

# SynCTI SEMINAR SERIES

NUS Synthetic Biology for Clinical and Technological Innovation (NUS SynCTI)  
Member of Singapore Consortium for Synthetic Biology (Sinergy)



## Professor Wilfred Chen

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## Building Complex Protein Functions at the Intersection of Nanofabrication and Synthetic Biology

Proteins are the most versatile among the various biological building blocks. However, the strength of proteins - their versatility and specific interactions - also complicates and hinders their systematic design and engineering. Our lab has been interested in exploiting the modular nature of protein domains to design synthetic complexes that can perform new biological functions across different length scales. By adding logical and stimuli responsive components into the design, smart protein complexes can be created to sense and adapt to the constantly changing cellular environments. In this presentation, I will outline several successful examples in connecting exchangeable protein domains into functional nanodevices for synthetic biology applications in biocatalysis, biosensing, and therapeutics.

### Biography

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 2010. His research interests are in Synthetic Biology and Protein Engineering. Prof. Chen has published more than 220 journal papers and delivered over 70 invited lectures. He serves on the editorial board for six 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.

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