Graduate opportunities in the Michigan State University Department of Computational Mathematics, Science and Engineering

The Department of Computational Mathematics, Science and Engineering (CMSE) is unique among computational academic units nationally; it is the first to comprehensively treat computation as the intersection of algorithm development and analysis, high performance computing, and applications to scientific and engineering modeling and data science.

A PhD in CMSE gives students broad and deep knowledge of the fundamental techniques used in computational modeling and data science, and in utilizing this knowledge to solve problems in science and engineering. Students will be exposed to research conducted by world-leading experts in a wide range of scientific and engineering domains.

EDUCATIONAL AND RESEARCH TRAINING

Our goal is to educate and inspire doctoral-level investigators to be experts and leaders in the interdisciplinary areas of science and engineering focusing on the intersection of algorithm, application and data. The degree offered will be a Ph.D. in Computational Mathematics, Science and Engineering.

Dual degrees will also be offered jointly with other departments at Michigan State University. CMSE students will have access to training in MSU’s Institute for Cyber-Enabled Research, and to supercomputing resources at the MSU High Performance Computing Center as well as national supercomputing facilities offered through the XSEDE system, the Blue Waters Project, and the DOE INCITE project.

RESEARCH AND SCHOLARSHIP

The Department is in the midst of a rapid growth phase. CMSE faculty research interest can be found in a diverse areas of scientific computing and computational data science. They can be classified as:

- Materials
- Fluids and plasmas
- Quantum and classical fields and waves
- Statistical/machine learning and informatics for biology
- Applied harmonic analysis
- Optimization
- Topological data analysis

STUDENT SUPPORT

CMSE PhD students are typically supported via:

- External Fellowships: fellowships from Michigan State University, and the Colleges of Engineering and Natural Science
- Research Assistantships
- Teaching Assistantships
OUR MISSION

It is our mission to bridge to a wide range of disciplines in computational mathematics, science and engineering. We will create a unique blended environment to provide a home for scientists who focus on a range of problems, spanning from theory to application. In doing so, we will serve to advance cutting-edge interdisciplinary science and the training of undergraduate and graduate students.

NEED MORE INFORMATION?

Contact:
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READY TO APPLY?

The MSU Department of Computational Mathematics, Science and Engineering accepts applications for both fall and spring admissions.

- Information on CMSE graduate programs is available at: https://cmse.msu.edu/academics
- Application information is available at: http://cmse.msu.edu/apply
- General deadlines for admission:
  - Fall - Dec. 15
  - Spring - Aug. 15