University of Houston - Biomedical Engineering Seminar

Friday, March 5, 2021, 12 noon

Via Zoom: https://uofh.zoom.us/j/92470065206

Importance of Math Models in Uncovering Mechanisms in Alzheimer's Disease

NSF's Investments in Biotechnology & Bioeconomy

Theresa Good, Ph.D.

Abstract:

I've had the good fortune to have a career in science and science policy that has enabled me to tackle important problems using tools from my training as an engineer. Mathematical modeling to elucidate mechanisms and help set experimental direction has been key in my group's efforts in solving problems associated with Alzheimer's disease. I'll review some of our early work in using models to understand mechanisms of beta amyloid interaction with neurons as well as later work understanding the importance of beta amyloid structure in toxicity. I'll also provide highlights from our most recent work in examining the impact of 3D culture on Alzheimer's models. Then I'll provide an overview of NSFs investments in biotechnology and the bioeconomy, one of the industries of tomorrow that can contribute to the US economic recovery, and mention some current funding opportunities that target postdocs, early and mid-career professionals, as well as opportunities for all investigators.

Biosketch

Dr. Good is the Deputy Director in the Division of Molecular and Cellular Biosciences at NSF. Her degrees are in Chemical Engineering from Bucknell, Cornell, and the University of Wisconsin. She held faculty positions in Chemical Engineering at Texas A&M and the University of Maryland Baltimore County. Her research focused on the application of engineering tools to solve biomedical problems with an emphasis on Alzheimer's disease. She received an NSF CAREER award and funding from NIH, NSF, NASA, FDA and private foundations. She was the chair of the Food, Pharmaceutical and Bioengineering Division of AIChE and the Biochemical Technology Division of ACS. At NSF since 2010, Dr. Good has served as a rotator or permanent program director in the Biotechnology and Biochemical Engineering program and in the Systems and Synthetic Biology program. For the past 6 years she has played various roles in leading that division.