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# Rutgers, William Paterson receive \$3.3M in STEM grants from National Science Foundation

**Bob Makin**

Bridgewater Courier News

The National Science Foundation (NSF) in Washington, D.C. has awarded a three-year \$2.3 million Smart and Connected Communities Grant to Rutgers University and a five-year \$1 million Scholarships-in-STEM Grant to William Paterson University in Wayne.

The Rutgers grant will allow faculty to help advance digital public services for the City of Newark, while the William Paterson grant will provide scholarships to low-income students and create leadership programs at seven partner area schools.

Rutgers faculty will partner with the City of Newark, according to the university. Faculty from the departments of Computer Science and Civil and Environmental Engineering in New Brunswick and the Transparency and Governance Center in the School of Public Administration and Affairs in Newark will develop strategies and tools to create inclusive and equitable digital public services, the university said in a statement.

**EARLIER:** Rutgers mourns former university law professor Ruth Bader Ginsburg



The research team consists of principal investigator Desheng Zhang, assistant professor of computer science, and co-principal investigators and public affairs professors Suzanne Piotrowski and Gregory Porumbescu, respective director and assistant director of Transparency and Governance Center, and Peter Jin, an assistant professor in the Department of Civil and Environmental Engineering, according to Rutgers. They will collaborate with the University of Virginia, Stony Brook University in New York, and the University of Connecticut, the university stated.

"Cities depend on technologies, such as intelligent traffic control and air quality control, to improve residents' quality of life," the university said in a statement. "As cities rely more on technology to coordinate service provision, avoiding disruptions that compromise safety and performance is crucial, yet challenging. Researchers have accumulated abundant knowledge on how to design these services independently, however, less is known about how to

manage their simultaneous deployment, thus creating the potential for service conflicts."

Zhang added, "In this project, we will explore the implications of smart service conflicts for social inclusion. This is important because when service conflicts occur, their impacts are likely concentrated in less affluent communities, meaning that some groups of residents will experience lower quality services than others. Put differently, digital service disruptions contribute to a digital divide in service provision that we aim to mitigate."

For Newark officials, the team plans to develop a digital service dashboard and open data portal and provide relevant training.

For Newark residents, the team will create a state-of-the-art mobile application that expands access to government information and public services and conduct a series of digital literacy workshops.

"I am enthusiastic about collaborating with Rutgers University on this important project that will enable residents, public officials, planners, developers, and others to easily access comprehensive information about every property in our city," Mayor Ras J. Baraka said in a statement. "We have wanted to create one interactive map to be the sole source of information for every land parcel in Newark on a web site that will be intuitive for residents to use. This is a big step toward that goal. We witness once again how our partnership with Rutgers is critically important in helping us achieve a more equitable, empowered, collaborative, educated, and healthy city."

At William Paterson

William Paterson's five-year \$1 Million Scholarships-in-STEM Grants from the National Science Foundation will support low-income, academically talented math and computer science majors, according to the university.

The William Paterson team that worked on obtaining the competitive grant project includes principal investigator and math professor Jyoti A.

Champanerkar and co-principal investigators Paul von Dohlen, professor, mathematics; Cyril S. Ku, professor, computer science; Weihus Liu, assistant professor, computer science; Djanna Hill, chairwoman, Department of Community and Social Justice Studies, and professor, teacher education.

“I congratulate all of our colleagues for their hard work in obtaining this highly competitive and transformative grant,” said College of Science and Health Dean Venkat Sharma, the team's STEM administrator.

Over the five-year duration, the project will support 26 first-year and transfer students pursuing bachelor's degrees in mathematics, computer science, or computer information technology, according to the university. First-year students will receive scholarship support for up to four years and transfer students will receive up to two years of scholarship support, the university stated.

With the grant, William Paterson stated that it intends to enroll three cohorts of low-income, academically talented students as mathematics and computer science scholars and support them with scholarships.

The university stated that it also will work to improve year-over-year retention rates for math and computer science scholars who are first-time, full-time, first-year, or transfer students and improve their graduation rates. The funds also will support a research study that investigates the relationship between college retention for low-income students and strength-based, culturally responsive mentoring. The proposed project also will refine the recruitment pipeline of females into the target STEM majors, which will increase enrollment and consequentially increase the number of underrepresented STEM graduates entering the workforce.

