

ADMISSIONS

Admission to the MD/PhD program is highly competitive. Students motivated by the love of discovery, dedication to research and desire to improve the human condition are encouraged to apply.

Competitive applicants will participate in virtual interviews with members of the MD/PhD and College of Medicine admissions committees.

HOW TO APPLY

MD/PhD applicants must apply through the AMCAS system. For more information visit www.aamc.org.

In addition to the AMCAS MD application, each MD/PhD applicant must submit the following documents:

- College of Medicine Supplemental Application. (This will be sent to you after we receive your verified AMCAS application.) Be sure to check the box marked MD/PhD.
- Three Letters of Recommendation from people familiar with your academic record and potential for investigative research.
- Personal Statement describing your reasons for wanting to enter the MD/PhD program. Include your research interests and plans for the future.

INTERNATIONAL STUDENTS

Applications are accepted from foreign citizens who have completed at least 90 credit hours of course work in the United States or Canada at an accredited institution. All else being equal, priority will be given to candidates who are US citizens or permanent residents. However, non-US residents with a strong record of academic research achievement are encouraged to apply.

ADMISSIONS REQUIREMENTS

- Bachelor's degree or equivalent
- Completion of the following subjects (all courses except English must include a lab)
 - General Biology I & II
 - General Chemistry I & II
 - Organic Chemistry I
 - Biochemistry
 - General Physics I & II
 - Writing/Composition
 - English elective
 - Statistics (3 hrs)
- Knowledge of mathematics (preferably statistics or calculus)
- Medical College Admission Test (MCAT)

ADMISSIONS ADVISING

Pre-advisement appointments are available in person or by Zoom to help you apply to any of our programs. Visit engage.upstate.edu/portal/tanner to set up an appointment.

APPLICATION DEADLINE

- 1 AMCAS: The AMCAS application must be submitted by October 1.
- 2 All other application materials including the three letters of recommendation and the Supplemental application are due by November 1, no exceptions.

FUNDING

All MD/PhD students receive a full tuition waiver and a competitive 12-month stipend as part of the Graduate Student Employee Union (GSEU). Please visit our website at www.upstate.edu/mdphd for up to date costs and fees.

MD/PhD PROGRAM OFFICE

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STATE UNIVERSITY OF NEW YORK
UPSTATE
MEDICAL UNIVERSITY

MD/PhD

A dual degree program of the
**COLLEGE OF GRADUATE STUDIES
AND COLLEGE OF MEDICINE**

STATE UNIVERSITY OF NEW YORK

UPSTATE
MEDICAL UNIVERSITY

WWW.UPSTATE.EDU/MDPHD

SYRACUSE, NY

MISSION STATEMENT

The mission of the MD/PhD Program at SUNY Upstate Medical University is to train future physician scientists who, by combining the practice of medicine in the clinic with biomedical research in the laboratory, are uniquely trained and focused to bring the power of modern science to our understanding and treatment of human disease. The program is committed to recruitment of students with diverse educational and cultural backgrounds who, having a passion for research in the biomedical sciences and clinical care, are dedicated to becoming academic physicians.



WWW.UPSTATE.EDU/MDPHD

OUR LEADER

MESSAGE FROM DIRECTOR

This is a noble career choice that you will find rewarding for the rest of your life. You will enjoy the excitement of your own novel discoveries and the immense gratitude and thrill that you can translate that discovery to help others.



AMIT DHAMOON, MD, PHD

The director of Upstate Medical University's MD/PhD program, Amit Dhamoon, MD, PhD, brings a wealth of experience in the lab and the exam room to his position.

Raised in Syracuse, N.Y., Dhamoon earned his BA in Biology at Williams College in Massachusetts. He returned to Syracuse, working in a biochemistry lab and teaching biology, before entering Upstate Medical University's MD/PhD program, from which he graduated in 2007.

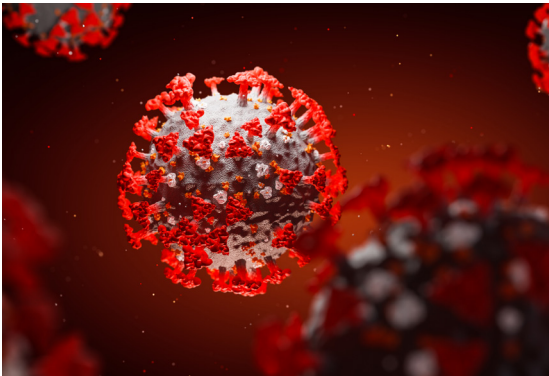
In addition to his role as director of the MD/PhD program, Dhamoon is an associate professor of Medicine at Upstate and a clinical associate professor at the University of Rochester Medical Center.

