufl.edu</a>	R5-216A
Zhang, Lian	Bio Sci III	Dr. Martens	352-273-9432	<a href="mailto:lzumich@ufl.edu">lzumich@ufl.edu</a>	R5-240

## Administration Staff:

Name	Role	Phone #	Email	Room #
Danforth, Michelle	Dept. Administrator	352-294-5351	<a href="mailto:mquire@ufl.edu">mquire@ufl.edu</a>	R5-234B
Esparolini, Ellen	Admin. Coordinator	352-294-5355	<a href="mailto:eesparol@ufl.edu">eesparol@ufl.edu</a>	R5-234
Martens, Jeffrey, PhD	Dept. Chair	352-294-5352	<a href="mailto:martensj@ufl.edu">martensj@ufl.edu</a>	R5-234A
Miller, Brittney	Communications Asst.		<a href="mailto:brittneymiller@ufl.edu">brittneymiller@ufl.edu</a>	R5-234
Otero, Deborah	Research Coordinator	352-294-5541	<a href="mailto:debbio@ufl.edu">debbio@ufl.edu</a>	R5-234
Rogers, Lynn	Sr. Accountant	352-294-5356	<a href="mailto:progers@ufl.edu">progers@ufl.edu</a>	R5-234
Whelan, Mary Claire	Admin. Asst.	352-294-5349	<a href="mailto:mcwhelan@ufl.edu">mcwhelan@ufl.edu</a>	R5-234

## Emeritus Faculty:

Name	Phone #	Email	Room #
Baker, Stephen, PhD		<a href="mailto:spbaker@ufl.edu">spbaker@ufl.edu</a>	
Garg, Lal, PhD		<a href="mailto:lcgarg@ufl.edu">lcgarg@ufl.edu</a>	
Kem, William, PhD	352-392-0669	<a href="mailto:wrkem@ufl.edu">wrkem@ufl.edu</a>	R5-226
Meyer, Edwin, PhD		<a href="mailto:meyere@ufl.edu">meyere@ufl.edu</a>	
Neims, Allen, MD, PhD		<a href="mailto:ahneims@ufl.edu">ahneims@ufl.edu</a>	
Scarpace, Philip, PhD	352-273-9424	<a href="mailto:scarpace@ufl.edu">scarpace@ufl.edu</a>	R5-114
Shiverick, Kathleen, PhD		<a href="mailto:kshiveri@ufl.edu">kshiveri@ufl.edu</a>	R5-293
Silverman, David PhD		<a href="mailto:silvrnmn@ufl.edu">silvrnmn@ufl.edu</a>	R5-293
Tumer, Nihal, PhD	352-273-9424	<a href="mailto:ntumer@ufl.edu">ntumer@ufl.edu</a>	R5-114

## Joint/Courtesy/Adjunct

Name	Title	Phone #	Affiliation
Behrns, Kevin, PhD	Affl. Prof	352-265-0761	UF Surgery
Booth, Raymond	Affl. Prof		Medicinal Chemistry
Cooke, Irene	Affl. Asst. Prof		
Dennis, Donn, MD	Affl. Assoc. Prof	352-846-1355	UF Anesthesiology
Fletcher, Bradley, MD/PhD	Assoc. Prof	352-273-9585	UF Hematology
Goldberg, Eugene, PhD	Affl. Prof		UF Engineering
Han, Xianlin, PhD	Ctsy Prof	407-745-2139	Sanford-Burnham Medical Research Inst.
Horenstein, Nicole, PhD	Affl. Asst. Prof		Chemistry
James, Margaret, PhD	Affl. Prof	352-273-7707	Medicinal Chemistry
Johnson, Howard, PhD	Affl. Res. Prof	352-846-0968	Microbiology/Cell Science
Khoshbouei, Habibeh, PhD	Affl. Associate Prof	352-273-8115	Neuroscience
Kim, Jae Sung, PhD	Affl. Asst. Prof	352-392-7461	MD, General Surgery Admin.
LoGrasso, Philip, PhD	Ctsy Assoc. Prof	561-799-8881	Scripps Research Inst.
Lobanova, Ekaterina	Affl. Asst. Prof	352-273-8791	Ophthalmology
Luesch, Hendrick	Affl. Prof.	352-273-7738	Medicinal Chemistry
May, William S., PhD	Affl. Prof		Cancer Center
Millard, William J., PhD	Affl. Prof		Pharmacodynamics
Muehlmann, Amber	Affl. Asst. Prof	352-294-4935	Psychiatry
Petitto, John, MD	Affl. Prof		Psychiatry
Richards, Nigel, PhD	Affl. Prof		Chemistry
Roberts, Stephen, PhD	Affl. Prof	352-294-4514	Environmental & Human Toxicology
Sandri, Marco	Ctsy Prof		University of Padova
Siemann, Dietmar, PhD	Affl. Prof	352-265-0287	Radiation Oncology
Vickroy, Thomas	Affl. Prof	352-294-4036	Physiological Sciences
Xiao, Rui	Affl. Prof	352-273-9389	Institute on Aging

# History of Department

*As written by David N. Silverman*

In 1955, George Harrell, M.D. was appointed the first dean of the UF College of Medicine. As the Medical Sciences Building and the Shands Hospital were being constructed, Dr. Harrell was charged with recruiting the faculty of the new College of Medicine. The third faculty member he hired was Thomas H. Maren, M.D., who was to establish the Department of Pharmacology and Therapeutics and be its first chair.

