

# Research Groups

The research interests of our faculty include:

- **Algebraic Geometry**  
An Huang, Alan Mayer
- **Combinatorics and Algorithms**  
Olivier Bernardi, An Huang,  
Kiyoshi Igusa, John Wilmes
- **Dynamical Systems**  
Dmitry Kleinbock, Jonathan Touboul
- **Lie Groups and Representation Theory**  
Dmitry Kleinbock, Bong Lian,  
Omer Offen
- **Mathematical Biology and Neuroscience**  
Thomas Fai, Jonathan Touboul
- **Mathematical Physics**  
An Huang, Bong Lian
- **Number Theory**  
Joël Bellaïche, Dmitry Kleinbock,  
Omer Offen
- **Probability and Random Matrix Theory**  
Mark Adler, Olivier Bernardi
- **Topology and Geometric Group Theory**  
Carolyn Abbott, Ruth Charney,  
Kiyoshi Igusa, Daniel Ruberman

## How to Apply to our programs

Applications can be made online at <http://www.brandeis.edu/gsas/apply/>

### PhD Program

Apply by January 15 for fall admission.

### Master of Arts or Master of Science

Rolling admission, January 15 through April 1, for fall admission.

### Post-baccalaureate

For fall admission, rolling from January 15 through April 1. For spring admission, apply by November 1.

### FINANCIAL AID

Full financial support is available for students accepted into the PhD program. This includes full tuition remission and a stipend through the first five years of the program. For master's and post-baccalaureate students, we offer some merit- and need-based scholarships.

### Contact Us

#### For more information on the graduate program, contact:

Professor Olivier Bernardi,  
Graduate Advising Head.  
[bernardi@brandeis.edu](mailto:bernardi@brandeis.edu)

#### For questions about applying to the graduate program, contact:

Emily Palmer, Academic Administrator.  
[scigradoffice@brandeis.edu](mailto:scigradoffice@brandeis.edu)

# Brandeis Mathematics

The math department combines the informality and flexibility of a small department with the intellectual vigor of a faculty whose research accomplishments have placed it among the top departments in the country. Our faculty includes four Fellows of the American Mathematical Society (AMS) and three Simons Fellows, as well as the current President of the Association for Women in Mathematics (AWM). The faculty's concern for research is coupled with its dedication to teaching and mentoring.

## About our Students

To complete the PhD program, students typically take 5 years. Students complete 7 core courses in algebra, analysis and topology as well as the Second Year Seminar and Teaching Practicum. To broaden the scope of their studies, students complete the minor exam and take advanced reading courses and, to prepare for their dissertation work, they complete a major exam. Their program culminates with the defense of their dissertation. A majority of our students continue to a successful career in academia; however, alumni also pursue industry careers in data analysis and software engineering.

We offer both a Master of Arts degree, which typically takes one year to complete, and a Master of Science degree, which typically takes 2 years to complete. Students may leverage the Master's to apply for a PhD program in mathematics or to prepare for a career outside academia. In the post-baccalaureate program, students expand and deepen their mathematical skills for the workplace or for graduate programs.



## About Our Faculty

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*“The Mathematics Department is committed to building a diverse talented cohort, and strongly encourages women and under-represented minority groups to apply for our programs.”*

Visit our website:  
<http://www.brandeis.edu/mathematics/>

*Department of Mathematics  
Mailstop 050  
415 South Street  
Waltham, MA 02452*

## How we prepare our math PhD students for careers in academia and industry:

- Through core courses in algebra, topology, geometry and analysis as well as specialized elective courses, students develop broad and deep knowledge.
- Advanced reading courses with one or a small group of students train students how to analyze current research.
- Opportunities for students to develop professionally by attending seminars, colloquia and workshops with scholars at other local schools with \$500 a year available to each student to cover travel costs.
- Reading courses, seminars and major and minor exams help students to learn how to present mathematical materials, in particular their own results.
- Through dissertation writing and defense, students attain research expertise and complete a significant body of original research that advances a specific field of study in mathematics.
- Structured Teaching Practicum with four semesters of undergraduate teaching strengthen instructional skills but also develop communication, organizational and leadership skills.
- Mentoring offered by faculty advisors and graduate advising head as well as workshops and career coaching offered through the Center for Career and Professional Development.

## How we prepare our math MA and MS students for careers in academia and industry:

- Through core courses in algebra, topology, geometry and analysis as well as specialized elective courses, students develop broad and deep knowledge.
- Opportunities for students to develop professionally by attending seminars, colloquia and workshops with scholars at other local schools.
- Advanced mathematics courses prepare students to apply for a Ph.D. program in pure or applied mathematics, physics, and other sciences. Students also have competencies in mathematics that lead to positions, such as data or financial analysis, in many different industries.
- Workshops and career coaching offered through Center for Career and Professional Development
- MS students can develop research skills through the option to write and present thesis (with approval of the faculty).

## Teacher Preparation

In a unique program, all of our PhD students are expected to teach a section of calculus or pre-calculus for at least four semesters. We provide extensive training before the student begins to teach, along with ongoing advice and support. This training is an invaluable asset in the academic job market.

## Career Resources

Students will find in-depth resources for their job and career search in academia and industry at the Center for Career and Professional Development. Career.