

Michael M. Abbott (1938-2006)

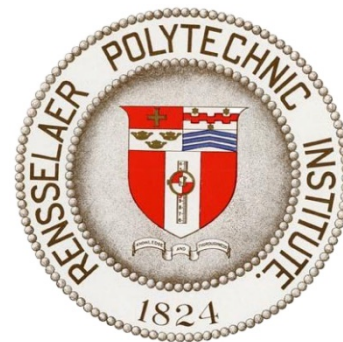


Michael Abbott received his B.S. in Chemical Engineering in 1961, and his Ph.D. in Chemical Engineering in 1965, both from Rensselaer Polytechnic Institute. He worked for four years at Exxon Research and Engineering. He joined Rensselaer as a postdoctoral fellow in 1969, and joined the Chemical Engineering Department as a Professor in 1974, where he worked till 2006.

Prof. Abbott was an internationally recognized expert in chemical thermodynamics. He co-authored four textbooks, including the best-selling chemical engineering text of all time, *Introduction to Chemical Engineering Thermodynamics*, currently in its seventh edition. Abbott had a passion for teaching, and received many awards in recognition of his work as a teacher and mentor, including the Tau Beta Pi Outstanding Engineering Instructor Award (1976), the Trustees' Outstanding Teacher Award, the Western Electric Fund Award from ASEE (1979), the Rensselaer Distinguished Teaching Fellowship (1986-88), and the first Rensselaer Alumni Association Teaching Award in 1994. Beyond academics, Abbott had wide ranging interests including literature, poetry, and music. The Michael M. Abbott Lecture Series hosted each spring in the Chemical Engineering Department honors Abbott's legacy and celebrates his achievements.

Previous Abbott Lecture Awardees

2006	Jefferson W. Tester, Massachusetts Institute of Technology
2007	Pablo Debenedetti, Princeton University
2008	Michael F. Doherty, University of California-Santa Barbara
2009	Zhen-Gang Wang, California Institute of Technology
2010	George "Bud" Homsy, University of British Columbia
2011	Frank S. Bates, University of Minnesota
2012	K. Dane Wittrup, Massachusetts Institute of Technology
2013	Curtis W. Frank, Stanford University
2014	John F. Brady, California Institute of Technology
2015	Jay Keasling, University of California, Berkeley
2016	Gregory Stephanopoulos, Massachusetts Institute of Technology
2017	Paula Hammond, Massachusetts Institute of Technology
2018	Andrew Zydney, Pennsylvania State University



The Howard P. Isermann Department of
Chemical & Biological Engineering
presents:

Dr. Wilfred Chen

Gore Professor

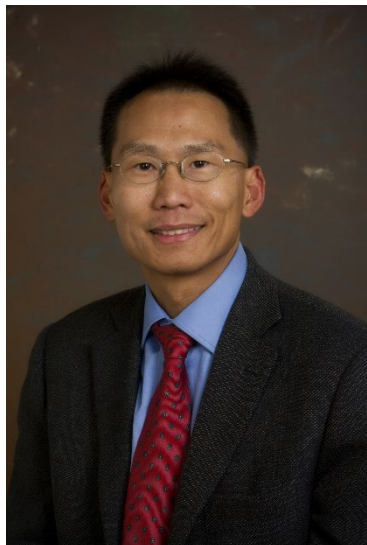
Department of Chemical and Biomolecular Engineering
University of Delaware

Michael M. Abbott Lecture Series

Wednesday, April 24, 2019

Thursday, April 25, 2019

Wilfred Chen



Professor Wilfred Chen joined the University of Delaware in January 1, 2011 as the Gore Professor of Chemical Engineering. He obtained his B.S. degree from UCLA in 1988 and his Ph.D. from Caltech in 1993, both in Chemical Engineering. After one-year postdoc in Switzerland, he joined UC Riverside in 1994. He was Professor of Chemical and Environmental Engineering and the holder of Presidential Chair until he joined Delaware in 2011.

His research interests are in Synthetic Biology and Protein Engineering. Prof. Chen has published more than 250 journal papers and delivered over 90 invited lectures. He serves on the editorial board for many scientific publications including Applied and Environmental Microbiology and Biotechnology and Bioengineering. He is also the editor/associate editor for Biochemical Engineering Journal, Biotechnology Journal, and AIChE Journal. He is a fellow of the American Association for the Advancement of Science (AAAS) and the American Institute for Medical and Biological Engineering (AIMBE).

Prof. Chen has also received numerous awards, including NSF Career Award, AIChE Food, Pharmaceutical, and Bioengineering Division 15c Plenary Lecture, Biotechnology Progress Award for Excellence in Biological Engineering Publication, Daniel I.C. Wang Award for Excellence in Biochemical Engineering from AIChE/SBE, Marvin J. Johnson Award in Microbial & Biochemical Technology from ACS, and the AIChE Food, Pharmaceutical & Bioengineering Division Award.

http://www.che.udel.edu/research_groups/wilfred/

April 24, 2019 – Ricketts 211 @ 9:15 AM
Coffee & pastries – 8:45 AM – Coonley Lounge

“Engineering Nanoscale Protein Scaffolds with Modular Functionalities”

ABSTRACT:

Proteins are the most versatile among the various biological building blocks and efforts in protein engineering have resulted in many industrial and biomedical applications. However, the strength of proteins - their versatility and specific interactions - also complicates and hinders their systematic design and engineering. One potential approach is to exploit the modular nature of different protein domains in order to design synthetic protein scaffolds that can perform completely new biological functions. In this talk, I will outline several successful examples in connecting exchangeable protein domains for predicative engineering applications in (1) bioenergy applications, (2) bioseparation, and (3) biosensing.

April 25, 2019 – Isermann Auditorium @ 9:15 AM
Coffee & pastries – 8:45 AM – CBIS Gallery

“Synthetic Protein Devices for Dynamic Modulation of Cellular Phenotypes”

ABSTRACT:

Inspired by the remarkable ability of natural protein switches to sense and respond to a wide range of environmental queues, here we report a strategy to engineer synthetic protein switches by using a generalizable strand displacement format to dynamically organize proteins with highly diverse and complex architectures. We showed that both DNA and coiled-coil peptide strand displacements can be used to dynamically control the spatial proximity and the corresponding functions of different proteins for both in vitro and in vivo applications. The general utility of the strategy was used to performing Boolean logic operations to provide explicit control of protein function using multi-input, reversible, and amplification architectures suitable for a wide range of applications.