Dr. Maren was a graduate of the Johns Hopkins School of Medicine, where he studied under the mentorship of E. K. Marshall, M.D., Ph.D., the chair of Pharmacology and the successor in that role to John Abel, M.D., the researcher who brought modern pharmacology from Europe to the US. After graduation, Dr. Maren spent four years at American Cyanamid Company where he established the pharmacology of acetazolamide, the first clinically available inhibitor of carbonic anhydrase—a drug still used today. When he was appointed chair of Pharmacology at UF, he was just four years out of medical school at the age of 37 years.

The first appointment Dr. Maren made to establish the new pharmacology department was Kenneth C. Leibman, Ph.D., a biochemist trained at the University of Wisconsin. Dr. Leibman remained in the UF pharmacology department for his entire research career and achieved widespread recognition for his studies of drug metabolism, especially metabolism of the carbon-carbon double bond and its epoxide pathway. As a senior member of the department in 1973, he became the founding editor of the *Journal of Drug Metabolism and Disposition*.

The second faculty member hired was Dr. Bohdan Nechay, a veterinarian and renal physiologist who worked in the department for about ten years. Later, Dr. Nechay moved to the University of Texas Medical Branch at Galveston. Other early appointments in the Department of Pharmacology include David Travis, M.D., a respiratory physician and physiologist, Aaron Anton, Ph.D., a

pharmacologist from Yale, and Lucy Birzis, Ph.D., a neurophysiologist.

Other early appointments in the department made major contributions to research and teaching. Thomas F. Muther, Ph.D., was a Swiss expatriate trained at the University of Leeds. Dr. Muther's research efforts included drug induced teratology and histological localization of carbonic anhydrase. With an excellent sense of humor and wide knowledge of pharmacology, Dr. Muther was one of the department's most outstanding teachers. He spent his entire professional career in the UF Department of Pharmacology. Roger F. Palmer, M.D., was in the first graduating class of the UF College of Medicine. After a residency in internal medicine at Johns Hopkins, Dr. Palmer accepted an assistant professorship in the UF Department of Pharmacology. He developed a teaching program that incorporated pharmacology into the clinical years of study rather than just within the basic science years and received many teaching awards. In 1969, he moved to the University of Miami School of Medicine and a year later became chair of their pharmacology department.

Another early hire was W. Walter Oppelt, M.D., a Harvard trained pharmacologist with clinical expertise in cancer chemotherapy. Dr. Oppelt was also an outstanding teacher and mentor. He trained Warren Ross, M.D., later a member of the UF Department of Pharmacology and in the 1980s, a senior executive associate dean of the College of Medicine. Lal Garg, Ph.D.—the first Ph.D. awarded in the graduate research program in the UF Department of Pharmacology—also trained in the lab of Dr. Oppelt. Unfortunately, Dr. Oppelt suffered a brain tumor around 1970 and died a few years later. He was a very influential guide in the professional careers of many students at UF.

Another very productive member of the UF Department of Pharmacology in its initial years was George C. Y. Chiou, a Ph.D. in pharmacology trained

at Vanderbilt University. Dr. Chiou's lab examined autonomic pharmacology and later emphasized ocular pharmacology. He had a very active lab in the department and left around 1978 to become the professor of pharmacology at Texas A&M University and the director of its Institute of Ocular Pharmacology. He was a founding editor of the *Journal of Ocular Pharmacology and Therapeutics*. While at UF, Dr. Chiou mentored many graduate students, including Lynn Wecker, Ph.D., who became a Distinguished Research Professor at the University of South Florida with many accumulated honors. Dr. Wecker was president of the American Society for Pharmacology and Experimental Therapeutics (ASPET; 2011-2012).

Meanwhile, Dr. Maren advanced his program of very broad studies into the catalytic mechanism and physiological function of carbonic anhydrase in many species, and most importantly, the pharmacological effects of inhibition of this enzyme. Dr. Maren's Program Project Grant from the NIH funded many labs and researchers in the department. Under his leadership, a well-funded research program in antimalarials was also active in the department. With his guidance and influence, several researchers studying carbonic anhydrase were appointed to assistant professorships in the department and later obtained tenure. Dr. Muther was one. Another was Dr. Garg, who studied isozymes of human carbonic anhydrase and is credited with discovering the most abundant form of this enzyme in humans: carbonic anhydrase III, found predominantly in skeletal muscle. Later, Dr. Garg's research emphasized the presence and function of various ATPases in individual nephron segments. Dr. Garg spent his professional career in the UF Department of Pharmacology.

Included among the faculty working on carbonic anhydrase was Betty P. Vogh, a Ph.D. who had trained in the UF Department of Physiology. Dr. Vogh carried out studies of ion transport and fluid formation in the eye and cerebrospinal fluids and the reduction of these secretions caused by inhibition of carbonic anhydrase. Dr. Vogh was an excellent and conscientious teacher and

research mentor. Among her graduate students was J. R. Haywood, Ph.D., who became chair of Pharmacology and Toxicology at Michigan State University and later an Assistant Vice President in their Office of Regulatory Affairs.

