



## ICERM

Located at 121 South Main Street, ICERM is one of eight National Science Foundation mathematics institutes.

## ICERM to lead \$8M pure math research collaboration

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*Brown's Institute for Computational and Experimental Research in Mathematics will lead a multi-institution effort sponsored by the Simons Foundation to explore fundamental questions in algebra and number theory.*

**PROVIDENCE, R.I.** [Brown University] — Brown University's national mathematics research institute has been tapped to lead an \$8 million Simons Foundation project aimed at bringing new computational resources to research in arithmetic geometry and number theory, fields of study that lie at the foundation of cryptography, error-correcting codes and other useful algorithms.

Brendan Hassett, director of the [Institute for Computational and Experimental Research in Mathematics](#) (ICERM) and professor of mathematics at Brown, will lead the four-year project, which includes collaborators from Boston University, Dartmouth, Harvard and MIT.

"When we think of research in pure mathematics, we tend to think of people sitting in quiet rooms with dusty books proving theorems," Hassett said. "The goal of this project is to make the research more collaborative and to take advantage of large-scale cloud computing, databases and other computer experiments in tackling fundamental questions in arithmetic geometry and number theory."

The funding, which will be distributed among the participating institutions, will enable the hiring of programmers and staff mathematicians who will perform sophisticated calculations and assemble new databases of mathematical objects.

ICERM, one of eight National Science Foundation (NSF) mathematics institutes, brings together some of the world's brightest mathematical minds to explore topics in pure and applied math, computer science and related disciplines. It was founded in 2010 with a five-year, \$15.5 million grant from NSF. That grant was renewed in the amount of \$17.5 million in 2015.

"This new collaboration grew out of our Fall 2015 semester program," Hassett said. "It is a direct spinoff of NSF's investments in computational approaches to basic mathematical research."

ICERM will coordinate the logistical support for the effort and host workshops in 2019 and 2020 to discuss the research and findings.

"This is, to my knowledge, the largest pure mathematics award given in North America this year," Hassett said. "We're very grateful to the Simons Foundation for this level of support."

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### Note to Editors:

Editors: Brown University has a fiber link television studio available for domestic and international live and taped interviews, and maintains an ISDN line for radio interviews. For more information, call (401) 863-2476.