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## ABOUT THE PROGRAM

Chemistry strives to understand natural phenomena at the molecular level and connects with physics and mathematics, earth and environmental sciences, and biology and medicine. The chemistry department at Brandeis has a tradition of innovation and excellence in teaching and research, offering students a world-class education in an intimate setting where faculty and students work closely. Chemistry majors develop extensive, practical experience through lab courses using both macro- and microscale techniques. We strongly encourage our majors to participate in independent research. Our BA and BS graduates are welcomed at the highest-ranking graduate and professional schools, as well as in industry.

### What makes the program distinctive?

Our majors find a place to carry out research as soon as they are ready. Our faculty has developed innovative programs, including the peer-oriented Structured Study Group and laboratory experiences that combine

subject matter from wide-ranging disciplines. Students may enroll as BA or BS majors in chemistry or in our new chemical biology program. A four-year BA/MA program is also a popular choice.

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## FAST FACTS

**Current number of majors and minors:** 106

**Number of faculty:** 16

**Can you minor in this program?** Yes

**Emphasis within the major:**

Our department encompasses broad and diverse interests, including synthesis, characterization and applications ranging from very small molecular targets to very large macromolecular structures.

**Popular second majors:**

biochemistry, biology, physics

**Website:**

[www.chem.brandeis.edu](http://www.chem.brandeis.edu)

## ACADEMICS AND RESEARCH

### Student research presentations

Students have attended American Chemical Society National Meetings and the MIT-Bruker X-ray Diffraction Symposium to present their research. Zhequan Xu '13, Alexandra De Denko '13, Sadrach Pierre '13, John Shen '13 and Ashley Klein '16 have presented posters, while Benjy Cooper '11 gave an oral presentation.

### Course offerings

The general chemistry lab course introduces students to more advanced quantitative and qualitative analytical methods, including gas chromatography, mass spectrometry, and infrared and atomic absorption spectroscopy. The introductory organic lab course utilizes research-grade NMR spectrometry instrumentation and involves projects in the synthesis of inhibitors of the HIV Tat/TAR interaction and selective metalloprotease inhibitor design. Innovative upper-level curriculum includes our new courses, CBIO 101 and 106, in chemical biology and medicinal enzymology.

## AWARDS AND RECOGNITION

### Distinguished faculty

Both Christine M. Thomas and Isaac J. Krauss have recently been awarded Walzer Prizes for Excellence in Teaching. Professor Thomas was honored as an Alfred P. Sloan Fellow and also received a \$750,000 award from the Department of Energy's early career research program for her work relating to the production of clean fuels. Professor Krauss was awarded two National Institutes of Health grants of \$1.6 million and \$2.2 million for his research toward the development of an AIDS vaccine.

### Student distinctions

Benjy Cooper '11 and Asher Preska Steinberg '13 are currently National Science Foundation Predoctoral Fellows at Boston University and Caltech, respectively. Our undergraduate students have co-authored publications in the journals *Inorganic Chemistry*, *Organometallics*, *Journal of the American Chemical Society*, *Organic Letters*, *Journal of Medicinal Chemistry*, *Chemistry and Biology*, *Physical Review*, *Chemical Communications* and *Science*.

## BEYOND THE CLASSROOM

### Student-run clubs

The Brandeis University Student Affiliate Chapter of the American Chemical Society enhances students' experience with chemistry outside the classroom. The chapter also provides opportunities for students to bring their knowledge and enthusiasm about chemistry into the local community through outreach activities at local K-12 science programs.

### Hands-on experience

The Brandeis chemistry program strongly emphasizes hands-on experience, in the form of laboratory research. Every year, eight to 12 seniors complete an honors thesis based on research conducted in a faculty mentor's lab and present their findings in a year-end symposium. Some students have also spent summers as interns at pharmaceutical companies such as Biogen Idec and Novartis (Alfred Chon '13 and Angel Tai '12).

## AFTER BRANDEIS

### Graduate school

Recent graduates are pursuing graduate studies in fields such as chemistry, medicine, business and law; students attending chemistry PhD programs include Noam Saper '15 (UC Berkeley), Kaitlin Hulce '14 (UCSF), Sadrach Pierre '13 (Cornell), Asher Preska Steinberg '13 (Caltech, NSF predoctoral fellow), John Shen '13 (Yale) and Angel Tai '12 (Brown). Students in medical school include Rachel Gomes-Casseres '15 (Tufts), Jeetayu Biswas '13 (Albert Einstein MD/PhD) and Lev Gorfinkel '13 (UMass). Josh Hoffman-Senn '13 will attend Harvard (MBA), and Ariana Boltax '14 is at Cornell (veterinary school).

### Real jobs

Recent chemistry graduates and their current positions include AJ Casner '15 (Abt Associates, consulting), Zhequan Xu '15 (Corning), Rena Shi '13 (Aramco Services), Megan Sun '15 (Phosphorex), Suwan Lee '15 (Sunlife Financial), Padraig Murphy '14 (Boston Biomedical Consultants), Andre Tran (Cambridge Biomarketing) and Emily Chen '13 (Berg Pharma).

*"Shortly after declaring my chem major, I asked to join a professor's lab, started doing my very own research, received a fellowship to fund that research, co-authored a journal article and gave a presentation at a nationwide conference. The good news is that I've been able to network with tons of professionals as I begin applying to grad schools. The bad news is that whenever I see everyday objects, I think about their geometries as they relate to valence shell electron pair repulsion theory."*

*Benjy Cooper '11*



Photo by Ken Schles

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