Chemistry

The Department of Chemistry offers a PhD in Chemistry, with research specializations available in biological, organic, inorganic, physical, and nuclear chemistry. Doctoral students often work at the interface of two or more subfields of chemistry; they may also work at the interface of different scientific disciplines. Lab assignments are therefore made according to each student's research project. Chemistry students may work in a lab outside the department or alongside students from other departments in a chemistry lab.

The department's research strengths in each subfield of chemistry are as follows:

- Biological
- Biophysical, Bioorganic, Bioinorganic, Biochemistry
- Organic
- Synthetic, Organometallic, Bioorganic, Physical Organic, Asymmetric
- Catalysis
- Inorganic
- Coordination, Organometallic, Materials, Bioinorganic, Main Group
- Physical
- Computational, Laser Spectroscopy, Theoretical, Magnetic Resonance
- Biophysical, Physical Organic, Materials
- Nuclear and Radiochemistry
- Stability of Nuclei, Radioisotopes for Medical Studies

On average, students take between five and six years to complete the PhD. Requirements specific to Chemistry include attendance at Thursday evening research presentations during the student's first fall semester, passing four cumulative exams within the first four semesters (at least two of which should be in the student's chosen subdiscipline), and annual recertification in laboratory safety. Almost all students serve as teaching assistants in their first two years and must perform satisfactorily in their TA duties. Students must also make annual research presentations to their advisory committee, prepare a satisfactory dissertation research proposal, and pass an oral examination.

Washington University's graduate student stipends are in the top 25% of stipends at similar universities, and St. Louis has a low cost of living. The department has an excellent record of placing its graduates in a wide variety of jobs: academic, industrial, governmental, legal, consulting, writing/editing, and entrepreneurial.

Contact Information

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Departmental website: http://www.chemistry.wustl.edu/graduate

Chair

William Buhro
PhD, University of California, Los Angeles
Inorganic/Materials Chemistry

Endowed Professor

Jacob Schaefer
Charles Allen Thomas Professor of Chemistry
PhD, University of Minnesota
Physical Chemistry

Professors

Joseph Ackerman
PhD, Colorado State University
Physical Chemistry

Robert Blankenship
PhD, University of California, Berkeley
Biochemistry and Physical Chemistry

Peter Gaspar
PhD, Yale University
Organic Chemistry

Michael L. Gross
PhD, University of Minnesota
Analytical, Organic, and Biophysical Chemistry

Richard Gross
PhD, Washington University
Biophysical and Bioorganic Chemistry

Sophia Hayes
PhD, University of California, Santa Barbara
Inorganic/Materials Chemistry

Dewey Holten
PhD, University of Washington
Physical/Biophysical Chemistry

Ronald Lovett
PhD, University of Rochester
Materials/Physical Chemistry

Kevin Moeller
PhD, University of California, Santa Barbara
Organic Chemistry

Jay W. Ponder
PhD, Harvard University
Organic and Computational Chemistry

Demetrios Sarantites
PhD, Massachusetts Institute of Technology
Nuclear Chemistry
Lee Sobotka  
PhD, University of California, Berkeley  
Nuclear Chemistry

John-Stephen Taylor  
PhD, Columbia University  
Bioorganic Chemistry

**Associate Professors**

Vladimir Birman  
PhD, University of Chicago  
Organic Chemistry

John Bleeke  
PhD, Cornell University  
Organometallic/Inorganic Chemistry

Gina Frey  
Florence E. Moog Professor of STEM Education  
PhD, University of Utah  
Chemical Education

Richard Loomis  
Director of Graduate Studies  
PhD, University of Pennsylvania  
Physical Chemistry

Richard Mabbs  
PhD, Nottingham University, UK  
Physical Chemistry

Liviu Mirica  
PhD, Stanford University  
Bioinorganic, Inorganic, and Biological Chemistry

Gary Patti  
PhD, Washington University  
Physical, Biological Chemistry/Genetics and Medicine

**Assistant Professors**

Alexander Barnes  
PhD, Massachusetts Institute of Technology  
Physical/Biological Chemistry

Julio D’Arcy  
PhD, University of California, Los Angeles  
Inorganic and Materials Chemistry

Bryce Sadtler  
PhD, University of California, Berkeley  
Inorganic and Materials Chemistry

Timothy Wencewicz  
PhD, University of Notre Dame  
Chemical Biology and Medicinal Chemistry

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**Degree Requirements**

**PhD Requirements**

- 72 semester hours of graduate credit in courses and research
- Satisfactory performance on written cumulative examinations
- Satisfactory performance on annual pre-thesis committee meetings
- Demonstration of teaching competence
- Dissertation research and preparation of dissertation
- Satisfactory performance on a final oral dissertation defense

The PhD degree usually requires five years of study beyond the bachelor's degree.