

February 20, 2019 | By Cynthia Dillon

Mathematician's Research adds up to a 2019 Sloan Fellowship

Tianyi Zheng is UC San Diego's newest Sloan Research Fellow

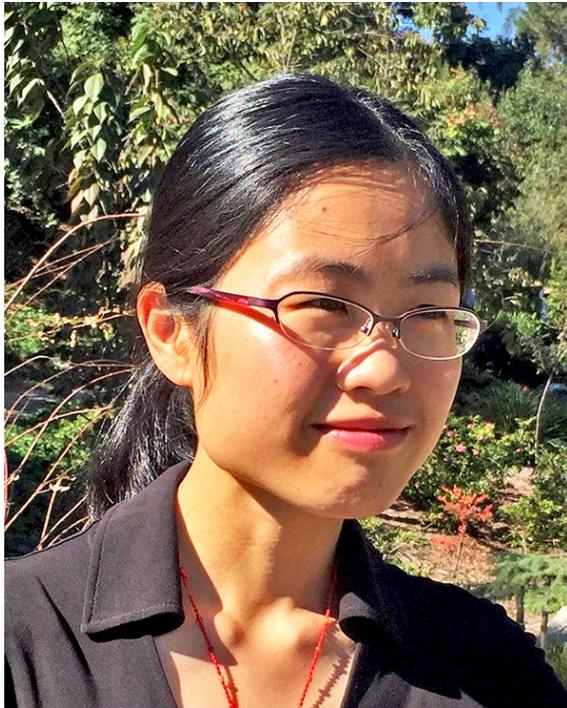
An early-career female mathematician at UC San Diego has been recognized as among the most promising scientific researchers in her field by the Alfred P. Sloan Foundation. Tianyi Zheng, assistant professor in the Department of Mathematics, is one of the 126 [Sloan Research Fellows](#) in the U.S. and Canada who will receive \$70,000 to spend on expenses supportive of her research.

Zheng's primary research interests are in probability theory and geometric group theory. One focus of her work is analyzing random walks and harmonic functions on some interesting families of groups. Her goal is to unveil their interactions with other topics in geometric group theory, such as volume growth of Cayley graphs—graphs that encode information about group structure. These topics belong to the broader research program of random processes that reflect geometry of the underlying spaces where they evolve.

“Congratulations to Tianyi for this well-deserved honor. The department is extremely happy with the success of the recent (2016 – 2018) recruitments, including four strong female mathematicians,” stated [Department of Mathematics](#) Professor and Chair Lei Ni.

Zheng joined UC San Diego in 2016, after serving as a postdoctoral scholar in the Department of Mathematics at Stanford University. She received her Ph.D. in mathematics from Cornell University in 2013.

The Sloan Foundation began encouraging early-career researchers like Zheng with fellowships in 1955, recognizing thousands of outstanding researchers over the years. Originally awarded in physics, chemistry and mathematics, the Sloan Research Fellowships have expanded to include the support of early-career researchers in a total of eight scientific and technical fields. The fellowships are awarded in close coordination with the scientific community. Candidates must be nominated by their fellow scientists and winning fellows are selected by an independent panel of senior scholars in their field on the basis of a candidate's research



accomplishments, creativity and potential for leadership in his or her field. The foundation is known for its support of original STEM research and those who use it to improve the world.

“Sloan Research Fellows are the best young scientists working today,” says Adam F. Falk, president of the Alfred P. Sloan Foundation. “Sloan Fellows stand out for their creativity, for their hard work, for the importance of the issues they tackle and the energy and innovation with which they tackle them. To be a Sloan Fellow is to be in the vanguard of twenty-first century science.”

Over the decades, past Sloan fellows have gone on to receive some of the highest honors in science, engineering, economics and mathematics, including

47 Nobel Prizes, 17 Fields Medals in mathematics, 69 National Medals of Science and 18 John Bates Clark Medals in economics.

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