Otolaryngology Program Awarded Five-Year NIH Grant to Train Much-Needed Surgeon-Scientists

The University of Miami Miller School of Medicine is one of five elite U.S. academic otolaryngology programs to receive the National Institutes of Health (NIH) National Institute on Deafness and Other Communication Disorders (NIDCD) Research Education Program (R25) grant to train future surgeon-scientists in the ear, nose and throat specialty.

Xue Zhong Liu, M.D., Ph.D.

The five-year, $1.54 million grant, entitled “Miami Otolaryngology Surgeon-Scientist Training Program,” will fund two otolaryngology research-track residents per year (one for 12 months and another for six months) and two medical students per year for one year of research-specific training. The funding starts in July 2023 and ends July 2028.

The aim is to build a pipeline of much-needed surgeon-scientists in the specialty, according to Xue Zhong Liu, M.D., Ph.D., Marian and Walter Hotchkiss Endowed Chair in Otolaryngology and director of the T32/R25 Clinician Scientist Training program at the Miller School.

“Surgeon-scientists play key roles in discoveries and the translation of research advances into improved health care for
patients, yet there is a critical shortage of these dual-trained clinicians in the workforce,” said Dr. Liu, who also is vice chairman of otolaryngology at the Miller School. “To prepare the next generation of otolaryngology surgeon-scientists, the R25 will fund a new training program at the Miller School that integrates basic, translational, epidemiologic and clinical sciences into the clinical training of residents and medical students.

“This mentored research training program aims to address barriers that prevent trainees from achieving successful academic surgeon-scientist careers that facilitate scientific discoveries and advances in hearing and communication disorders that align with the mission of NIDCD,” he said.

Training and Support for Future Surgeon-Scientists

Otolaryngology requires multidisciplinary approaches for understanding and treating hearing and communication disorders. But advancing the scientific foundation of the subspecialty requires well-trained investigative teams with diverse skills and backgrounds in basic and clinical science, according to Dr. Liu’s NIDCD grant proposal.

“Despite numerous reports on declining numbers of physician-scientists over the past several decades, the decrease continues, including in otolaryngology — head and neck surgery. The need to take action now cannot be overstated,” he wrote. “Our continued failure to do so will result in greater challenges, with fewer mentors or role models for trainees, fewer surgeon-scientists to serve on NIH study sections and a shortage of otolaryngologists with the necessary training and
support to drive new advances for our patients.”

In 2018, the Miller School’s Department of Otolaryngology was awarded the highly competitive five-year NIDCD Ruth L. Kirschstein National Research Service Award Institutional Research Training Grant (T32), which provides otolaryngology residents one additional year of hands-on training as research fellows.

“With the T32 grant, we have successfully recruited and trained five T32 residents,” Dr. Liu said. “Under this R25 application, we aim to enhance our infrastructure and leverage additional medical school resources to train residents and medical students to become future physician-scientists.”

Other academic institutions to receive NIDCD’s R25 funding include Stanford, University of Southern California, Duke, University of California San Diego and UCLA. Like the other departments of otolaryngology, the Miller School was chosen for its outstanding clinical training and research environments, according to Dr. Liu.

“The prestigious R25 will further help us to attract top medical students and top otolaryngology residents to join us and spend extra years to do research to prepare them as future next-generation surgeon-scientists,” he said.