

# RUTGERS

School of Arts and Sciences

## A SUMMER SPENT SOLVING MYSTERIES AND SEEING POSSIBILITIES

Written by John Chadwick | SAS Senior Writer

>>> REU program draws accomplished undergraduates eager for research experience

Patrick Chen, a School of Arts and Sciences senior, knows the day is coming soon when he'll be focusing his time and energy on his career. But before he lands that first job, he wants the chance to do something exploratory, open-ended, and out-of-the-box within his field of computer science.



A summer undergraduate research program drew students from Rutgers and from top universities around the world. Above, Mark Karpilovskij, (in red and white shirt) of Charles University in the Czech Republic, discusses a math problem. "Math students here are the same as in the Czech Republic," he says. "They are great people to talk to, and we have a great time together."

So he participated in a Research Experiences for Undergraduates (REU) summer program run by the Center for Discrete Mathematics and Theoretical Computer Science (DIMACS) at Rutgers University–New Brunswick.

"I feel like there is still a lot more for me to explore, and mysteries to solve," Chen says.

He found just what he was looking for when he stepped inside the Computing Research and Education (CoRE) building on Busch Campus last May. Nearly 40 undergraduates from across the country—and a few from Europe and Asia—had gathered for the same purpose: to explore complex issues in their field, work closely with Rutgers professors, and get a taste of what life will be like at the graduate level.

"We are treated as visiting researchers," says Michael Rudow, a University of Pennsylvania senior. "We're able to experience what it's like to focus completely on research, which is very useful for those of us who are interested in graduate school and those of us debating whether we want to pursue a Ph.D."

REUs are competitive summer programs for undergraduates sponsored by the National Science Foundation and hosted in universities across the country. Lazaros Gallos, associate director at DIMACS, said his center's REU program stands out from others around the country—both for its size and scope.

"The typical REU has anywhere from four to 10 people," Gallos says. "By combining many programs we manage to have a bigger group, which provides more extensive social interactions, and exposure to more ideas. The students get a bigger experience."

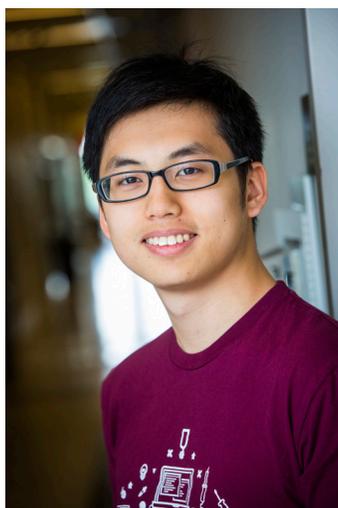
The fourth floor of the CoRE building serves as the program's hub. Students work at their computers, meet with mentors, gather for discussions in common areas, and munch on pizza at lunch. This year's students arrived from Boston College, Brown University, Loyola University, and other schools, as well as from Charles University in the Czech Republic and from Khon Kaen University in Thailand.

Mark Karpilovskij, one of the Czech Republic students, says it's his first time in the United States. "It turns out that math students here are the same as in the Czech Republic," he says. "They are great people to talk to, and we have a great time together."

Anshu Patel, a mathematics major at the College of New Jersey, worked with Arts and Sciences chemistry professor Wilma Olson on a project that stretched her knowledge by combining multiple disciplines. She is interested in computational neuroscience, and may attend medical school. "I wanted to up my game," Patel says. "This has been a milestone in my progress."

Chen, meanwhile, was engaged in deep dialogue with James Abello, a professor of computer science, over what they described as one of the top six problems in the field of combinatorial geometry.

"These young minds are in need of inspiration," Abello says. "I like to bring to them a sense of the beauty in mathematics so they see it's what a musician, composer, or a painter experiences."



Patrick Chen (at left), a Rutgers computer science student, engages in deep dialogue with Professor James Abello over what they described as one of the top six problems in the field of combinatorial geometry.

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# DIMACS

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