

UW Chemical Engineering

Fall 2013 Seminar Series

Date: Monday, November 25

Time: 4:00 - 5:00 p.m.

Place: PAA A114

Topic: *Engineering Synthetic Protein Scaffolds with Modular Functionalities*



Wilfred Chen
Gore Professor of Chemical Engineering
University of Delaware

Biography

Professor Wilfred Chen joined the University of Delaware on 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 2010. His research interests are in biomolecular engineering, biofuel production, viral infection, and nano-biotechnology. Chen has published more than 200 journal papers and delivered over 60 invited lectures. He serves on the editorial board for eight scientific publications. He is a fellow of the American Association for the Advancement of Science (AAAS) and the American Institute for Medical and Biological Engineering (AIMBE).

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) fuel cell applications, and (3) virus tracking and drug screening.