Two of Dr. Maren's later hires came as assistant professors in 1971, both remaining in the department for their entire professional careers. William R. Kem, Ph.D., was trained at the University of Illinois and later did a postdoc with Dr. Toshio Narahashi at Duke University, a founding father in neurotoxicology. Dr. Kem established a research program in naturally-occurring toxins and in marine pharmacology. One of his students, William Doyle, M.D., Ph.D., later became a member of the UF Department of Ophthalmology. David N. Silverman, Ph.D., trained at Columbia University and later did postdoctoral studies at Cornell with Dr. Harold A. Scheraga. His research emphasized enzyme mechanisms. With long-time collaborator Chingkuang Tu, Ph.D., he made a fundamental discovery in the mechanism of proton transfer in fast enzymes as exemplified in carbonic anhydrase, a mechanism described in many undergraduate biochemistry textbooks. Dr. Silverman served as Associate Dean for Research in the UF College of Medicine (1986-1990) and as interim chair of Pharmacology (2013-2014).

The Department of Pharmacology under Dr. Maren's leadership was recognized nationwide. He served as president of the Association of Medical School Pharmacology Chairs. In the 1970s, the department was listed among the top twenty pharmacology departments in the country. Under Dr. Maren's leadership and by his own example, teaching was a primary responsibility of the faculty. Initiated and administered by Dr. Maren, the College of Medicine for its first dozen years required two hundred hours of independent research for medical students. In the early 1970s, the College of Medicine began a Junior Honors program to recruit very bright students into our medical school and accelerate their undergraduate studies. For over twenty years, Dr. Maren led these students in learning pharmacology in a seminar format. This

responsibility then transferred to Dr. William Kem, who led the Junior Honors program for close to twenty years. At various times, the faculty in the Department of Pharmacology in the College of Medicine taught pharmacology in the Colleges of Pharmacy, Veterinary Medicine, Nursing, Dentistry, and in the School of Physician Assistant Studies.

In 1977, after 22 years as chair, Dr. Maren announced his intention to relinquish his role as chair and continue research and teaching in the department as a graduate research professor. The search committee for a new chair was led by Kenneth I. Berns, M.D., Ph.D., then the chair of Microbiology and later the dean of the UF College of Medicine and Vice-President for Health Affairs. The search committee selected Allen H. Neims, M.D., Ph.D., as the new chair. Dr. Neims obtained both these degrees at Johns Hopkins, completed a residency in pediatrics, and at McGill University established a research presence in the area of drug metabolism, especially the metabolism and clinical effects of caffeine.

When he arrived as chair of the UF Department of Pharmacology in 1978, it was a department with exceptional depth in areas related to the biochemistry, physiology, and pharmacology of carbonic anhydrase. This culminated in a patent on the design of topical inhibitors of carbonic anhydrase in the control of glaucoma, described below. Dr. Neims transformed the department into one of breadth in pharmacology to fit into its expanding teaching responsibilities and to better integrate into the growing and broadening research in the College of Medicine. Accordingly, Dr. Neims led a remarkable recruitment effort that, within a few years, had attracted to the UF Department of Pharmacology very promising young faculty. In doing this and in leading the department, Dr. Neims demonstrated progressive and insightful administrative and leadership skills that were recognized campus-wide. In 1989, he led the faculty search committee that recruited Dr. John Lombardi as president of the university, and in 1990, he was appointed Dean of the UF College of Medicine.

The Department of Pharmacology changed rapidly

with Dr. Neims as chair. In a few years, several new assistant professors were on board. The first was Kathleen Shiverick, Ph.D., who was a colleague of Dr. Neims at McGill. Dr. Shiverick established her lab in the areas of drug metabolism and in the reproductive toxicity of environmental pollutants. An outstanding teacher, Dr. Shiverick was a strong contributor to the teaching program and an excellent role model to the increasing number of women in the professional and graduate programs of the college. Upon retirement, she was given a lifetime achievement award by the college.

Fulton T. Crews, Ph.D., was trained at the University of Michigan and in the NIH lab of the nobel laureate Dr. Julius Axelrod. Dr. Crews had many areas of research interests, mainly in the role of membranes in cell function, such as the relationship between membrane properties and the function of neuronal receptors. Dr. Crews was a popular teacher and consistently selected by the students as the college's best-looking instructor. In the mid 1990s, Dr. Crews moved to the University of North Carolina School of Medicine to head their Center for Alcohol Studies. Steven R. Childers, received a Ph.D. from the University of Wisconsin, and as a new assistant professor in the UF Department of Pharmacology, he established his lab in the area of neurotransmitters with an emphasis on the synthesis of opioid peptides in the brain and characterization of the brain opiate system. He later joined the Department of Physiology and Pharmacology at the Wake Forest School of Medicine.

Also recruited to the department at that time was Stephen P. Baker, Ph.D., trained at the University of Aston in England and in a postdoc with Dr. Lincoln Potter at the University of Miami. His research on the pharmacology and biochemistry of autonomic receptors and his success in teaching led to his appointment as chair of Pharmacology in 1990. Further recruitments included Edwin M. Meyer, Ph.D., trained in the neuropharmacology lab of Dr. Richard Wurtman at MIT. Later the department appointed Thomas C. Rowe, Ph.D., as assistant professor in 1985. Dr. Rowe obtained his doctoral degree from the University of Florida in



microbiology and trained as a postdoc at Johns Hopkins. He was appointed in 2015 as Associate Dean for Graduate Education and director of the Interdisciplinary Program in Biomedical Sciences in the UF College of Medicine.

Dr. Neims promoted a very congenial and open department while emphasizing excellence and high scholarship in teaching and research. To enhance communication and collaboration among faculty students, he initiated weekly dinners for faculty, often with the week's guest seminar speaker; graduate students could also attend. The department attracted outstanding joint appointments: Luiz Bellardinelli, M.D.; Eugene Goldberg, Ph.D.; Michael Greenberg, Ph.D., Director of the Whitney Marine Lab; Margaret James, Ph.D.; Howard M. Johnson, Ph.D.; Matthew Knight, M.D.; Peter Stacpoole, M.D. who became director of UF's Clinical and Translational Science Institute; and Christopher S. Wilcox, M.D.

