

Materials Chemistry

Department of Chemistry
University of Illinois at Urbana-Champaign

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chemistry.illinois.edu



Paul V. Braun

Electrochemical energy storage; responsive polymers; self-healing materials; mesoscale materials; optical materials; chemical sensors; self-assembly

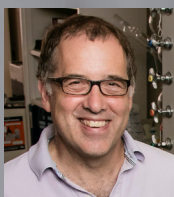
chemistry.illinois.edu/pbraun



Qian Chen

Soft matter design, characterization, and applications

chemistry.illinois.edu/qchen20



Andrew A. Gewirth

Materials properties of surfaces and interfaces with relevance to energy storage; electrocatalysis; materials fabrication; electrochemistry

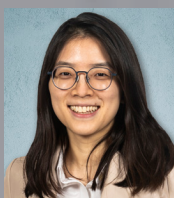
chemistry.illinois.edu/agewirth



Gregory S. Girolami

Synthesis of transition metal and f-metal complexes and their use in catalysis; as precursors for the chemical vapor deposition of micro- and nanoelectronic devices; in energy applications; and for the reprocessing of nuclear fuel

chemistry.illinois.edu/ggirolam



Hee-Sun Han

Synthesis and bioimaging applications of colloidal nanoparticles; micron-sized soft materials for single virus/cell analysis; microfluidics; *in vitro/in vivo* imaging; single virus/cell sequencing

chemistry.illinois.edu/hshan



Nicholas E. Jackson

Theoretical soft materials chemistry, electron and ion transport, machine learning applied to molecular and polymeric systems, multiscale all-atom and coarse-grained simulations

chemistry.illinois.edu/jacksonn

Materials Chemistry

Other faculty with interests in Materials Chemistry

Mikael Backlund

Quantum sensing with solid state defects, applications in hard and soft condensed matter physics

Qing Cao (faculty affiliate)

Materials for novel (opto)electronic devices

Dana D. Dlott (emeritus faculty)

Laser spectroscopy under extreme conditions

Damien S. Guironnet

Development of novel (de)polymerization methodologies; self-assembly polymers; catalyst encapsulation

Mary L. Kraft (faculty affiliate)

Biological membrane imaging

Lisa Olshansky

Switchable materials for renewable energy applications

Kenneth S. Suslick (emeritus faculty)

Sonochemistry; sensor arrays

Xing Wang (research faculty)

Nucleic acids based nanomaterials for applications in chemistry, biology, and medicine

Hong Yang (faculty affiliate)

Nanomaterials for catalysis



Prashant K. Jain

Plasmonics; near-field manipulation of photophysics and photochemistry; super-resolution imaging of active sites in heterogeneous catalysis; artificial photosynthesis; imaging phase transformations in single nanocrystals
chemistry.illinois.edu/jain



Deborah E. Leckband

Biochemistry at material interfaces; protein stability in hybrid biomaterials; biomaterials; colloidal and surface forces; surface engineering
chemistry.illinois.edu/leckband



Jeffrey S. Moore

Chemistry of self-healing systems; development and study of vascular composites and encapsulated materials; mechanochemical transduction
chemistry.illinois.edu/jsmoore



Catherine J. Murphy

Synthesis, characterization, biological applications and environmental implications of colloidal inorganic nanoparticles; surface chemistry and plasmonic properties of gold nanoparticles; sustainability
chemistry.illinois.edu/murphycj



Joaquín Rodríguez-López

Nanoelectrochemistry; electrochemical imaging of batteries, electrocatalysts, and interfaces; redox polymers; ultrathin electrodes; electrochemical microfluidics; electrochemical simulation
chemistry.illinois.edu/joaquinqr



Josh Vura-Weis

Femtosecond X-ray spectroscopy of catalytic reaction intermediates
chemistry.illinois.edu/vuraweis



Steven C. Zimmerman

Development of sustainable polymers; biomaterials for drug delivery; polymeric artificial enzymes
chemistry.illinois.edu/sczimmer