The Department of Mathematics, Applied Mathematics, and Statistics at Case Western Reserve University is an active center for mathematical and statistical research. Faculty members conduct research in algebra, analysis, applied mathematics, convexity, dynamical systems, geometry, imaging, inverse problems, life sciences applications, mathematical biology, modeling, numerical analysis, probability, scientific computing, statistics, stochastic systems, and other areas.

The department offers a variety of programs leading to both undergraduate and graduate degrees in traditional and applied mathematics and statistics. Undergraduate degrees are Bachelor of Arts or Bachelor of Science in mathematics, Bachelor of Science in applied mathematics, and Bachelor of Arts or Bachelor of Science in statistics. Graduate degrees are Master of Science and Doctor of Philosophy.

Integrated BS/MS programs allow a student to earn a Bachelor of Science in either mathematics or applied mathematics and a Master of Science in this department or another department in five years; there is a similar integrated bachelor’s/master’s degree program in statistics. The department, in cooperation with the Teacher Licensure Program, offers a course of study for individuals interested in pre-college teaching. Together with the Department of Physics, it offers a specialized joint Bachelor of Science in Mathematics and Physics.

Mathematics plays a central role in the physical, biological, economic, and social sciences. Because of this, individuals with degrees in mathematics enjoy excellent employment prospects and career opportunities. A bachelor’s degree in mathematics or applied mathematics provides a strong background for graduate school in many areas (including computer science, medicine, and law, in addition to mathematics and science) or for a position in the private sector. A master’s degree in mathematics or applied mathematics, or an undergraduate degree in applied mathematics combined with a master’s in a different area, is an excellent basis for private-sector employment in a technical field. A PhD degree is usually necessary for college teaching and research.

Statistics links mathematics to other disciplines in order to understand uncertainty and probability, both in the abstract and in the context of actual applications to science, medicine, actuarial science, social science, management science, business, engineering, and contemporary life. As technology brings advances, the statistical theory and methodology required to do them justice becomes more challenging: higher-dimensional, dynamic, or computer-intensive. The field of statistics is rapidly expanding to meet the three facets of these challenges: the underlying mathematical theory, data analysis, and modeling methodology, and interdisciplinary collaborations and new fields of application.

Students in the department, both undergraduate and graduate, have opportunities to interact personally with faculty and other students, participate in research, and engage in other activities. In addition, undergraduates can obtain teaching experience through the department’s supplemental instruction program.

**Department Faculty**

**Weihong Guo, PhD**
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Professor and Chair
http://casfaculty.case.edu/weihong-guo/
Imaging and inverse problems; numerical analysis and scientific computing

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Assistant Professor
Imaging and Inverse Problems, Microlocal Analysis, and Integral Geometry

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(The University of Minnesota)
Assistant Professor
Sequential decision making, nonparametric estimation, statistical learning theory

**Eva Belmont, PhD**
(Massachusetts Institute of Technology)
Assistant Professor
Algebraic topology; homotopy theory

**Jenny Brynjarsdóttir, PhD**
(The Ohio State University)
Associate Professor
Bayesian statistics; spatial statistics; uncertainty quantification

**Christopher Butler, MS**
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Senior Instructor and Theodore M. Focke Professorial Fellow
Teaching of mathematics

**Daniela Calvetti, PhD**
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James Wood Williamson Professor
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**Teresa Contenza, PhD**
(University of Kentucky)
Instructor

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High dimensional phenomena, random matrix theory, geometry of metric spaces

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Differential and Algebraic Geometry, Dynamical Systems, Variational Problems

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Lecturers

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Paula Fitzgibbon  
Full-time Lecturer

Pup Horst  
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http://www.case.edu/artsci/phil/mclarty.html
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Convex geometry; Banach space theory; functional analysis

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Michael Hurley
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Arthur Obrock
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Joseph Sedransk
(Harvard University)
*Professor Emeritus*

Programs
No results were found.

Dual Degrees
- Programs toward Graduate or Professional Degrees