

CHEMICAL ENGINEERING DEPARTMENT  
10.991 Student Seminar Series  
FALL 2020

**All Student Seminars are MIT ONLY events and will be held via Zoom unless otherwise noted.**

**Zoom Link: <https://mit.zoom.us/j/93182510004>**

<b>MONDAY, September 14<sup>th</sup></b>		
3:00 pm	Kevin Tenny	“Generalizing Descriptors for Carbon Cloth Electrodes in Redox Flow Batteries”
<b>MONDAY, September 21<sup>st</sup></b>		
3:00 pm	Hamid Doost Hosseini	“Data-driven Genetic Circuit Engineering for Natural Environments”
3:30 pm	Jennifer Kaczmarek	“Biosensor Design for Use in Directed Enzyme Evolution of myo-inositol oxygenase”
4:00 pm	Anirudh Manoj K Nambiar	“Robotic Platform for Automated Chemical Synthesis and Multistep Reaction Optimization in Continuous Flow”
<b>MONDAY, September 28<sup>th</sup></b>		
3:00 pm	Charles Wan	“Designer Porous Carbon Electrode Microstructures for Redox Flow Batteries”
3:30 pm	Eric Powers	“Investigating Photo-Charging Processes in Perovskite Nanocrystals Using Transient Absorption Spectroscopy”
4:00 pm	Chun Man Chow	“Development of Nanoporous Atomically-thin Graphene Membranes for Health and Environmental Applications”
<b>MONDAY, October 5<sup>th</sup></b>		
3:00 pm	Tam Nguyen	“Mechanistic Modeling of Viral Vector Production for Gene Therapy Manufacturing”
3:30 pm	Sarah Cowles	“Investigating the Effect of Receptor-Antibody Affinity on anti-PD-1 Immunotherapy”
4:00 pm	Ge Zhang	“Thermal Energy Harvesting, Picoliter Batteries and 2D Polymers for Electronic Sensor Nodes across Length Scales”
<b>MONDAY, October 19<sup>th</sup></b>		
3:00 pm	Xiaorui Dong	“Rapid Construction of Validated Kinetic Models for Advanced Biofuels”
3:30 pm	Joseph Maalouf	“Kinetic Analysis of Electrochemically Formed Sustainable Monomers for a Circular Polymer Economy”
4:00 pm	Yen-Ting Wang	“Exploring Chemistry into Heavy Hydrocarbons: Automatic Fragment Modeling”
<b>MONDAY, October 26<sup>th</sup></b>		
3:00 pm	Kara Rodby	“Refining Economic Arguments for Grid-Scale Energy Storage Technologies: Assessing the Levelized Cost of Redox Flow Batteries”

3:30 pm	Chen Song	“Fabrication of Stable Nanofibrous Membranes for Emulsified (Oil/Water) Separation”
4:00 pm	Duncan Morgan	“Probing T Cell Phenotype and Specificity in Eosinophilic Esophagitis with Single-Cell RNA and TCR Sequencing”

<b>MONDAY, November 2<sup>nd</sup></b>		
3:00pm	Joy Zeng	“Cohesive Statistically-Rigorous Kinetic Analysis of Electrocatalytic Carbon Dioxide Reduction”
3:30pm	Joseph Palmeri	“Improving Cancer Immunotherapy via Collage Anchoring of Agonist Antibodies”
4:00pm	Ameya Rao	“Understanding Mechanism of Chain Relaxation and Diffusion in Reversible Polymer Gels”

<b>MONDAY, November 9<sup>th</sup></b>		
3:00 pm	Liang-Hsun Chen	“Development of Nanoemulsion-Loaded Hydrogels for Advanced Pharmaceutical Formulations”
3:30pm	Thejas Wesley	“Leveraging Spontaneous Electric Fields to Tune Catalysis at Distributed Metal-Liquid Interfaces”
4:00 pm	Srinivasa Pujari	“Vascularization of Human Cerebral Organoids Using Perusable 3D-Printed Synthetic Structures”

<b>MONDAY, November 16<sup>th</sup></b>		
3:00 pm	Lagnajit Pattanaik	“Modeling Reaction Kinetics with Deep Learning”
3:30pm	Jingfan Yang	“Autonomous Cell-Sized Robotics: Experiments and Simulation”
4:00pm	Natalie Eyke	“Acceleration of Small Molecule Pharmaceutical Process Development Through Automation and Machine Learning”

<b>MONDAY, November 30<sup>th</sup></b>		
3:00 pm	Surya Effendy	“Failure of Polymeric Coatings on Metallic Surfaces via Osmotic Blistering”
3:30pm	Michael Forsuelo	“Message Passing Neural Networks for Infrared Predictions and Uncertainty Quantification”
4:00 pm	Soonhyoung Kwon	“Repurposing Organic Structure-directing Agent (OSDA) for Zeolite Synthesis”

<b>MONDAY, December 7<sup>th</sup></b>		
3:30pm	Seo Woo Choi	“Multi-Omic Interrogation of Biological Tissues through Effective Preservation”
4:00 pm	Andrew Biedermann	“Systematic Media Design Identifies Factors that Drive High Productivity in <i>Pichia Pastoris</i> Cultivations”