

# Latinxs and Hispanics in Mathematical Sciences



## Katerine Saleme

Katerine Saleme Ruiz was born and raised in Montería, Colombia. She received her B.S. and M.S. in Mathematics from the University of Córdoba and Universidad Nacional de Colombia, respectively. In 2016, she earned her Ph.D. in Computational Engineering from Mississippi State University (MSU). Ruiz's first postdoctoral position was held at both the Department of Mathematical Sciences at George Mason University and the Institute for Pure and Applied Mathematics at UCLA during the 2016 fall semester. She is currently a postdoctoral researcher in the Physics and Material Science Unit at the University of Luxembourg.

*"I see Hispanic Heritage Month as a wonderful opportunity to show younger generations that, despite the challenges they face today, it is possible to succeed and that their Hispanic heritage is an advantage to make their dreams and goals a reality. I thank the AMS and the organizers of the Lathisms initiative for showcasing the achievements of Latinx and Hispanics during this special month."*

As a Ph.D. student, Ruiz was recipient of several awards including "Hispanic Student Association Excellence Award" from MSU and the "Graduate Excellence in Material Science Award" from The American Ceramic Society. She received, for four consecutive years, the MSU-Bagley Engineering Graduate Fellowship given to outstanding graduate students. She also was a research intern at the United States Army Corps of Engineers—Engineering Research and Development Center (ERDC)—and at Corning Incorporated. Ruiz's commitment to empowering minorities led her to organize several STEM events, academic workshops, and seminars. Ruiz's personal and professional success has been possible thanks to the unconditional support of her family, her husband and her friends, the financial support of AWM, IMA, SIAM, SHPE, ERDC, NSF, and also because of the positive influence of many scientists, especially her four mentors: Tonya Stone (Ph.D. advisor), John F. Peters (Ph.D. professor), Ioana Banicescu (Ph.D. professor), and Maria Emelianenko (postdoctoral advisor).

Katerine Saleme Ruiz works on the numerical solution of engineering problems with scientific and industrial applications in the fields of applied mathematics, computational mechanics, and material science. She is actively working towards understanding and predicting the atomic, and micro mechanical, behavior of materials using mathematical and computational tools. Her Ph.D. research focused on developing a discrete element model to understand fracture mechanisms affecting the microstructural and mechanical properties of brittle polycrystalline materials. A key feature of this model is its ability to simulate fracture as a function of microstructure features and could be beneficial when attempting to design materials with specific mechanical response.

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Lathisms was founded in 2016 in order to showcase the contributions of Latinx and Hispanic mathematicians during Hispanic Heritage Month, which is celebrated in the United States from September 15 and October 15 every year. During this time, we feature/reveal a prominent Latinx/Hispanic mathematician daily. See all the featured mathematical scientists at [LATHISMS.ORG](http://LATHISMS.ORG).

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