Department of Biochemistry

Fall 2018 Seminar Series
Beach Distinguished Lectures

Presented by

Chaitan Khosla

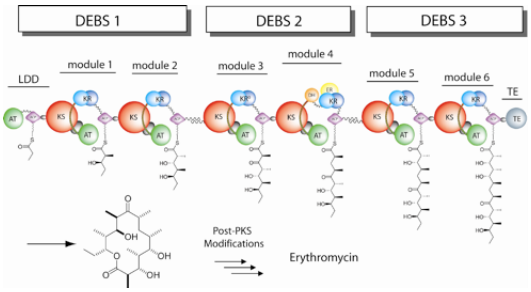
Wells H. Rauser and Harold M. Petiprin Professor
in the School of Engineering and Professor of Chemistry and, by courtesy,
of Biochemistry
Director, Stanford ChEM-H

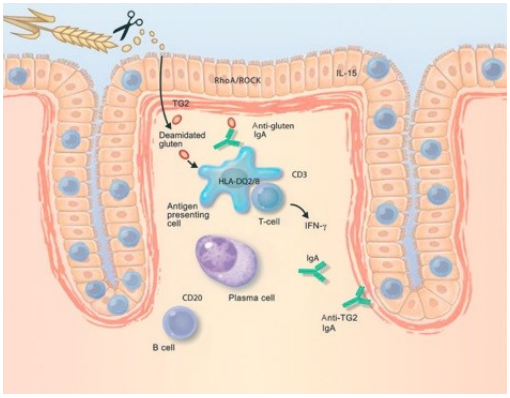
Tuesday and Wednesday, November 6 & 7 at 3:30

Deans Auditorium (PFEN 241)

Assembly Line Polyketide Synthases: Discovery, Evolution, Mechanisms

Many complex polyketide antibiotics are synthesized by multi-enzyme systems that operate as assembly lines. This lecture will address three questions concerning these enzymatic assembly lines: (i) How do they channel reactive intermediates over exceptionally long distances? (ii) How did they evolve? And (ii) How can they be harnessed to discover new antibiotics?





An Unusual Disulfide Bond and its Role in Celiac Disease Pathogenesis

Transglutaminase 2 is a ubiquitous but non-essential mammalian enzyme that plays a critical role in celiac disease pathogenesis. This lecture will focus on the chemistry and biology of an unusual disulfide that comprises a redox-active switch for reversibly activating the enzyme in the extracellular matrix.

About the Beach Lectures:
David W. Beach was born in 1925 in London, England. Following service in the Royal Navy, he married Doris Holmes and began his career as a Chartered Accountant. Feeling the urge to expand his horizons, he moved to Canada and began a series of jobs in the aluminum industry that included General Manager of Kawneer, Canada and Vice-President of Kawneer, Inc. As Vice-President of ALUMAX Aluminum Corporation he was instrumental in making it one of the largest and most profitable aluminum companies in the world, prior to his retirement. Their son Michael earned his PhD in Biochemistry in 1987. Inspired by their son's enthusiasm for science, David and Doris chose to share their good fortune by supporting this biochemistry graduate program. This long-term support is intended to promote intellectual curiosity, a commitment to excellence, and an appreciation of science in all those involved.