When Dr. Neims was appointed Dean of the College of Medicine in 1990, a national search was initiated for a new chair in the Department of Pharmacology. The search committee, department faculty, and the new Dean agreed that the best candidate was already in the department: Dr. Stephen Baker. Dr. Baker assumed the role of chair just as the department moved into the then new Academic Research Building, occupying nearly the entire fifth floor. He was very supportive of the pharmacology faculty and students in their research efforts, and as an outstanding teacher himself, he led the department's teaching efforts by his own example. The second-year pharmacology course was voted best pre-clinical course by the medical students, and its coordinator, Dr. Rowe, was voted basic science teacher of the year.

Excellent faculty were recruited into the department and encouraged under Dr. Baker's leadership. Three of those faculty, Roger L. Papke, Ph.D., Jeffrey Harrison, Ph.D., and Brian Law, Ph.D., are currently active in the department, and their research interests can be found on the department's website. During this time, Philip Scarpace, Ph.D., transferred from the Veterans Administration

system to become a full-time faculty member in the Department of Pharmacology, his research on obesity emphasizing the role of leptin. Also transferring from the VA to become a part-time faculty member, Nihal Tumer, Ph.D., examined neuronal mechanisms of obesity.

A major patent for the University of Florida was based on research in the Department of Pharmacology. The lab of Dr. Thomas Maren in the early 1980s began to work on developing a carbonic anhydrase inhibitor to control glaucoma, a drug that could be given as eye drops rather than by mouth. For decades, it had been regarded as impossible to synthesize a carbonic anhydrase inhibitor that could cross the cornea. Dr. Maren's lab showed that this was incorrect and synthesized inhibitors given topically that were effective in controlling glaucoma. The resulting patent was licensed to Merck in 1986, which released Trusopt for clinic use in the mid-1990s. Trusopt was one of the most successful moneymakers in terms of the royalties it brought to UF. For years, the royalties from Trusopt brought in more money than any other invention, and among other benefits, funded the Thomas H. Maren, M.D., Eminent Scholar Chair in Pharmacology and Therapeutics and the Thomas H. Maren, M.D., Junior Investigators Research Fund.

It is a remarkable comment on the stability and continuity of the UF Department of Pharmacology and Therapeutics that in 56 years, the department had only three chairs. In 2014, Jeffrey Martens, Ph.D., from the University of Michigan was recruited as the fourth chair. Largely using royalties from the Trusopt patent, Dr. Martens began a major recruitment of many new faculty, enhancing research and teaching efforts as the Department of Pharmacology entered another chapter in its development and history.

# Graduate Training Programs

## Biomedical Sciences Graduate Program:

Applicants who are interested in the Pharmacology & Therapeutics concentration must first apply and be admitted to the Biomedical Sciences (BMS) Graduate program. During their first semester of study, students must register for general core courses, journal clubs and lab rotations. When a mentor and a lab are selected in a specific concentration, students then register for courses specific to his or her chosen concentration.

Training grants and other funding opportunities can be found here: <https://biomed.med.ufl.edu/research/training-grants-other-funding-opportunities/>. The BMS program is supported by eight concentrations from which a student can select (<https://biomed.med.ufl.edu/>):

- **Biochemistry and Molecular Biology Concentration** (<https://biomed.med.ufl.edu/about/biochemistry-and-molecular-biology/>)
- **Cancer Biology Concentration** (<https://biomed.med.ufl.edu/about/cancer-biology-concentration/>)
- **Genetics Concentration** (<https://biomed.med.ufl.edu/about/genetics/>)
- **Immunology and Microbiology Concentration** (<https://biomed.med.ufl.edu/about/immunology-microbiology/>)
- **Molecular Cell Biology Concentration** (<https://biomed.med.ufl.edu/about/molecular-cell-biology/>)
- **Neuroscience Concentration** (<https://biomed.med.ufl.edu/about/neuroscience/>)
- **Pharmacology and Therapeutics Concentration** (<https://biomed.med.ufl.edu/about/pharmacology-concentration/>)
- **Physiology and Functional Genomics Concentration** (<https://biomed.med.ufl.edu/about/physiology-concentration/>)

## Additional Programs:

In addition, the College of Medicine also offers the following graduate programs:

- **Certificate Programs:** Certificates offer flexibility along your education and training trajectory. Several certificate programs are offered entirely online for the benefit of working professionals. A list of current certificate programs can be found here: <https://graduate.education.med.ufl.edu/certificate-programs/>.
- **Masters in Medical Science – Pharmacology** (<https://pharmacology.med.ufl.edu/education/masters-in-medical-sciences-pharmacology-concentration/>)
- **MD – PhD Training Program** (<https://mdphd.med.ufl.edu/>)

# Requirements for Graduate Training

Graduate students who choose the Pharmacology & Therapeutics Concentration will acquire broad knowledge in the principles of drug action on biological systems, pharmacokinetic and pharmacodynamics concepts, and the pharmacologic and therapeutic basis to manage disease in humans. Three advanced courses will provide a foundation of pharmacology and therapeutics, which will be integrated with laboratory research, seminar and journal club attendance and participation, and data discussions. All pharmacology and therapeutic concentration graduate students must complete at least one laboratory rotation, the concentration's three advanced pharmacology and therapeutics courses, training in responsible conduct of scientific research, and the scientific writing course, as well as the concentration's seminar, journal club, and data discussion attendance/participation. In the first year, students select the faculty mentor who will supervise their thesis research project, and then they will form a thesis committee. Students schedule the first thesis committee meeting in the spring of their second year. Thesis committee meetings are required every 6 months during thesis research. The Qualifying Exam is taken in the beginning of their third year of study. To obtain the PhD degree, students should complete a total of 90 credits, as seen below.

