

Chem 299, 399, 499 Research Problems**Inorganic Chemistry Research Problems**

Andreja Bakac	Chem 399, 499	Mechanistic and kinetic studies of inorganic and catalytic reactions
Gordon Miller	Chem 299, 399, 499	Structure and bonding of metal-rich compounds
Aaron Sadow	Chem 299, 399, 499	Asymmetric organometallic chemistry, supported organometallic chemistry, and catalysis
Javier Vela	Chem 299, 399, 499	Photoactive nanostructured materials for applications in biology, energy, and catalysis; organometallic chemistry and catalysis
Keith Woo	Chem 299, 399, 499	Transition metal complexes and catalysis

Analytical Chemistry Research Problems

Ning Fang	Chem 399, 499	Single-cell and single-molecule detection and microfluidics
Robert S. Houk	Chem 299, 399, 499	Structure of biomolecules by mass spectrometry
Young-Jin Lee	Chem 299, 399, 499	Bioanalytical Mass Spectroscopy
Jacob Petrich	Chem 299, 399, 499	Lasers and light: From antiviral and anticancer agents to food safety
Emily Smith	Chem 299, 399, 499	Fluorescence and raman imaging of biological cells and tissues
Edward Yu	Chem 299, 399, 499	Metal ion export in bacteria

Physical Chemistry Research Problems

Mark Gordon	Chem 299, 399, 499	(a) Calculations of chemical reaction mechanisms using quantum chemistry (b) Writing quantum chemistry code for novel computer architectures
Thomas A. Holme	Chem 299, 399, 499	Computational modeling of plants or pharmaceuticals
Mei Hong	Chem 399, 499	Protein structure and dynamics from solid-state NMR
Jacob Petrich	Chem 299, 399, 499	Lasers and light: From antiviral and anticancer agents to food safety
Xueyu Song	Chem 399, 499	Reaction dynamics in chemical and biological systems
Theresa Windus	Chem 299, 399, 499	Environmental challenges addressed by computational science
Edward Yu	Chem 299, 399, 499	Metal ion export in bacteria

Organic Chemistry Research Problems

Malika Jeffries-EL	Chem 299, 399, 499	Design and synthesis of π -conjugated polymers
William Jenks	Chem 299, 399, 499	Organic photochemistry and physical organic chemistry
Nicola Pohl	Chem 299, 399, 499	Synthetic and bioorganic chemistry; glycomics; vaccine design
Aaron Sadow	Chem 399, 499	Asymmetric organometallic chemistry, supported organometallic chemistry, and catalysis
Walter Trahanovsky	Chem 399, 499	Conversion of biomass to useful organic compounds
Javier Vela	Chem 299, 399, 499	Photoactive nanostructured materials for applications in biology, energy, and catalysis; organometallic chemistry and catalysis
Arthur Winter	Chem 399, 499	Development of organic chemical tools for biological and biomedical applications.
Keith Woo	Chem 299, 399, 499	Synthesis of bioconjugates and coupling reactions with oligonucleotides
Yan Zhao	Chem 399, 499	Synthesis of environmentally responsive 'smart' molecules and their applications in molecular sensing and catalysis

Chemical Education Problems

Thomas J. Greenbowe	Chem 299, 399, 499	Problem solving, misconceptions, computer animated graphics, multi-media instructional software, guided inquiry
Thomas A. Holme	Chem 299, 399, 499	Building and validating new tools to measure learning in chemistry

For more information about the research interests of a faculty member, please visit:
<http://www.chem.iastate.edu/faculty/>