COVID-19 BROUGHT OUT THE BEST IN THE COLLEGE OF GRADUATE STUDIES

When COVID-19 arrived in New York, Upstate Medical University took steps to protect the health of students and patients by temporarily suspending clinical rotations. Students responded by seeking out other ways to help out during the pandemic.

From the earliest days, Upstate students assisted by answering phone calls to a COVID-19 hotline. They responded to questions, calmed nerves and shared what was known with a worried public.

Students continued their studies and work in the labs. With student assistance, Upstate developed a simpler, less-expensive COVID-19 test that is being used at SUNY campuses across New York and has been approved by the FDA for emergency use nationally.



OUR RESEARCH

Upstate has strong basic, translational and clinical research portfolios that are concentrated within five basic science departments and thirteen clinically oriented departments.

Collectively, our researchers have diverse expertise and share a common goal: to better understand the human body and disease. Most of the basic science research at SUNY Upstate is conducted through the College of Graduate Studies.

In addition, we have strong collaborative relationships with our neighboring institutions, Syracuse University, SUNY College of Environmental Science and Forestry and Syracuse VA through the Hill Collaboration and Institute for Environmental Health and Medicine.

As a result, our students have a breadth of opportunities to perform cutting-edge research in a wide range of areas with ready collaborations when new expertise is needed.

STATE-OF-THE-ART FACILITIES

Upstate investigators have at their disposal beautiful and highly functional laboratory space that is equipped with advanced instrumentation. The space is located in three dedicated research buildings – Weiskotten Hall, the Institute for Human Performance and our new flagship, the Neuroscience Research Building (NRB). The NRB brings together neuroscience researchers from the departments of Neuroscience and Physiology, Ophthalmology, Psychiatry, Neurosurgery and Anesthesiology to work on important problems in neurodevelopment, neuro-oncology, neuronal stem cells, physiological basis of behavior, psychiatric genetics and vision.



Upstate Golisano Children's Hospital

POWERFUL CORE FACILITIES

Performing cutting edge research requires access to powerful techniques and instrumentation. For this reason, Upstate has invested in research cores that provide faculty and students with the opportunities to leverage the latest technologies to advance their research programs. Capabilities within our cores include whole genome sequencing and analysis, proteomics and mass-spectrometry, confocal and two-photon imaging, super-resolution microscopy (STED), an 800MHz NMR, cryo-electron microscopy, flow cytometry, and in vivo computed tomography.

RESEARCH OPPORTUNITIES

It is impossible to summarize in such a short space all of the research opportunities available to our graduate students. Suffice to say no University will put as much emphasis as Upstate on your career development, whether your interests lie in academia, industry or using your degrees to develop a sustainable career in a related field. Upstate trains tomorrow's scientists by working on today's biomedical problems, and converting students from consumers of knowledge to producers of knowledge.

Scientists at Upstate rely on well-established core research facilities and a growing inventory of state-of-the-art resources and equipment, including:

- Proteomics
- Flow Cytometry
- DNA Sequencing
- Microarray
- Musculoskeletal
- Magnetic Resonance Imaging
- Humanized SCIP Mouse & Stem Cell Processing
- Confocal and Two-Photon Imaging
- Clinical Research Unit
- In Vivo Computed Tomography
- Center for Research and Evaluation
- X-ray Diffraction
- Laboratory Animal Resources
- Bone Densitometry
- 800 MHz Nuclear Magnetic Resonance Spectrometer

STUDENT SUCCESS

Our MD/PhD students have an excellent track record of obtaining extramural funding. Grant writing is a focus of their integrated training. These MD/PhD students have recently received multi-year F30 research grants from the National Institutes of Health totaling more than \$400,000.

I CHOSE UPSTATE MEDICAL UNIVERSITY

because of the sense of community on campus. One of the many areas you can see the Upstate community in action is in our research. The professors are always willing to help in conducting experiments related to your research focus and we have access to core facilities and equipment.

My classmates have helped me learn new techniques in the lab that I have applied in my research. Upstate is helping me grow into a well-rounded scientist and I am confident I will be a highly qualified physician scientist when I graduate!