## *Requirements:*

**GMS 6090: Laboratory Rotations:** During their first year, all pharmacology and therapeutics doctoral students are required to undertake at least one 7-week rotation in a pharmacology and therapeutics laboratory. The rotations consist of small research projects in a given laboratory. The purpose of the rotations is to enable the student to become well acquainted with individual faculty members and other graduate students, to learn about their research, to acquire some research techniques and skills, and to establish a basis for selecting a thesis advisor. At the end of each rotation, the student will write a report in the format of a scientific paper and will give a 10-15 minute presentation of the rotation. When there is a match between the student and the supervisor, the student can join that laboratory after one rotation (fast-track). However, all students are required to give at least two rotation presentations.

**GMS 6009: Principles of Drug Action & Therapeutics (Spring term, Course Director: Dr. Brian Law; Tuesdays and Thursdays from 1:30pm-3:30pm in the Academic Research Building (ARB), Room R5-265; 3 credits):** The goal of this course is to provide students with a basic knowledge of how therapeutics are discovered and optimized, to educate students on the mathematical models and quantitative analysis of ligand-receptor binding interactions and receptor-response coupling, to describe the biochemical and biological mechanisms of therapeutic action, to explain how therapeutic agents are distributed within the body as a function of time, and to outline the factors that control their half-life and access to their biologically relevant receptors.

**GMS 6847: Translational Research and Therapeutics: Bench, Bedside, Community, & Policy (Fall term, Course Director: Dr. Jeffrey Martens; Tuesday from 1:00pm-3:00pm, Thursday from 1:00pm-1:50pm; Academic Research Building (ARB), Room R5-265; 3 credits):** This course is for basic science students to gain insight into clinical research and clinical application, for clinical science students to gain insight into the basic science required to reach clinical trials, and for all students to gain insight into the importance of industry, regulation, marketing, and acceptance into medical practice, which constitutes the endpoint of translational research.

**GMS 6560: Molecules to Man: Past, Present and Future Therapeutic Strategies for Disease (Fall term, Course Director: Dr. Jeffrey Harrison; MWF from 1:55pm-2:45pm; Academic Research Building (ARB), Room R5-265; 3 credits):** The goal of this course is to educate students in the pharmacologic and therapeutic methods of managing disease in humans. The course will cover the therapeutic application of small molecule drugs and biologics (peptides, gene therapy and cell-based therapies) to the treatment of disease in numerous systems. Students will develop not only an understanding of the underlying cellular mechanisms by which small molecule drugs and biologics affect both normal and pathophysiologic processes, but also gain an appreciation of how they act in the intact organism in the presence of diseases.

**GMS 6090: Journal Club (Fall and Summer terms, 1 credit):** All students in the program must participate in weekly journal clubs, where they will have an opportunity to present and discuss a scientific paper.

**GMS 5905: Grant Writing Course (Summer term, Course Director: Dr. Jeffrey Harrison; Mondays from 12:00pm-1:00pm, Academic Research Building (ARB), Room R5-231; 1 credit):** During the summer of their second year, students will use their own thesis project to develop an NRSA-style grant proposal. Students will receive instructions on the structure of the grant proposal, the submission, and the review process.

**GMS 6590: Seminar in Pharmacology/Data Discussions (Fall and Spring terms, Course Director: Dr. Jeffrey Harrison; Fridays from 12:00pm-1:00pm, Academic Research Building (ARB), Room 265; 1 credit):** Students will present the progress of their research project to members of the concentration at least once a year and receive feedback from the graduate committee regarding the clarity of the presentation, their speaking style, their ability to answer questions, etc.

**GMS 7003: Responsible Conduct of Biomedical Research (Spring term, Course Director: Dr. Wayne McCormack; 1 credit):** It is designed to introduce key issues in the responsible conduct of research (RCR), following the research process from its inception to the process of planning, conducting, reporting, and reviewing biomedical research. The course seeks to provide a practical overview of the rules, regulations, and professional practices that define the responsible conduct of research.

**Preliminary Examination:** This exam will evaluate the ability of the student to present, discuss, and justify the merits of a scientific paper. The student will select 3 potential

papers not directly related to the thesis project. A committee composed of three faculty members will select one of the papers, and the student will present the paper one week after its selection. The committee will be formed by faculty members from the Department of Pharmacology and Therapeutics, and it will include one member of the graduate committee. This exam will take place by the end of the first year.

**Candidacy Qualifying Examination:** All students must take an exam that qualifies them for admittance to PhD candidacy. The exam consists of a 45 minute presentation of the thesis project by the student, followed by an oral examination by the thesis committee and the director of the pharmacology and therapeutics concentration. The questions are related to the primary area of research of the thesis project, but will also target general knowledge and research context. The qualifying exam should be scheduled in the fall of the student's third year. If the student does not pass the qualifying exam, he/she has an additional opportunity to take it again.

