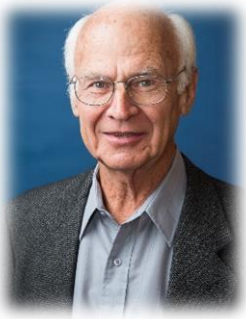
THE 62ND ANNUAL FACULTY RESEARCH LECTURE

Charles E. Samuel

Viral Threats to Humankind – Antivirals and Lessons Learned from Interferons

Thursday, October 5, 2017 / FREE
4:00 PM Lecture / 5:00 PM Reception
Corwin Pavilion
University Center



Strategies to prevent and treat viral diseases are critical as viruses continue to emerge for which prophylactic and therapeutic strategies are limited or even non-existent. Historically, some vaccines provided virus-specific protection, and in some instances even led to eradication of a viral disease. However, vaccines are not available for all viruses. In 1957 Isaacs and Lindenmann discovered a potent antiviral agent that interfered with virus growth, and thus they called it interferon. Interferon represents the cornerstone of what is now known as innate immunity. Unlike vaccines, interferon is not virus-type specific in its antiviral actions. Professor Samuel will give a general overview of the interferon system, and of lessons learned from the study of interferons about processes of gene regulation. Interferon is the body's first line of defense against viral infections, and an important therapeutic agent for treatment of viral diseases, particularly when no vaccine or chemotherapeutic agent is available.

Charles E. Samuel (Chuck) is a Research Professor in the Department of Molecular, Cellular and Developmental Biology at UC Santa Barbara. He received his B.S. in Chemistry from Montana State University, Bozeman, and his Ph.D. in Biochemistry from UC Berkeley. Awarded a Damon Runyon Postdoctoral Fellowship, he then trained at Duke Medical School prior to returning to California where he has been a long-time member of the UCSB faculty, the holder of the C.A. Storke II Chair in MCDB, and a UCSB Distinguished Professor. His scholarly interests include virus-host interactions and the molecular basis of innate immunity, with focus on the antiviral actions of interferons. He is an internationally recognized pioneer and leader in the study of interferons, and the mechanisms by which they inhibit virus growth and thereby provide defense against disease. His research received continuous funding from the National Institutes of Health for over 35 years, and included RCDA and MERIT Awards from NIH. His laboratory is best known for their seminal research on two genes and the proteins they encode, known as the PKR kinase that blocks viral protein synthesis and the ADAR deaminase that recodes genetic information. Most recently he has searched for nucleic acid triggers and cellular sensors that distinguish between self (cell) and non-self (pathogen) genetic information during activation of the innate immune response, with focus on measles virus. Professor Samuel is an Elected Fellow of the Medical Sciences Section of the American Association for the Advancement of Science, an Elected Fellow of the American Academy of Microbiology, a Humboldt Foundation Forschungspreis recipient, and an Honorary Lifetime Member of the International Cytokine and Interferon Society.

The highest honor bestowed upon UCSB professors by their peers, the Faculty Research Lectureship recognizes extraordinary scholarly distinction.

THE UNIVERSITY OF CALIFORNIA, SANTA BARBARA