

Topics of Faculty Presentations AY20/21

Department of Chemistry, Missouri University of Science and Technology

For contact information, see <https://chem.mst.edu/people/faculty/> (09/16/20)

Dr. Amitava Choudhury, Associate Professor (presenting in person and via zoom)

- Electrode Materials for Lithium- and Sodium Ion Batteries
- Complex Chalcogenides as Magnetic, Thermoelectric and Super-ionic conductor materials
- Metallo-organic Frameworks for Gas Storage and Catalysis

Dr. Nuran Ercal, MD, PhD, Vitek Chair of Biochemistry (presenting via zoom)

- Role of Thiols in Medicinal Chemistry
- Glutathione and Oxidative Stress-Induced Disorders

Dr. Rainer Glaser, Professor and Chair (presenting via zoom)

- CO₂ Capture from Air: Rubisco-Inspired Oligopeptide Based Reversible Capture Systems
- Oscillating Chemical Reactions: Video-based Kinetic Analysis and Complete Simulation
- Organic Crystalline Ferroelectric Materials for Nonlinear Optics

Dr. Wenyan Liu, Assistant Research Professor (presenting via zoom)

- Programmable assembly of soft matter at the nanoscale

Dr. Paul Nam, Associate Professor (presenting in person and via zoom)

- Biomass conversion and utilization for sustainable resource and environment
- Supercritical fluids for efficient chemical reaction and separation

Dr. Manashi Nath, Associate Professor (presenting via zoom)

- Designing Materials for Efficient Energy Conversion and Storage from Renewable Sources: Story of Transition Metal Chalcogenides
- Crafting Small Materials with BIG Impact: Nanomaterials for Biosensors and *Theranostic* Applications

Dr. Garry "Smitty" Grubbs II, Associate Professor (presenting via zoom)

- Qualitative and Quantitative Studies of Chiral Species using Fundamental Interactions and Microwave Techniques
- Understanding Bonding at the Bottom of the Periodic Table: f-electron and Relativistic Effect Chemistries

Dr. Prakash Reddy, Professor (presenting via zoom)

- From Superacids to Organofluorine Chemistry

Dr. Honglan Shi, Research Professor (presenting via zoom)

- Biomarker discovery for disease early diagnostics and monitoring by using advanced analytical technologies
- Drinking water quality monitoring and improvement
- Nanoparticle characterization and quantification by cutting edge single particle- and single cell-ICP-MS

Dr. Pericles Stavropoulos, Associate Professor (presenting via zoom)

- Building One Bond at a Time: The Case of C–N Bond in Chemistry and Biology
- Beyond Combustion: The Value of the C–H Bond in the Synthesis of Fine Chemicals

Dr. Chariklia Sotiriou-Leventis, Professor (presenting via zoom)

- Aerogels: 3D Nanomaterials-Research Directions and Applications

Dr. Jay Switzer, Chancellor's Professor and Curators' Distinguished Professor Emeritus (presenting via zoom)

- Spin Coating Epitaxial Films
- Chiral Surfaces

Dr. Risheng Wang, Assistant Professor (presenting via zoom)

- Developing intelligent DNA-based nanomaterials for biomedical and bioanalytical application
- DNA nanotechnology at the interface with material science, plasmonics, and nanofabrication

Dr. Jeffrey Winiarz, Associate Professor (presenting in person and via zoom)

- Enhanced Response Time in Photorefractive Composites Through Inclusion of Semiconductor Nanocrystals
- Real-Time Holographic Polymers Utilizing Nanocrystal Photosensitization