—*Laura Szczeniak, MD/PhD Candidate*



PROGRAM STRUCTURE

YEAR 1	Summer Research Rotation	First-Year Basic Science Medical School Classes		
YEAR 2	Summer Research Rotation	Second Year Basic Science Medical School Classes	USMLE STEP I	
YEARS 3-6	Grant Writing	Qualifying Exam	Dissertation Work	Defend Thesis
YEARS 7-8	Clinical Clerkships	Apply to Residency	USMLE STEP II	Graduation

OUR STUDENTS

Students by Program

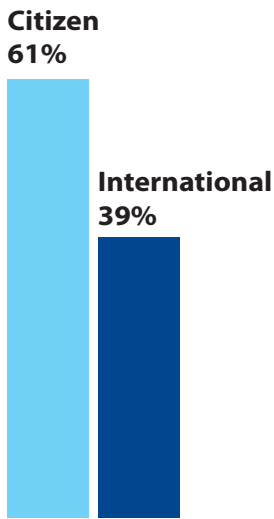
Not Yet Declared-PHD-0000	10
Anatomy & Cellular Biology-PHD-CBIO	2
Biochemistry & Molecular Biology-PHD -MBIO	10
Microbiology & Immunology-PHD-MIMM	3
Neuroscience-PHD-NEUP	7
Pharmacology-PHD-PHAR	2
GRAND TOTAL	34

Fifteen of the 34 MD/PhD students are currently in PhD year of the program. Students in PHD-0000 have not declared a lab. This is generally done at the end of the second year of medical school.

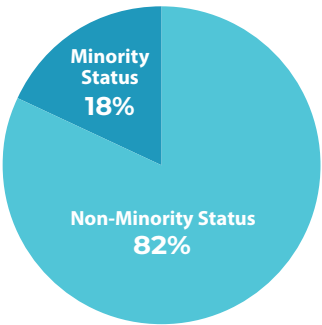
Gender Composition



Citizenship Composition



Minority Composition



ALUMNI SUCCESS

WORLD CONGRESS ON ADHD RECOGNIZES UPSTATE STUDENT WITH YOUNG SCIENTIST AWARD

Upstate Medical University student Eric Barnett has been given a prestigious award by an international conference on attention deficit hyperactivity disorder. Barnett is a sixth-year MD/PhD student in the College of Graduate Studies.

Barnett was one of just eight recipients of a Young Scientist award at the recent World Congress on ADHD, which is sponsored by the World Federation of ADHD. As part of the award, Barnett completed a 20-minute pre-recorded presentation for the virtual four-day Congress and will receive 500 Euros (about \$611).

Barnett, 30, is originally from Cary, North Carolina and completed his undergraduate degree in chemistry and biology at Guilford College in Greensboro, North Carolina. He's been studying at Upstate since 2015.

Barnett works in the lab of Stephen Faraone, PhD, distinguished professor and vice chair of research of psychiatry and behavioral sciences. Faraone is an internationally renowned expert on ADHD. Barnett's research focus is how machine learning (or artificial intelligence) can help interpret large data sets of genetic information to better understand ADHD.

"At the human level, we can't comprehend a network with hundreds of thousands of computations," he said. "It's not feasible for us to find complex patterns in that much data but machine learning can. There's still so much we don't know about ADHD and that's exciting to me."

After working in a lab before coming to Upstate, Barnett said he discovered that he was more interested in the computational side of the research – understanding how to analyze and interpret data. With his MD/PhD degree from Upstate, Barnett hopes to one day study ADHD through a mix of lab work and research.



Eric Barnett, MD, PhD student

"The dream job is to split time between research and the clinic," he said. "You see things differently when you look at research from a clinical perspective."

Barnett learned of the award earlier this year and was asked to record his presentation a month before the Congress, which was held in the spring.

Faraone said the award is especially impressive because Barnett was competing with post-doctoral students as well as junior faculty. The World Congress on ADHD is attended annually by hundreds of ADHD experts from around the world. This year's congress was based in Prague.

"I believe that Eric's work was so well received because he is one of the first to develop a method for using genomic data to predict disease that addresses issues that have confounded prior work," Faraone said. "This task is difficult but, if ultimately successful, will allow for improved accuracy when using genomic data to predict psychiatric and medical outcomes."

OUR GRADUATES

RECENT MD/PHD GRADUATES HAVE GONE TO:

Barnes-Jewish Hospital	Temple University	University of Rochester
Duke University	UC San Francisco	University of Virginia
Massachusetts General Hospital	University of Chicago	Washington University (St. Louis)
Mt. Sinai Medical Center	University of Michigan	Weill Cornell Medical Center
Ohio State University	University of Pittsburgh	Yale University