

UC San Diego

JACOBS SCHOOL OF ENGINEERING
Aiiso Yufeng Li Family Department of
Chemical and Nano Engineering

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DEPARTMENT SEMINAR

Wednesday, May 14th, 2025

11:00 AM - 12:00 PM

SME 248



Dr. Maureen Tang, PhD

“Creating Value Out of Crisis in Modern Academia”

Associate Professor
Chemical and Biological Engineering
Drexel University

Abstract: Professors are fond of stating that they have ‘the best job in the world’; How can these delusional braggarts be serious? Higher education is among many industries facing a declining customer base, crumbling infrastructure, and the insertion of national politics into daily operations. On the other hand, the unique incentive structures and diverse resources of academia enable broad opportunities for scholarship and impact. This talk will present three such examples, all framed by the “Three Cs” of Curiosity, Connections, and Creating Value. In the first example, I will describe how a whimsical collaboration on bug-squishing robots leveraged Senior Capstone, infrastructure health monitoring, and citizen science into a USDA-sponsored project on automated detection of invasive insects. The knowledge gained from this project leads to the second example, a novel technique for battery electrode characterization. In this method, in-situ microscopy of a redox-active fluorophore detects the resistive particles that typically compromise battery performance and lifetime. In the final part of this talk, I will incorporate advances in behavioral economics and organizational behavior into a novel mentoring activity for PhD students while exploring themes of scarcity and abundance in graduate STEM education. Throughout, I will emphasize how curiosity and connections enable surviving and thriving in the modern university.

Bio: Maureen Tang joined the faculty of Chemical and Biological Engineering at Drexel University in 2014. Her primary research in electrochemistry and catalysis has trained over 60 students, while her side project on preventative technology for invasive insects is supported by the USDA and was profiled in Scientific American. Most recently, she has been working to design accessible classroom interventions that address emotional and mental-health barriers for undergraduate students. Professor Tang holds public office as a Montgomery County Judge of Elections along with BS and PhD degrees in Chemical Engineering from Carnegie Mellon and UC Berkeley.

Seminar Host: David Fenning