Novik Fellowship
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learning about the diverse research happening in the
supportive community of graduate students and
Smith College in the Center for Women in Mathematics.
and then completed a post-baccalaureate program at
the Mathematics Department and a recipient of the
Katherine Burke: Recipient of
effort of the mathematics departments at Bryn Mawr College,
Undergraduate Mathematics Conference Series,
a collaborative
In April, the Department of Mathematics hosted the Philadelphia Undergraduate Mathematics Conference Series, a collaborative effort of the mathematics departments at Bryn Mawr College, La Salle University and Temple University.

Katherine Burke: Recipient of Novik Fellowship
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Sonia Kovalevsky Day at Temple

New faculty bring research and teaching excellence continued from page 1

Riverides, earned her PhD in mathematics in 2011 from the University of Southern California.

Ignotova brings nearly 15 years of teaching experience to her new role in the Mathematics Department. Her work has been published in the Nonlinearity Journal as well as the Archive for Rational Mechanics and Analysis, and she has been invited to lecture at more than 40 universities, including Princeton, UCLA, UC Riverside and Stanford University.

A passionate educator, Ignotova has taught mathematics courses ranging from basic math to upper-level, multi-variable calculus courses. The Women in Science and Engineering (WISE) Ment Award winner is trilingual, and her research interests include partial differential equations, mathematical fluid dynamics and harmonic analysis.

NEWLY FUNDED RESEARCH

David Futer
- Hyperbolic Geometry: Effective, Quantum, and Coarse, Simons Foundation

Isaac Klapfer
- Linking Microbial Metabolism to Host-Microbe Environment, Burroughs Wellcome Fund

Gillian Queisser
- US-German Collaboration toward an experimentally validated multiscale model of repetitive transcranial magnetic stimulation (TMS), MN/HFA

Benjamin Seibold and Matthew Holmus (Blo)
- Furthering computational approaches for modeling, predicting and controlling Spotted Lanternfly invasion and its economic impact, PA Department of Agriculture

SUCCESS STORIES

Edgar Bering: Helping students find their mathematical voices

With the Mathematics Department's support, postdoctoral fellow Edgar A. Bering IV has participated in the Mathematical Association of America's Project NExT program, which obsessive active learning methods and effectively reaching diverse and underserved students.

"I incorporated some of the concepts, such as having my students in my fall geometry class write notes to a friend enrolled in linear algebra, and the way the students found their mathematical voices was really rewarding," says Bering, who earned his PhD at the University of Illinois at Chicago.

In a rare feat for a postdoctoral fellow, Bering has also contributed to curriculum development. Meanwhile, he is researching the geometry and dynamics of mapping class groups and outer automorphisms of free groups.

"The Math Department is one of the best in supporting postdocs in terms of research, career development and growing as a member of the profession in a holistic way," he says.

Timothy Morris: Long journey to math excellence

After initially dropping out as a political science major, Timothy Morris started his math education as a 25-year-old freshman at Stockton College. Making up for lost time, since joining Temple's PhD program in 2015, he has attended schools, symposia and workshops throughout the U.S. and Europe, including in Italy and at Cambridge University's Isaac Newton Institute—and discussed his doctoral research in low-dimensional geometry and topology throughout the U.S.

At Temple, he helped start and has co-organized the Graduate Student Conference, a two-day event where more than 100 graduate students give talks and interact with leading mathematicians. He also has co-organized Temple's Graduate Student Seminar and Summer Reading Groups in Geometry and Topology.

"Says Morris, who is pursuing a postdoctoral fellowship this fall, "the environment here is awesome for graduate students who need a bit more mentorship than those who have been doing math since they were in diapers."

Sujay Rajkumar: Tracking Transnational coal pollution in U.S. with NASA

Last summer, as a NASA Airborne Science Program intern at the Jet Propulsion Laboratory in Pasadena, California, senior Sujay Rajkumar created a model that estimated it took just six days for coal burning emissions from China to cross the Pacific and reach the United States—and in December presented his findings to the California Air Resources Board.

"It just shows how accurate we can be with our computational predictions," says the winner of the university's prestigious Diamond Award. The biology minor also conducts research with Temple's Institute for Genomics and Evolutionary Medicine and Lewis Katz School of Medicine. With the Math Department, he also is an undergraduate tutor and a student ambassador in the advising office.

Ultimately, he wants to earn a PhD and research computational atmospheric chemistry and how it relates to human health and epidemiology—ideally with NASA.

Yilin Wu: Doctoral student probes biofilm growing on Jefferson Memorial

"I am eager to see how I can apply my math skills to address real world problems," says Yilin Wu, a native of China who will earn her PhD this May. "That's why I chose applied mathematics."

Among those real-world challenges: the black, microbial biofilm growing on the Jefferson Memorial in Washington, District of Columbia. Wu analyzed weather data and built mathematical models that incorporated biofilm growth and marble erosion to determine the effect cleaning the biofilm with lasers might have. The research was supported by the National Park Service and National Science Foundation.

Wu also trained Temple undergrads for the Mathematical Contest in Modeling for five years and last summer taught calculus at Temple's Japan Campus. Wu has applied for teaching positions at colleges and small universities in Asia, Europe and the United States.

Chelsea J. Zacker: Inspired exploration of quantum machine learning

Senior Chelsea J. Zacker, a mathematics and computer science majors and Honors Program participant, is researching quantum machine learning issues. Inspired by Bo Ji, assistant professor of computer and information sciences, last summer she collaborated with a postdoctoral fellow from the Centre of Quantum Technologies at the National University of Singapore and delivered the first seminar presentation of the full semester at a graduate seminar exploring multi-armed bandit problems.

A peer tutor in both the Math and CIS departments, she also tutors Philadelphia High School for Girls students and is president of the Association for Women in Mathematics Student Chapter at Temple.

"Dr. Ji was the first professor to really allow me to get my hands dirty in a pure research exploration," says Zacker, who expects to start working on a Master's degree at Temple before pursuing a PhD and a research career.