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‘A Terrific Scientist’

Though it seems second nature to us, navigation is a remarkably complex behavior that involves a symphony of cognitive and physical processes connected by neural circuitry. How do we get our bearings in unfamiliar places? How do we find our way around obscure and uncertain environments?

These are just some of the mysteries UC Santa Barbara neuroscientist Sung Soo Kim is investigating. And now, with an award from the Searle Scholars Program, he’s that much closer to decoding some of the most fundamental animal behaviors.

“It is my great honor to be named a Searle Scholar,” said Kim, who is a member of the campus’s Department of Molecular, Cellular and Developmental Biology (MCDB). “This generous support will help me explore how the brains of animals collect and process information from the surrounding world to guide complex behaviors.”

With the three-year, $300,000 grant from the program and state-of-the-art optogenetic, imaging and modeling techniques, Kim aims to uncover links between neurons and behaviors, using the fruit fly (*Drosophila melanogaster*), a model organism whose brain has fewer neurons than mammalian brains and could lend insight into more complex neural systems. In a recent study, Kim found that “compass” neurons in the flies continuously update their connections as the insects navigate new environments, which leads to a stable sense of direction — a mechanism that could be present in mammalian brains as well.

“This is a prestigious award for a terrific scientist,” said MCDB chair Rick Dahlquist. “Professor Kim has come to UCSB as part of our Brain Initiative that has brought a number of outstanding neuroscientists to our campus.”

Kim is the fourth UC Santa Barbara faculty member to receive an award from the Searle Scholars program, which seeks to fund innovative, high-risk, high-reward research in biochemistry, cell biology, genetics, immunology, neuroscience, pharmacology and related areas in chemistry, medicine and the biological sciences. Previous’ recipients include Joel Rothman and Kathleen Foltz in the Department of Molecular, Cellular and Developmental Biology, and Irene Chen in the Department of Chemistry. In general, the program makes 15 new grants annually.

Kim, who joined the UC Santa Barbara faculty in 2019, received his bachelors and masters degrees from Seoul National University in South Korea, and his doctorate degree from Johns Hopkins University.

The Searle Scholars Program was founded in 1980. It is funded through the Searle Funds at the Chicago Community Trust established by the estates of Mr. and Mrs. John G. Searle. John G. Searle was the grandson of the founder of the global pharmaceutical company, G.D. Searle & Company.

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.