UC SANTA BARBARA

THE Current

August 8, 2016
Julie Cohen

Exploring Their Discipline

Colin Kim has UC Santa Barbara chemistry professor Irene Chen to thank for bringing his career choice into focus. It was in Chen's lab that the undergraduate discovered his passion for biomedical research.

Kim hopes to follow in Chen's footsteps and lead his own university research lab one day. An undergraduate research program is helping Kim make that dream a reality.

In its second year and funded by the National Institutes of Health, Maximizing Access to Research Careers (MARC) Undergraduate Student Training in Academic Research (U-STAR) aims to increase the number of highly trained biomedical and behavioral scientists from disadvantaged or underrepresented backgrounds.

Led by the Center for Science and Engineering Partnerships and Joel Rothman, a professor in the Department of Molecular, Cellular, and Developmental Biology (MCDB), MARC U-STAR provides substantial financial support and training to scholars who embark upon a two-year program of scientific research, leadership development and graduate school preparation in their junior and senior years.

"The MARC program has provided a tremendous boost in our efforts at UCSB to attract talented students from underrepresented groups into cutting-edge biomedical research," Rothman said. "By receiving exceptional training in the scientific method, learning how to present their discoveries and engaging in publishable research, the students are provided a crucially valuable springboard for their future doctoral studies. There can be no doubt that the program will spark the

careers of future leaders in biomedical research, thus enhancing the diversity and strength of the scientific endeavor."

Both of this year's MARC scholars are chemistry and biochemistry majors in the College of Creative Studies (CCS), which is billed as a "graduate school for undergraduates." According to Kathy Foltz, the college's interim dean, the spirit of "learning by doing," a key component of the MARC scholars program, is the basis for study within CCS.

"The UCSB campus is a natural space in which to conduct interdisciplinary research and CCS encourages students to take advantage of this and stretch across the disciplines," said Foltz, also an MCDB professor. "MARC dovetails perfectly with this goal."

Kim is working under the supervision of graduate student Baoqing Zhou to investigate the role of bacteriophages — natural viruses that infect bacteria — in the microbiome of human skin wounds and the potential for them to become an alternative to antibiotics. "MARC and CCS provide me with opportunities to truly explore my passion in life," Kim said. "They also allow me the freedom to create my own original research while becoming an independent thinker and preparing to pursue a graduate degree."

Shelby Shankel, the second 2016 MARC scholar, is conducting research in the Javier Read de Alaniz Research Group in the Department of Chemistry and Biochemistry. Working with graduate student Emre Discekici, Shankel is helping to develop methods for modifying polymers in uses ranging from materials to biomedical applications. "The program is a great opportunity to access advice and mentorship from experts across many fields," Shankel said.

This summer, the program expanded its reach to begin supporting first-year students by partnering with the Summer Institute in Mathematics and Science and providing scholarships for the Research Immersion in Molecular Biosciences course. Through these and other initiatives within MARC, the program plans to engage more than 240 undergraduates over five years, improving campuswide preparation for graduate school and the biomedical workforce.

The 2016 MARC scholars will present their research projects along with more than 100 other summer interns at the Summer Undergraduate Research Colloquium on Aug. 11, beginning at 9 a.m. in Corwin Pavilion.

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.