**Publications:** Students are required to have at least one first author paper submitted, accepted, or published in a peer-reviewed journal by the time the thesis defense is scheduled. The goal of this requirement is for students to learn how to write a paper, as well as understanding the mechanics of the submission process.

## Example Schedule:

### Declared Pharmacology Concentration Student

#### *Year 1 – Fall Semester*

GMS 6001: Fundamentals of Biomedical Science, 5 credits  
 GMS 6003: Essentials of Graduate Research & Professional Development, 1 credit  
 GMS 6090: Journal Club, 1 credit  
 GMS 6090: Laboratory Rotations, 2 credits  
*Total = 9 credit hours*

#### *Year 1 – Spring Semester*

GMS 6009: Principles of Drug Action & Therapeutics, 3 credits  
 GMS 6590: Student Data Discussions in Pharmacology, 1 credit  
 GMS 7003: Responsible Conduct of Biomedical Research, 1 credit  
 GMS 7979: Advanced Research, 1-4 credits  
 Electives  
*Total = 9 credits*

#### *Year 1 – Summer Semester*

GMS 7979: Advanced Research, 1-6 credits  
 Electives  
*Total = 6 credits*

#### *Year 2 – Fall Semester*

GMS 6560: Molecules to Man: Past, Present and Future Therapeutic Strategies for Disease, 3 credits  
 GMS 6590: Seminar in Pharmacology (Data Discussions), 1 credit  
 GMS 7979: Advanced Research, 2-5 credits  
 Electives  
*Total = 9 credits*

### Undeclared Pharmacology Concentration Student

#### *Year 1 – Fall Semester*

GMS 6847: Translational Research & Therapeutics: Bench, Bedside, Community, & Policy, 3 credits  
 GMS 6003: Essentials of Graduate Research & Professional Development, 1 credit  
 GMS 6090: Laboratory Rotations, 2 credits  
 Electives  
*Total = 9 credit hours*  
*(Students are expected to attend GMS 6590: Student Data Discussions in Pharmacology)*

#### *Year 1 – Spring Semester*

GMS 6009: Principles of Drug Action & Therapeutics, 3 credits  
 GMS 7003: Responsible Conduct of Biomedical Research, 1 credit  
 GMS 6090: Journal Club, 1 credit  
 GMS 6090: Laboratory Rotations, 1 credit  
 Electives  
*Total = 9 credit hours*

#### *Year 1 – Summer Semester*

GMS 7979: Advanced Research, 1-6 credits  
 Electives  
*Total = 6 credits*

#### *Year 2 – Fall Semester*

GMS 6847: Translational Research & Therapeutics: Bench, Bedside, Community, & Policy, 3 credits  
 GMS 6560: Molecules to Man: Past, Present and Future Therapeutic Strategies for Disease, 3 credits  
 GMS 6590: Seminar in Pharmacology (Data Discussions), 1 credit  
 GMS 7979: Advanced Research, 2-5 credits  
*Total = 9 credits*

# Available Courses

## Required Courses (All Students):

- **GMS 6009:** Principles of Drug Action and Therapeutics (3 credits)
- **GMS 6560:** Molecules to Man: Past, Present and Future Therapeutic Strategies for Disease (3 credits)
- **GMS 6847:** Translational Research & Therapeutics: Bench, Bedside, Community, & Policy (3 credits)
- **GMS 7003:** Responsible Conduct of Biomedical Research (1 credit)
- **GMS 6590:** Seminar in Pharmacology (1 credit)

Students who start the BMS program “undeclared” will take:

- **GMS 6001:** Fundamentals of Biomedical Science (5 credits)

## Optional Electives:

- **GMS 6051:** Advanced Signal Transduction (1 credit)
- **GMS 6053:** Cancer Biology & Therapeutics (1 credit)
- **GMS 6070:** Sensory Biology (3 credits)
- **GMS 6065:** Cancer Biology (3 credits)
- **GMS 6052:** Ion Channels of Excitable Membranes (1 credit)
- **GMS 7593:** Fundamentals of Skeletal Muscles (3 credits)

## Online Resources:

Additional courses can be found at: <http://biomed.med.ufl.edu/curriculum/>

Example schedule(s) for students in the Pharmacology & Therapeutics concentration can be found at: <http://biomed.med.ufl.edu/about/pharmacology-concentration/>

# Responsible Conduct of Research

Students in the Department of Pharmacology and Therapeutics should pursue course work and research with the utmost integrity. Students are encouraged to consult with their faculty advisor, the departmental graduate student advisor, or the chairman regarding any questions they may encounter throughout their training. Students will receive informal training on research conduct from their faculty advisors in their selected research laboratories. Additionally, formal training in the responsible conduct of research can be obtained at the university. Specifically, entering PhD students are required to take and successfully pass the College of Medicine's RCR course (see the previous section: *Available Courses*).

Pharmacology and Therapeutics students are expected to fully comply with the University of Florida policy regarding cheating, plagiarism, etc.:

*UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel."*



# Dissertation Guidelines

## Dissertation Supervisory Committee:

The student and their supervisor should discuss and agree upon the composition of the Dissertation Supervisory Committee. By the end of their first year, students must form a committee composed of at least four faculty members, including the supervisor who will serve as chair of the committee. In addition to the chair/supervisor, the committee must include one faculty member from the Pharmacology & Therapeutics concentration and a member from outside the Pharmacology & Therapeutics concentration.

