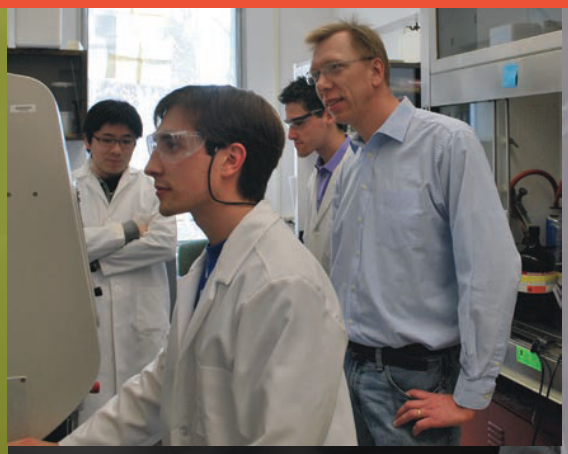
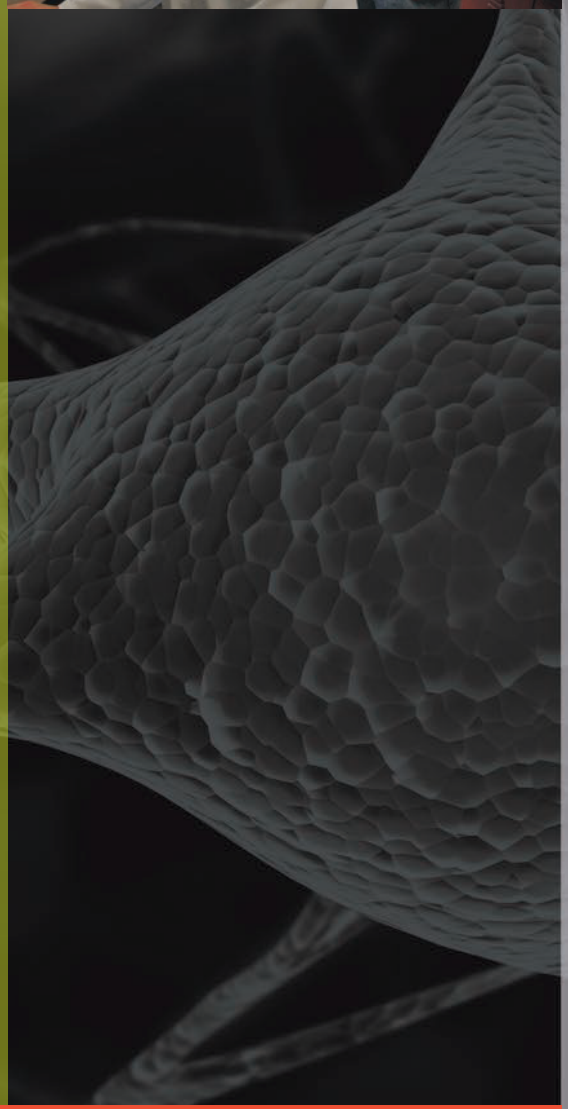
Organic Chemistry

Department of Chemistry
University of Illinois Urbana-Champaign

For more information on Organic Chemistry faculty, scan →





Martin D. Burke

"Block chemistry" as a simple and powerful platform for making small-molecule synthesis friendly to machines, AI, and anyone; leveraging this platform with AI tools to include stereospecific Csp3 couplings and functional small molecules, including molecular prosthetics, safe antifungals, NextGen kinase inhibitors, and precision materials

Jefferson Chan

Synthesis of activity-based sensing probes for point-of-care diagnostic applications; development of chemically responsive platforms for on-demand and site-selective drug delivery; rational design of therapeutic agents for neurological disorders and cancer

Paul J. Hergenrother

Using compounds derived from synthetic organic chemistry and natural products to explore biological systems; examples include the synthesis and evaluation of anticancer and antibacterial agents with novel modes of action

Mayuko Isomura

Methodology development; asymmetric catalysis; discovery of novel reactivities and practical synthetic methods by developing new catalysts and understanding reaction mechanisms

Joomyung (Vicky) Jun

Synthesis of small-molecule chemical tools (i) to reversibly esterify proteins for in vivo protein-based drug delivery; (ii) to develop fluorogenic sensors to investigate the cellular uptake mechanism of biologics; and (iii) to devise trifunctional activity-based probes for molecular imaging and new target discovery

Angad Mehta

Key areas of focus include: (i) directed evolution and synthetic immunology to combat emerging pathogens, (ii) directed endosymbiosis (an engineered, symbiotic cell within a cell) for evolution and synthetic biology; and (iii) synthetic biology approaches for targeting cancer

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also see reverse side

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chemistry.illinois.edu

Other faculty with interests in Organic Chemistry

Gregory S. Girolami
Organometallic chemistry; catalysis

Mary L. Kraft (faculty affiliate)
Biomembrane surface science

Samy Meroueh (faculty affiliate)
Bioorganic and medicinal chemistry

Eric Oldfield
Antibiotics; anti-cancer drugs

Lisa Olshansky
Switchable ligands & metal coordination

Huimin Zhao (faculty affiliate)
NP biosynthesis; synthetic biology

Liviu M. Mirica

Transition metal-catalyzed C–H bond activation and C–C/C–heteroatom bond formation reactions; organic transformations promoted by single electron transfer (SET) processes; photoredox catalysis and electrocatalysis

Scott K. Silverman

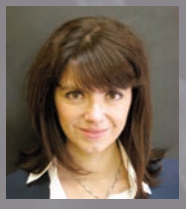
DNA as a catalyst

Michael J. Strauss

Discovery and development of synthetic methods to (1) engineer emergent phenomena in polymers and other soft materials, (2) transform plastic waste into high-value and high-demand small molecules, and (3) access structurally dynamic multi-dimensional polymeric materials

Wilfred A. van der Donk

Use of synthetic organic chemistry to address biological problems; antibiotic synthesis is of particular interest



M. Christina White

Synthesis-driven reaction discovery dedicated to the discovery and study of practical, selective catalytic reactions that streamline the synthesis and late-stage functionalization of complex molecules; examples include site-selective C–H hydroxylations and aminations and asymmetric C–H oxidations and alkylations

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