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UC Santa Barbara Receives Grand Challenges Explorations Grant

UC Santa Barbara announced today that it is a [Grand Challenges Explorations](#) grant winner; CGE is an initiative funded by the [Bill & Melinda Gates Foundation](#). [David Low](#), a professor in the Department of Molecular, Cellular, and Developmental Biology, will pursue an innovative global health and development research project titled “Strategy for development of enteric pathogen-specific T2 bacteriophage targeting the essential outer membrane protein BamA.”

GCE funds individuals worldwide to explore ideas that can break the mold in how we solve persistent global health and development challenges. Low’s project is one of more than 40 GCE grants announced today by the Bill & Melinda Gates Foundation.

To receive funding, Low and other GCE winners demonstrated a bold idea in one of five critical global health and development topic areas.

The foundation will be accepting applications for the next GCE round in September 2016.

Low’s research focuses on a new way to deal with serious bacterial pathogens that are becoming resistant to many once-powerful antibiotics. His alternative approach is to attack pathogens with bacterial viruses called bacteriophage (phage for short, meaning “eat”). This approach has been used in the past but has a major problem: Bacteria rapidly develop resistance to the bacteriophage.

“We are engineering phage to bind to proteins on the surface of bacterial targets that are essential for life,” explained Low. “This includes the protein BamA, which is required for assembly of many of the proteins in the outer part of bacteria. Using this strategy, we are hopeful that resistance will be minimized and that a concoction of phage that attacks essential bacterial proteins will prove effective in treating bacterial infections.”

Low earned his bachelor’s degree in biology from UC San Diego, his master’s degree in microbiology from San Diego State University and his Ph.D. in cellular biochemistry from UC Irvine. As a postdoctoral scholar at Stanford University he conducted research in molecular microbiology in the lab of Stanley Falkow, now a professor emeritus in microbiology and immunology.

After 13 years as a professor at the University of Utah Health Sciences Center, Low joined the faculty in 1998. He was elected a fellow of the American Association for the Advancement of Science in 2003 and a fellow of the American Academy of Microbiology in 2013.

About Grand Challenges Explorations

Grand Challenges Explorations is a \$100 million initiative funded by the Bill & Melinda Gates Foundation. Launched in 2008, over 1,186 projects in more than 61 countries have received GCE grants. The grant program is open to anyone from any discipline and from any organization. The initiative uses an agile, accelerated grant-making process with short two-page online applications and no preliminary data required. Initial grants of \$100,000 are awarded two times a year. A successful project has the opportunity to receive a follow-on grant of up to \$1 million.

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.