During the fall of their second year, the student must submit the PhD Supervisory Committee Appointment Form to obtain approval of the supervisory committee composition. The role of the supervisory committee is to approve the initial dissertation project, to offer advice on all aspects of the project, including research and dissertation defense, and to approve the final dissertation defense. The Supervisory Committee will meet for the first time in the spring of the student's second year and every six months until the dissertation defense.

Link to IDP: <https://biomed.med.ufl.edu/students/dissertation-defenses/>

# Pharmacology Immersion Program (PIP)

The Pharmacology Immersion Program (PIP) is a one week immersive lecture, discussion, and laboratory methods program for incoming graduate students interested in Pharmacology and Therapeutics. PIP is designed to 1) render a general knowledge base of fundamental concepts in Pharmacology, 2) provide hands-on experience with methods commonly used within the multiple disciplines and experimental approaches within Pharmacology, and 3) facilitate engagement of students with primary faculty and other trainees in the Department of Pharmacology and Therapeutics.

PIP is organized into four successive daily themes, each consisting of modules focusing upon different research approaches common to the discipline of Pharmacology. These span a wide spectrum of methods, from gene editing to *in vivo* electrophysiology. Each module is led by faculty members in the Department of Pharmacology and Therapeutics who engage students in the concepts and methods relevant in their expertise. This includes a short lecture on the methods, their goals, and an emphasis on the historical origins of the methods to increase appreciation of the students for innovation. Following the lectures, students will be given practical experience with the approaches in faculty laboratories.

PIP is organized to occur the week prior to graduate school orientation for incoming students, and all incoming PhD students are strongly encouraged to attend and participate.

# Roster of Current Students

## 2014-2015

Joe Flores-Toro

Mentor: Dr. Jeff Harrison

Email: [Joseph.Flores-Toro@surgery.ufl.edu](mailto:Joseph.Flores-Toro@surgery.ufl.edu)

## 2015-2016

Dimitri Koutzoumis

Mentor: Dr. Gonzalo Torres

Email: [dkoutzo1@ufl.edu](mailto:dkoutzo1@ufl.edu)

Mengxiong “Betty” Wang

Mentor: Dr. Brian Law

Email: [mwang19880512@epi.ufl.edu](mailto:mwang19880512@epi.ufl.edu)

Arthur Zimmerman

Mentor: Dr. Steven Munger

Email: [arthur.zimmerman@ufl.edu](mailto:arthur.zimmerman@ufl.edu)

## 2016-2017

Chao Xie

Mentor: Dr. Jeffrey Martens

Email: [xiechao@ufl.edu](mailto:xiechao@ufl.edu)

## 2017-2018

Jordan Bateman

Mentor: Dr. Erica Levitt

Email: [jordanbateman@ufl.edu](mailto:jordanbateman@ufl.edu)

Yang Feng

Mentor: Dr. Olga Guryanova

Email: [yang.feng@ufl.edu](mailto:yang.feng@ufl.edu)

David Fireman

Mentor: Dr. Nikhil Urs

Email: [dfireman@ufl.edu](mailto:dfireman@ufl.edu)

Alessandra Norris

Mentor: Dr. Daniel Kopinke

Email: [alessandranorris@ufl.edu](mailto:alessandranorris@ufl.edu)

Sandy Saunders

Mentor: Dr. Erica Levitt

Email: [sesaunders@ufl.edu](mailto:sesaunders@ufl.edu)

## 2018-2019

Jay Habif

Mentor: Dr. Jeffrey Martens

Email: [julia.habif@ufl.edu](mailto:julia.habif@ufl.edu)

Cora Hart

Mentor: Dr. Lee Sweeney

Email: [coracricket@ufl.edu](mailto:coracricket@ufl.edu)

Aishwarya Kulkarni

Mentor: Dr. Daniel Wesson

Email: [akulkarni1@ufl.edu](mailto:akulkarni1@ufl.edu)

Jordan Moretta (Master's)

Mentor: Dr. Jeffrey Martens

Email: [morettaj@ufl.edu](mailto:morettaj@ufl.edu)

Yixiao Wang

Mentor: Dr. Ekaterina Lobanova

Email: [wangyixiao@ufl.edu](mailto:wangyixiao@ufl.edu)

# Additional Information

The esteemed University of Florida offers a plethora of resources, for both academic and entertainment purposes, for perspective and current students.

UF has more than 200 research, service and education centers, bureaus, and institutes. As one of the top schools in the country, it is ranked #9 in top public schools (US News, 2017). To give an idea of how selective the university is, the acceptance rate was 38% for the 2017 incoming class. For the same class, the average GPA was a 4.4, the average SAT was a 1349, and the average ACT was 30. These statistics show just how amazing the admitted students are, and their brilliance will only grow with continued time at UF.

The University of Florida currently has a total enrollment of 52,367 students, with an undergraduate enrollment of 34,554 students. The whole campus covers around 2,000 acres, supporting hundreds of buildings.

If sports are your thing, the Gators need no introduction. UF has 19 Division I teams competing in the South Eastern Conference. Whether you're up for a down-south Saturday watching the football team at Ben Hill Griffin Stadium or you'd rather spend a lazy Sunday watching the national champion softball team at McKethan Stadium, there's always a game to look forward to.

While the UF's campus features beautiful gothic architecture and provides world-class amenities, there's plenty to explore off campus too, especially if you're up for an outdoor excursion at one of the area's many parks and preserves. Cyclists will enjoy the Gainesville-Hawthorne State Trail and the nearby San Felasco Hammock, while nature lovers will be in paradise floating down the Ichenetucknee River or visiting Devil's Den, an underground spring filled with fossils of extinct species dating back 2 million years.

