Professor Howard Tieckelmann

Professor Tieckelmann started his chemical studies at Carthage College in Illinois, where he earned a BA degree in 1942. Tieckelmann served in the U.S. Navy during World War II and then came to Buffalo, where he received his doctorate in chemistry from the University at Buffalo (UB) in 1948 for a thesis entitled The Preparation and Properties of Certain Orthocarbonates. He served as an instructor at UB in his last year of graduate school and was appointed Assistant Professor in Chemistry in 1948. He was promoted to Associate Professor in 1956, to Full Professor in 1961, and to Distinguished Teaching Professor in 1975.

Professor Tieckelmann is remembered fondly for his service at both the Department and University levels. He served as Director of Graduate Studies in Chemistry from 1960-69, as Department Vice-Chair from 1963-69, and as Chair from 1970-74. These were critical times during which both the Department and University experienced tremendous growth associated with the transition from a smaller private institution to a member of the SUNY system. Professor Tieckelmann served on numerous University committees. This service included two terms as Chair of the Faculty Council of Natural Science and Mathematics, and a term as Chair of the Presidents Board of Intercollegiate Athletics.

Professor Tieckelmann was an organic chemist with many interests. He carried out detailed studies on the mechanism of Claisen and other rearrangement reactions. He was interested in the chemistry of various heterocycles including pyridines and pyrimidines and in the mechanism for their alkylation reactions.

Studies on the intermediates of biosynthetic pathways were a mainstay of Tieckelmann’s research from 1970 to his retirement in 1987. Particularly notable are a series of papers published with his colleague Robert Guthrie on the detection and quantification of metabolites, including intermediates of the biosynthesis of porphyrins and of compounds that accumulate in the patients suffering from metabolic diseases such as dicarboxylic aciduria.

Professor Tieckelmann’s work was funded by grants from The Olin Matheson Company, The American Cancer Society, The National Science Foundation, and The National Institute of Neurological Diseases and Blindness. Of note was a grant from the National Cancer Institute to study the synthesis and evaluation of antimetabolites. This was funded from 1956-71 and at a total level of more than $1,000,000, which was a particularly large sum in those early days of government-supported research.

In his honor and for his contributions to the Department of Chemistry, UB, and science at large, the Tieckelmann family, former students, and friends created the Tieckelmann Lecture Funds to commemorate Professor Howard Tieckelmann.

Professor William DeGrado

UB’s Department of Chemistry is extremely pleased to host William DeGrado, Professor at the Department of Pharmaceutical Chemistry of the University of California San Francisco, as Guest Speaker for the 2015 Howard Tieckelmann Lecture.

William (Bill) DeGrado’s work focuses on the design of peptides, proteins, and peptide mimetics. He received his Ph.D. in organic chemistry from the University of Chicago (1981).

Bill was a member of DuPont Central Research and DuPont Merck Pharmaceutical Company from 1981 to 1996. In 1996, Bill moved to the Department of Biochemistry and Biophysics at the University of Pennsylvania, where he was a professor in the Department of Biochemistry & Biophysics and an adjunct member of the Chemistry Department. In 2011 he moved to the Department of Pharmaceutical Chemistry at the University of California San Francisco, where he is currently a professor and member of the Cardiovascular Research Institute.

Bill’s research interests include: de novo design of proteins and peptide design; peptide mimetics; structure, stability, and function of membrane proteins, including integrins and viral ion channels; design of biomimetic polymers; bioinorganic chemistry; and computational approaches to small molecule and protein design.

Abstract: This talk will begin with a brief overview of de novo protein design, in which proteins are designed from first principles. I will then discuss approaches to understand the principles of membrane protein assembly and function, with particular focus on the M2 proton channel from influenza A virus. The talk will conclude with the de novo design of a proton/Zn$^+$ antiporter.

Bill’s research interests include: de novo design of proteins and peptide design; peptide mimetics; structure, stability, and function of membrane proteins, including integrins and viral ion channels; design of biomimetic polymers; bioinorganic chemistry; and computational approaches to small molecule and protein design.

William (Bill) DeGrado’s work focuses on the design of peptides, proteins, and peptide mimetics. He received his Ph.D. in organic chemistry from the University of Chicago (1981).

Bill was a member of DuPont Central Research and DuPont Merck Pharmaceutical Company from 1981 to 1996. In 1996, Bill moved to the Department of Biochemistry and Biophysics at the University of Pennsylvania, where he was a professor in the Department of Biochemistry & Biophysics and an adjunct member of the Chemistry Department. In 2011 he moved to the Department of Pharmaceutical Chemistry at the University of California San Francisco, where he is currently a professor and member of the Cardiovascular Research Institute.

Bill’s research interests include: de novo design of proteins and peptide design; peptide mimetics; structure, stability, and function of membrane proteins, including integrins and viral ion channels; design of biomimetic polymers; bioinorganic chemistry; and computational approaches to small molecule and protein design.

Abstract: This talk will begin with a brief overview of de novo protein design, in which proteins are designed from first principles. I will then discuss approaches to understand the principles of membrane protein assembly and function, with particular focus on the M2 proton channel from influenza A virus. The talk will conclude with the de novo design of a proton/Zn$^+$ antiporter.

Professor Howard Tieckelmann

Professor William DeGrado
HOWARD TIECKELMANN LECTURE

Friday April 17th, 2015

LECTURE:NSC 225
4:00 – 4:05 pm
Welcoming Remarks
Michael R. Detty, Professor and Chair
Department of Chemistry, University at Buffalo

4:05 – 4:10 pm
Introduction of Tieckelmann Lecturer
Thomas Szyperski, UB Distinguished Professor
Department of Chemistry, University at Buffalo

4:10 – 5:10 pm
Howard Tieckelmann Memorial Lecture
“Analysis and Design of Membrane Proteins”
Professor William DeGrado, Department of Pharmaceutical Chemistry, University of California San Francisco

PREVIOUS LECTURES

2009
Professor Albert Padwa
Emory University, Atlanta, Georgia
“Cascade Reactions for Alkaloid Synthesis”

2010
Professor Ada Yonath
Weizmann Institute of Science, Rehovot, Israel
“Antibiotics Targeting the Ribosome”

2011
Professor Roald Hoffmann
Cornell University, Ithaca, New York
“The Chemical Imagination at Work in Very Tight Places”

2012
Professor Peter G. Schultz
The Scripps Research Institute, La Jolla, CA
“Synthesis at the Interface of Chemistry and Biology: From Stem Cells to the Genetic Code”

2013
Professor Richard N. Zare
Stanford University, Stanford, CA
“Desorption Electrospray Ionization for Imaging and for Detection of Reaction Intermediates”

2014
Professor Thomas J. Meyer
University of North Carolina, Chapel Hill, NC
“Finding the Way to Solar Fuels”

ACKNOWLEDGMENTS

The Department of Chemistry thanks the members of the Tieckelmann family, friends of the family, and donors for their ongoing commitment to the department through their support of the Tieckelmann Lecture Fund.

Friday April 17th, 2015

The Department of Chemistry presents

The 7th Annual
Howard Tieckelmann Memorial Lecture

Guest Speaker
Professor
William DeGrado
University of California
San Francisco

“Analysis and Design of Membrane Proteins”

Department of Chemistry
359 Natural Sciences Complex
University at Buffalo
Buffalo, New York 14260-3000
Phone: (716) 645-6800
Fax: (716) 645-6963
www.chemistry.buffalo.edu