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)

<table>
<thead>
<tr>
<th>Students</th>
<th>849 Undergraduate majors</th>
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<tbody>
<tr>
<td></td>
<td>230 Graduate students</td>
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<td>65 Postdoctoral research associates</td>
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DEGREES AWARDED (Sept. 2014-August 2015)

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<tr>
<th>Degrees</th>
<th>370 Bachelor's degrees</th>
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<tbody>
<tr>
<td></td>
<td>26 PhD degrees</td>
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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
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.

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
ACS National Awards
ACS Fellows
APS Fellows
Cottrell Scholars
Dreyfus New Faculty Awards
Dreyfus Teacher-Scholar Awards
Guggenheim Fellowships
Keck Distinguished Young Scholar
MRS Fellow

National Academy of Science
National Medal of Science
NSF CAREER Awards
NSF Special Creativity Awards
Packard Fellowship
Pauling Medal
PECASE Awards
Searle Scholar
Sloan Fellowships
UW Distinguished Teaching Awards

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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