

CHEMICAL ENGINEERING DEPARTMENT
10.991 Student Seminar Series
FALL 2025

All Student Seminars are MIT ONLY events and will be held in-person in room 66-110 unless otherwise noted.

MONDAY, September 8th		
3:00 pm	Environment, Health, & Safety (EHS)	Safety Seminar
MONDAY, September 15th		
3:30 pm	Julian Ufert	“Selective Catalytic Ethane Dehydrogenation at Intermediate Temperatures”
MONDAY, September 22nd		
3:00 pm	Kyle De Matias	“Cyclotide Engineering for Radiotheranostics”
3:30 pm	Sanjay Garimella	“Confined Fluid Thermodynamics and Transport in Carbon Nanotubes, Graphene Nanochannels, and 2D Polyaramids”
4:00 pm	Adithya Sreenivasan	“Elucidating Topology-Property Relationships in Reprocessable Thermoset Networks through Molecular Simulation”
MONDAY, September 29th		
3:00 pm	Kento Abeywardane	“Interaction-aware generative modeling for bioisosteric drug design”
MONDAY, October 6th		
3:00 pm	Megan Herrington	“Crossing the percolation limit with MOFs of controlled dimensionality for gas separations”
3:30 pm	Eduardo Nombera Bueno	“Engineering Interleukin-12 Therapies for Treatment of Ovarian Cancer”
MONDAY, October 20th		
3:00 pm	Mary Ehmann	“Titrating transgene levels via TET-DIAL for direct conversion to neural cell types”
3:30 pm	Aaron Garrison	“Machine Learning Prediction of Optimal Exact Exchange Fractions to Improve Density Functional Theory Accuracy”

MONDAY, October 27th		
3:00 pm	Justin Griffith	“Tuning Solvent Environment to Increase Coverage of Self-Assembled Monolayers for Perovskite Solar Cells”
3:30 pm	Akshat Shirish Zalte	“Descriptor-Based Foundation Models for Molecular Property Prediction”
4:00 pm	Julia Monkovic	“Protein-Decorated Nanomedicine for Targeted Disease Therapy”
MONDAY, November 17th		
3:00 pm	Jacob Sass	“Simulation of Multiphase Battery Systems”
3:30 pm	Jewel Ryu	“Crystallography and Phase Transitions in a Modulated Lanthanide Metal-Organic Framework”
MONDAY, November 24th		
3:00 pm	Brenda Zhao	“Engineering Hydrophilic Microporous Polymers for Membrane-Based Water Purification”
3:30 pm	Suhail Haque	“Superoxide-mediated electrochemical degradation of perfluoro-alkyl substances”
4:00 pm	Hasan Al-Mahayni	“Mechanistic Modeling of mRNA Precipitation in Batch and Continuous Operation via Population Balance Models”
MONDAY, December 1st		
3:00 pm	Ishika Govil	“Co-inhibition via Targeted Receptor Ligation for Immune Modulation”
3:30 pm	Ashwin Pasupathy	“Hepatocyte-targeted Lipid Nanoparticles for therapeutic DNA and mRNA delivery”
4:00 pm	Jingxian Zhang	“Mechanistic Modelling of the Lyophilization of mRNA-LNP Formulations”
MONDAY, December 8th		
3:00 pm	Isabella Bowland	“Sustainable bioproduction of aromatic amines in Escherichia coli”
3:30 pm	Jimin Kwag	“Engineering the Structure of PbS Quantum Dot Superlattices”