GRADUATE STUDIES AT RICE UNIVERSITY

Graduate students in the Department of Chemistry at Rice University have established an extraordinary record of achievement. A 2013 study by the Max Planck Society ranked Rice Chemistry at No. 1 in the world, based on the citation records of student publications. Coupled with a prolific publication rate (seven publications and nearly three first authorships), a typical student in the program publishes multiple papers cited in the top 10% worldwide.

Underlying the development of Rice chemists is a strong, dynamic, interdisciplinary faculty which included Nobel Laureates, six members of the National Academy of Sciences, and two members of the National Academy of Engineering. The low student to faculty ratio (3:1) ensures that students have ample access to faculty time, instrumentation, and other resources.

The doctoral program at Rice is built around a close-knit community that promotes student achievement. This collaborative environment was critical to the development of nanotechnology, having facilitated the work of two Nobel laureates in the discovery of buckminsterfullerene.

Rice’s culture of collaboration has minimized barriers between research areas for decades. Chemistry faculty members hold appointments in four of the seven departments in the School of Natural Sciences at Rice and in six of the nine engineering departments (most Chemistry faculty members also hold appointments in an engineering department).

Rice chemists do not take a prescribed set of courses, but construct an individualized curriculum consisting of six courses in any area of science or engineering. This flexibility to customize courses is ideal for chemists who want to branch out into other areas and for people who want to move into chemistry from another discipline.

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LinkedIn: linkedin.com/in/rice-chemistry/
Twitter: twitter.com/ricechemistry

How to apply
RICE UNIVERSITY DEPARTMENT OF CHEMISTRY FACULTY AND RESEARCH

CORE FACULTY


Zachary T. Ball, Ph.D. (Stanford, 2004) Bioconjugation methodology, biomimetic catalysis, and aqueous transition metal catalysis. Particular interests include boronic acid reactions for chemical biology and organometallics for biology and medicine.

Anna-Karin Gustavsson, Ph.D. (U Gothenburg, 2015) Development and application of 3D single-molecule, super-resolution microscopy with the goal of answering questions in physical chemistry, biophysics, and biomedicine related to cancer and other diseases.

Jeffrey D. Hartgerink, Ph.D. (Scipps, 1999) Self-assembly of structured materials with a focus on molecular structures of proteins and peptide based biomaterials for tissue regeneration, drug delivery, and other biomedical applications.


Matthew Jones, Ph.D. (Northwestern, 2014) Experimental materials chemistry focused on understanding nanoparticle synthesis, self-assembly, and dynamics for applications in metamaterials and heterogeneous catalysis.


Yuan Ma, Ph.D. (Shanghai Jiao Tong, 2018) Design novel chemical biology tools to advance RNA biology, disclose their relationship with disease, and develop new analytical methods for disease early detection.

Angel Martí, Ph.D. (U Puerto Rico, 2004) Development of molecules to diagnose and treat disorders such as Alzheimer’s that involve protein aggregates and development of supramolecular materials based on nanoscale building blocks.

Seichi P. T. Matsuda, Ph.D. (Harvard, 1994) Bioorganic and organic chemistry, terpenoid biosynthesis, enzyme evolution, redesign of enzymes to have new activities, and genomic approaches to find biologically active molecules.

Quanbing Mou, Ph.D. (Shanghai Jiao Tong, 2018) Development of chemical biology tools for understanding RNA spatial information and promoting the application of RNA-based therapeutics.

K.C. Nicolaou, Ph.D. (U London, 1972) Specializing in organic chemistry with a focus on the synthesis of natural and designed molecules of biological and medical importance to cancer research.


David Sarlah, Ph.D. (Scipps, 2011) Discovery and development of new reactivity as well as total synthesis of complex natural products and related chemical biology.


James M. Tour, Ph.D. (Purdue, 1986) Organic chemistry, materials science, polymer chemistry, nanoscience, and nanotechnology.

R. Bruce Weisman, Ph.D. (U Chicago, 1977) Basic studies of carbon nanotube spectroscopy and photophysics and related analytical, mechanical engineering and biomedical applications.


Kenton H. Whitmire, Ph.D. (Northwestern, 1982) Inorganic and organometallic chemistry; precursor design for advanced nanomaterials; structural and mechanistic chemistry; catalysis; bioactivity of heavy main group elements.


Han Xiao, Ph.D. (Scipps, 2015) Development of chemical biology tools to study complex biology systems and develop new therapeutic strategies.

Samantha Yruegas, Ph.D. (Baylor, 2019) Biocompatible and sustainable main group-based catalysts and method development for synthesis of innovative pharmaceuticals, optoelectronic devices, and polymers.


JOINT FACULTY

Pulickel Ajayan, Ph.D. Materials Science and NanoEngineering

Pedro J. Alvarez, Ph.D. Civil and Environmental Engineering

Gang Bao, Ph.D. Bioengineering

Mingjie Dai, Ph.D. Bioengineering

Michael Diehl, Ph.D. Bioengineering

Henry Everitt, Ph.D. Electrical and Computer Engineering

Jason H. Hafner, Ph.D. Physics and Astronomy

Naomi Halas, Ph.D. Electrical and Computer Engineering

Yimn Han, Ph.D. Materials Science and NanoEngineering

Olga Iedid, Ph.D. Bioengineering

Jun Lou, Ph.D. Materials Science and NanoEngineering

Fred MacKintosh, Ph.D. Chemical and Biomolecular Engineering

Amanda Marcil, Ph.D. Chemical and Biomolecular Engineering

Carrie Masiello, Ph.D. Earth, Environmental and Planetary Sciences

Kevin McHugh, Ph.D. Bioengineering

Antonios G. Mikos, Ph.D. Bioengineering

Emilia Morosan, Ph.D. Physics and Astronomy

Andriy Nevidomskyy, Ph.D. Physics and Astronomy

Jose Oruchu, Ph.D. Physics and Astronomy

Matteo Pasquali, Ph.D. Chemical and Biomolecular Engineering

George N. Phillips, Jr., Ph.D. BioSciences

Haotian Wang, Ph.D. Chemical and Biomolecular Engineering

Michael S. Wong, Ph.D. Materials Science and NanoEngineering

Laurence Y. Yeung, Ph.D. Earth, Environmental and Planetary Sciences

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