

# DEPARTMENT OF CHEMISTRY

Chemistry is the science that studies matter, the stuff of which all things are made. Chemists study the composition, structure, properties, and reactions of matter on the molecular scale and larger. Chemists also discover and synthesize entirely new materials. Modern chemistry touches many other fields of science, engineering, and medicine. Chemistry will continue to provide critical solutions to intellectually exciting and societally important problems.



## Research Highlights

The Department is the home of two centers: the Center for Enabling New Technologies through Catalysis (CENTC) and the South Asia International Center of Excellence for Malaria Research (South Asia ICEMR). Chemistry is also a key department in the UW Clean Energy Institute (CEI) which supports fellowships, travel awards, unique research facilities, and opportunities for broader professional education for Chemistry students, faculty, and postdoctoral research associates.

Faculty research highlights include:

- design of the world's most sensitive calorimeter for measuring the strength of chemical bonding on surfaces, then applied to clarify numerous surface chemical reactions of importance in catalysis and microelectronics fabrication;
- development of a mass spectrometry technique for newborn screening of lysosomal storage diseases, which is being used in newborn screening labs worldwide; and
- a new fundamental understanding of metal-mediated oxidation reactions, processes that play important roles from biological chemistry to large-scale industrial production.

## Education

The Department of Chemistry runs the largest chemistry and biochemistry undergraduate degree program in the nation. The Department also awards chemistry minors and master's and PhD degrees.

The Department serves many non-majors, with more than 3,000 undergraduates taking at least one introductory chemistry course annually. It has the largest undergraduate instructional laboratory program at the UW.

A large fraction of our undergraduate majors enrich their educational experience through participation in undergraduate research with our faculty.

## STUDENTS (Autumn 2015)

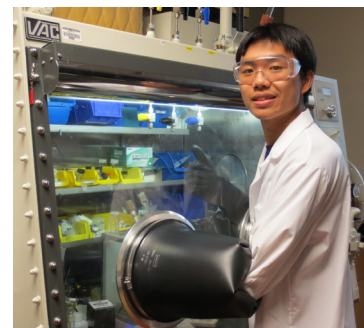
849	Undergraduate majors
230	Graduate students
65	Postdoctoral research associates

## DEGREES AWARDED (Sept. 2014-August 2015)

370	Bachelor's degrees
26	PhD degrees

## MAJOR STUDENT AWARDS (Since 2007)

A&S Timeless Award  
 Astronaut Scholarship Foundation  
 Dean's Medal in the Sciences  
 Dean's Medal in the Humanities  
 Dean's Medal in the Arts  
 Goldwater Scholarships  
 Pfizer AIR Diversity Fellowship  
 UNCF/Merck Fellowships  
 UW Junior Medal  
 UW President's Medals  
 UW Sophomore Medal



## Faculty

The Department of Chemistry has 40 faculty who have received a large number of awards from a wide variety of organizations. Faculty honors include:

AAAS Fellows	National Academy of Science
ACS National Awards	National Medal of Science
ACS Fellows	NSF CAREER Awards
APS Fellows	NSF Special Creativity Awards
Cottrell Scholars	Packard Fellowship
Dreyfus New Faculty Awards	Pauling Medal
Dreyfus Teacher-Scholar Awards	PECASE Awards
Guggenheim Fellowships	Searle Scholar
Keck Distinguished Young Scholar	Sloan Fellowships
MRS Fellow	UW Distinguished Teaching Awards

## Supporting Chemistry at the UW

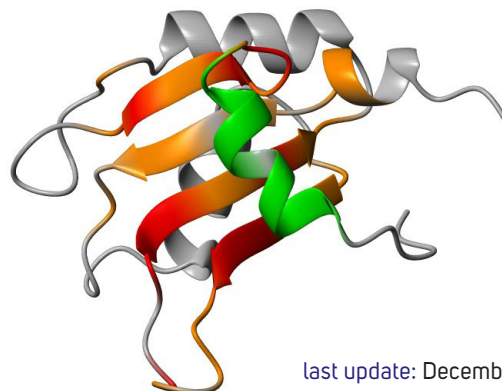
A student wishing to study and undertake cutting-edge research in chemistry in the northwest U.S. has but a small number of options. UW Chemistry is the premier choice. Fortunately we are a public institution that charges students a relatively modest tuition. But providing an education in chemistry to these students is extremely expensive. We are increasingly reliant upon private support to maintain our high-quality educational and research programs. Please contact us if you are interested in making a contribution in support of our programs.

Annual Fund gifts to our "Friends of Chemistry" account are used to meet a wide variety of needs for which state-derived funding is unavailable. Examples include our undergraduate and graduate student organizations; awards to students, staff, and faculty; and department-wide events such as our annual graduation ceremony and our picnic for faculty, staff, and students.

Endowed Funds provide partial support for virtually all of the department's activities. These include undergraduate and graduate scholarships and awards, and faculty support that helps us retain talented faculty being sought by other universities. While the vast majority of endowment-derived funds are invested in students and faculty, the relative urgency of the need in these areas shifts over time. For this reason, the most useful endowments are those that can be spent at the discretion of the Chair of the Department to support any of these needs.

## AREAS OF RESEARCH INCLUDE:

Analytical chemistry  
Bioanalytical chemistry  
Bioinorganic chemistry  
Bioorganic chemistry  
Biophysical chemistry  
Catalysis  
Chemical biology  
Clean energy  
Computational chemistry  
Electronic spectroscopy  
Inorganic chemistry  
Laser spectroscopy  
Mass spectrometry  
Materials chemistry  
Nanotechnology  
NMR spectroscopy  
Opto-electronics  
Organic chemistry  
Organic materials  
Organic synthesis  
Organometallic chemistry  
Photonics  
Physical chemistry  
Polymers  
Surface science  
Theoretical chemistry



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