Located minutes away from campus, Paynes Prairie is another must see. The nature preserve showcases the diverse array of wildlife in the sunshine state – visitors can see everything from

buffalo to alligators – and watching the sun go down over the pristine landscape is something every Gator should experience at least once.

When it comes to arts and culture, Gainesville has one of the most diverse scenes in the region. The Phillips Center for the Performing Arts, located on the edge of campus, hosts dozens of events throughout the year, and the downtown Hippodrome State Theatre has a rich artistic tradition of its own – legendary playwright Tennessee Williams even put on a show there.

There's more to the city than highbrow fare, though. Racing enthusiasts will get a kick out of the Gatornationals – the season opener for the NHRA drag racing season. The annual event started in 1970 and has produced several record-shattering performances, including the first top fuel runs to hit 300 miles per hour.

Gainesville also has an amazing live music scene. While many people know it as the former home of Tom Petty and Steven Stills, the city's musical tradition continues with the annual punk rock festival The Fest, which brings in more than 300 bands who perform at venues all over downtown Gainesville.

Aside from its spot as #9 in public universities, UF has received many other complimentary rankings throughout the years:

- The #1 to live in the United States, according to Cities Ranked and Rated, 2nd Edition by Sperling and Sander (2007).
- Included in National Geographic Adventure magazine's list of the 50 Best Places to Live and Play.
- The #1 Top Tech City in Florida, #30 nationwide, according to Popular Science Magazine
- Forbes Magazine ranked Gainesville as the #1 City for Business and Careers in Florida, #12 nationwide (2012)

Here at the University of Florida, there are a wide variety of services that can aid you through graduate school and life in general:

- **U Matter, We Care:** If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352-392-1575 so that a team member can reach out to the student.
- **Counseling and Wellness Center:** If you're coping with stress, trauma, or crisis, the Counseling and Wellness Center offers strategies and resources to help. Contact them online: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 352-392-1111 or 9-1-1 for emergencies.
- **Student Health Care Center:** The Student Health Care Center offers a wide variety of resources, including sexual assault recovery, physical therapy, clinics, LGBTQ+ care, and more. Call them at: 392-1161.
- **University Police Department:** 352-392-1111 (or 9-1-1 for emergencies), <http://www.police.ufl.edu/>
- **E-learning technical support:** If you're in need of online support, call 352-392-4357 (select option 2) or e-mail [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu). <https://lss.at.ufl.edu/help.shtml>.
- **Career Resource Center (CRC):** If you need resume editing or interview preparation, please visit the Reitz Union, or call 352-392-1601, or visit their website: <http://www.crc.ufl.edu/>
- **Library Support:** For various ways to receive assistance with respect to using the libraries or finding resources, visit <http://cms.uflib.ufl.edu/ask>.
- **UF Bookstore:** Visit in the Reitz Union to shop for supplies, merchandise, and textbooks available to buy or rent.
- **Multicultural & Diversity Affairs:** UF Multicultural & Diversity Affairs is a department within the Division of Student Affairs. It provides a wide range of services, educational opportunities, learning, support, outreach, activities and engagement for students. Visit it in the Reitz Union, call 352-392-1217, or look at <https://multicultural.ufl.edu/>.
- **Academic Advising Center:** The AAC typically offers academic advising from 8:00-11:30 and 1:30-4:30, Monday-Friday in Fletcher Hall. For further information, see <https://www.advising.ufl.edu/advising/contact/>.
- **Graduate School Services:** The UF Graduate School Editorial Office is here to help with thesis, dissertation, and curriculum issues. The office oversees the thesis and dissertation process, offering guidance to students, faculty, and staff to ensure all master's theses and doctoral dissertations meet UF's high standards and are ready for electronic submission and digital archiving within the UF Libraries. Go visit them in Grinter Hall or see their website for more details: <http://graduateschool.ufl.edu/>.
- **Application Support Center:** The ASC provides workshops and one-on-one consultations, relating to the thesis and dissertation formatting templates. Schedule an appointment by calling 352-392-4357 or visit <http://helpdesk.ufl.edu/application-support-center/>.
- **Disability Resources:** Students with disabilities or in need of language assistance requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

## Fellowship and Funding Opportunities:

In addition to the funding provided by the Department, your faculty advisor, and/or the University, students are encouraged as part of their training to compete for external funding. Some sources of external funding include:

### 1) NIH NRSA:

Students who have passed their qualifier exam (PhD 'candidates') are eligible to submit an NRSA proposal. These proposals consist of a several page long section of your proposed science, and among other things, a section detailing support which is to be provided by your advisor. Students interested in submitting an NRSA should discuss the process with their research advisor well in advance of the due date. Additional information may be found at: <https://researchtraining.nih.gov/programs/fellowships>. Note that students eligible for diversity NRSA's may apply through a separate NIH NRSA competition.

### 2) NSF GRFP:

Students may submit an NSF GRFP prior to officially enrolling in UF. Also, students within the early stages of PhD training may submit a GRFP. PhD candidates (those who have taken and passed their qualifier exam) are ineligible. GRFP applications consist, among other things, of short descriptions of your scientific proposal and are evaluated 50% based upon the scientific merit of your proposal and 50% based upon the broader impacts you propose (e.g., how you plan to incorporate science into community outreach, teaching, etc). Additional information may be found on the NSF GRFP homepage: [www.nsfgrfp.org](http://www.nsfgrfp.org). Students interested in submitting a GRFP should discuss the process with their research advisor.