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
- **Interdisciplinary**: biophysical, physical organic, materials
- **Nuclear and radiochemistry**: stability of nuclei, radioisotopes for medical studies

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.

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## Faculty

### Chair

Jennifer Heemstra
Charles Allen Thomas Professor
PhD, University of Illinois, Urbana-Champaign

### Professor and Chancellor Emeritus

Mark Wrighton
James and Mary Wertsch Distinguished University Professor
PhD, California Institute of Technology

## Endowed Professor

Gary J. Patti
Michael and Tana Powell Professor of Chemistry
PhD, Washington University

## Professors

- John R. Bleeke
  PhD, Cornell University
- Michael L. Gross
  PhD, University of Minnesota
- Sophia E. Hayes
  PhD, University of California, Santa Barbara
- J. Dewey Holten
  PhD, University of Washington
- Richard A. Loomis
  PhD, University of Pennsylvania
- Kevin D. Moeller
  PhD, University of California, Santa Barbara
- Jay Ponder
  PhD, Harvard University
- Lee G. Sobotka
  PhD, University of California, Berkeley
- John-Stephen Taylor
  PhD, Columbia University

## Associate Professors

- Jonathan Barnes
  PhD, Northwestern University
- Vladimir B. Birman
  PhD, University of Chicago
- Richard Mabbs
  PhD, University of Nottingham (UK)
- Bryce Sadtler
  PhD, University of California, Berkeley
Joint Professor

Richard W. Gross (https://chemistry.wustl.edu/people/richard-w-gross/)
PhD, Washington University
(Internal Medicine)

Degree Requirements
PhD in Chemistry

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

On average, students take between five and six years to complete the PhD.

Requirements specific to Chemistry include attendance at faculty research presentations during the student’s first fall semester, presenting and passing an oral examination within the first four semesters, and annual recertification in laboratory safety.

Almost all students participate in mentored teaching experiences during their first two years and must perform satisfactorily. Students must also make annual research presentations to their advisory committee, prepare a satisfactory dissertation research proposal, and pass an oral examination.