UC SANTA BARBARA

THE Current

April 30, 1998
Gail Gallessich

Bacterial 'Killing Machines' Subject Of Plous Lecture

When it comes to bacterial disease, the wake-up call has been sounded, warns microbiologist Michael J. Mahan, this year's Plous Award honoree.

"Our microbial defenses are crumbling as superior pathogens have emerged that can no longer be controlled by available antibiotics," says Mahan, assistant professor of molecular, cellular, and developmental biology at the University of California, Santa Barbara.

"Many of these bacteria that were once merely a nuisance have recently evolved into efficient killing machines," says Mahan. "Over 30 new diseases have emerged within the last 20 years."

Mahan will delivered the 40th annual Harold J. Plous Memorial Lecture, titled "Emerging Pathogens: What You Don't Know Can Kill You," at Girvetz Theater on Thursday, April 30. The talk will focussed on the danger in the food supply, common sense tips to reduce the risk of infection, and research aimed at increasing the safety of food.

Mahan studies salmonella, a pathogen that infects 4 million people in the United States every year. There are 2,500 different strains of salmonella, which are responsible for causing diseases ranging from food poisoning to typhoid fever, says Mahan. "Very similar strains of salmonella can give enormously different disease

manifestations," he said, noting that young children are the most vulnerable.

Mahan's research is focused on understanding the mechanisms by which bacterial pathogens cause disease. He has developed a new approach to the isolation of bacterial virulence factors, termed IVET for in vivo expression technology. IVET allows researchers to observe how bacteria trigger their killing functions in living cells. A report on this research is

published in this month's "Proceedings of the National Academy of Sciences."

Mahan joined the UCSB faculty in 1993 after several years as a post-doctoral fellow at Harvard Medical School. In 1994 he received the Newcomb-Cleveland Prize from the American Association for the Advancement of Science for the outstanding paper published in Science. He is also recipient of an American Cancer Society Junior Faculty Science Research Award and a Beckman Young Investigator Award.

The Plous Award honors the assistant professor in the College of Letters and Science who has made the greatest contribution to the intellectual life of the university through outstanding teaching, research, and community service. Harold J. Plous, for whom the award is named, was an assistant professor of economics at UCSB who died in 1957.

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.