The grant award also will allow the university to develop leadership programs at its seven partner schools:

- Bergen Community College
- Passaic County Community College
- Passaic County Technical-Vocational Schools
- Manchester Regional High School
- Paterson Charter School for Science & Technology
- The School of STEM, Paterson Public Schools JFK Educational Complex
- School of Information Technology, Paterson Public Schools.

"With William Paterson's long tradition of educating first-generation college students, many of whom are children of immigrant parents, this project has the potential to broaden participation in STEM fields and to learn how culturally responsive mentoring and individual development plans support retention and graduation of this student population," the university stated.

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## NEW JERSEY BUSINESS

# William Paterson University Awarded \$1M Scholarships-in- STEM Grant

ON SEP 21, 2020

William Paterson University, in Wayne, has been awarded a five-year \$1 million Scholarships-in-STEM grant from the National Science Foundation, which will support WP students majoring in mathematics and computer science through scholarships and mentoring.

"The overall goal of this project is to increase STEM degree completion of low-income, high achieving undergraduates with demonstrated financial need," says Venkat Sharma, dean of the College of Science and Health, who serves as the team's STEM administrator. "I congratulate all of our colleagues for their hard work in obtaining this highly competitive and transformative grant."

The William Paterson team that worked on obtaining the grant project includes: Principal investigator Jyoti A. Champanerkar, professor, mathematics, along with co-principal investigators Paul von Dohlen, professor, mathematics; Cyril S. Ku, professor, computer science; Weihus (Daisy) Liu, assistant professor, computer science; Djanna Hill, chairperson, Department of Community and Social Justice Studies and professor, teacher education.

Over the five-year duration, the project will support 26 first-year and transfer students who are pursuing bachelor's degrees in mathematics, computer science, or computer information technology. First year students will receive scholarship support for up to four years and transfer students will receive up to two years of scholarship support.

With this grant award, William Paterson intends to enroll three cohorts of low-income, academically talented students as mathematics and computer science (MaCS) scholars and support them with scholarships. The University will also work to improve year-over-year retention rates for MaCS scholars who are first-time, full-time, first-year or transfer students, and improve graduation rates for all MaCS scholars. The funds will also support a research study that investigates the relationship between college retention for low-income students and strength-based, culturally responsive mentoring. The proposed project will also refine the recruitment pipeline of females into the target STEM majors, which will increase enrollment and consequentially increase the number of underrepresented STEM graduates entering the workforce.

The grant award will also allow the University to develop leadership programs at its seven partner schools, which include:

- Bergen Community College
- Passaic County Community College
- Passaic County Technical – Vocational Schools
- Manchester Regional High School
- Paterson Charter School for Science & Technology
- The School of STEM, Paterson Public Schools JFK Educational Complex
- School of Information Technology, Paterson Public Schools

With William Paterson's long tradition of educating first-generation college students, many of whom are children of immigrant parents, this project has the potential to broaden participation in STEM fields and to learn how culturally responsive mentoring and individual development plans support retention and graduation of this student population.

The project is funded by NSF's Scholarships in Science, Technology, Engineering, and Mathematics program, which seeks to increase the number of low-income academically talented students with demonstrated financial need who earn degrees in STEM fields.

NJBIZ

# National Science Foundation grants awarded to Rutgers, William Paterson

By: *Linda Lindner*

September 22, 2020 8:16 am

The National Science Foundation (NSF) in Washington, D.C., on Monday said it awarded a three-year \$2.3 million Smart and Connected Communities Grant to Rutgers University and a five-year \$1 million Scholarships-in-STEM Grant to William Paterson University in Wayne.

The Rutgers grant will allow faculty from the Department of Computer Science and the Department of Civil and Environmental Engineering in New Brunswick and the Transparency and Governance Center at the School of Public Administration and Affairs in Newark to partner with the City of Newark to develop strategies and tools to create inclusive and equitable digital public services.

The William Paterson grant will support students majoring in mathematics and computer science through scholarships and mentoring. Over its five year duration, the project will support 26 first-year and transfer students with scholarship support. The grant award will also allow William Paterson to develop leadership programs at its seven partner schools.