



Miller School Launches DREAM Scholarship Program to Support Student Researchers

Seven students at the University of Miami Miller School of Medicine will spend their next academic year doing groundbreaking clinical research thanks to the Dean's Research Excellence Award in Medicine (DREAM) scholarship program.



Top row, from left: Jenna Davis, Elijah Horesh, Christopher Kaler, and Deborah Lin. Bottom row, from left: Rohit Reddy, Vincent Volante, and Desmond Kim.

“This program is part of the Miller School’s commitment to train future physician-scientists,” said Henri R. Ford, M.D., M.H.A., dean and chief academic officer. “Our goal is to empower the DREAM scholars to transform the future of medicine



and improve the health of humanity.”

Grace Zhai, Ph.D., professor of pharmacology, is a faculty advisor to the DREAM program.

“This exciting program integrates the Miller School’s outstanding preclinical and clinical training, rigorous research training, and professional development elements to enhance the physician-scientist training experience,” she said. “DREAM scholars will carry out independent research projects and develop a ‘physician-scientist identity,’ providing a springboard for a successful career in academic medicine.”

The first class of DREAM scholars includes third-year students Jenna Davis, surgery; Elijah Horesh, dermatology; Christopher Kaler, ocular oncology; Deborah Lin, dermatology; Rohit Reddy, urology; and Vincent Volante, ophthalmology, as well as fourth-year student Desmond Kim, anesthesiology. They will be guided in their research activities by experienced faculty members, interact with the Miller School’s Medical Scientist Training Program (MSTP), and network with physician-scientists locally and nationally.

“The DREAM program is one of our important pipeline programs for energizing the next generation of physician-scientists,” said Carl Schulman, M.D., Ph.D., M.S.P.H., executive dean for research. “We need to support and encourage young scientists to consider careers as physician scientists through programs at the undergraduate, medical school, and graduate medical levels. This is essential to maintain a steady stream of talented physician-scientist researchers who will discover the future treatments and cures for all of us.”



Chris Raif Alabiad, M.D., associate professor of clinical ophthalmology and assistant dean for student affairs, said the DREAM program advances the school's mission of transforming lives from bench to bedside research.

"As investigators, these students will think through relevant medical problems in a scientific way from inception to completion," he said. "It is a great opportunity to level the playing field for students who would not have been able to devote a year to research without incurring financial hardships."

Conducting Original Research

All DREAM scholars are looking forward to conducting original research with their mentors.

"This will be a great experience to prepare for a residency in urology," said Reddy, whose mentor is Ranjith Ramasamy, M.D., associate professor of urology and director of the Male Reproductive Medicine and Surgery Program.

Reddy's project involves the genetic factors that lead to different levels of certain protein concentrations in the testicles of male COVID patients.

"We have blood samples from two brothers, a non-related subject and three controls to see why some men have pain and swelling after a COVID infection, while others do not," Reddy said.

Dr. Ramasamy said the DREAM program is a great initiative for medical students like Reddy to pursue their research interests.



“This new study could also point to the genetic issues involved in other COVID-related issues, such as kidney or lung failure,” he said.

In the field of anesthesiology, Kim’s project involves using simulation science to train clinicians on strategies to ventilate individuals who can’t breathe for themselves.

“We will be testing a novel device suited for both trained and untrained individuals,” said his mentor, Richard McNeer, professor of anesthesiology. “It could be used by first responders in an emergency, in the operating room during surgery, or at the bedside of a patient who stops breathing. Using simulations is an excellent way to address these clinical issues.”

Dr. McNeer said the DREAM program brings back “great memories” of his training as a physician scientist.

“My mentors helped me through a formative period in my life, and Dean Ford’s program really resonated with me,” he said. “It takes vision to make a long-term commitment to training the next generation, and I’m happy to be part of this program.”

Ophthalmology Projects

Third-year student Volante is looking forward to continuing his studies with Sonia Yoo, M.D., professor of ophthalmology, who performed vision-saving cataract surgery for him in 2017, when he was an undergraduate.

“Being inspired by the doctor who enabled me to regain my vision, I developed a passion for ophthalmology,” he said. “Dr. Yoo has been helping me develop professionally through



clinical research since my first year of medical school, and it is an honor to have her as my mentor in the DREAM program.”

Volante’s project involves determining the visual parameters that can most accurately predict patient outcomes after surgery to implant multifocal intraocular lenses (IOLs).

“The findings may improve outcomes of cataract surgery and educate future patients about outcome expectations,” he said.

Also at Bascom Palmer, Kaler will be studying proteins that led to the metastasis of uveal melanoma with J. William Harbour, M.D., professor of ophthalmology and Mark J. Daily Chair in Ophthalmology, vice chair for translational research, and director of ocular oncology.

“We are working hard to find better treatments for metastatic disease, and this project can advance our understanding,” he said.

Reflecting on his own career, Dr. Harbour said he took a year off from medical school to conduct research, resulting in a genetic study of lung cancer whose results were published in *Science*.

“It lit that fire of curiosity and the joy of discovery in me,” he said. “The DREAM program is a great way to get more of our students excited about research, while diversifying and expanding the pipeline of future clinician-scientists.”

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