

# Latinxs and Hispanics in Mathematical Sciences



## Soledad Villar

Soledad Villar was born and raised in Montevideo, Uruguay. She got interested in mathematics thanks to the Uruguayan Math Olympiads. She went to college in Uruguay where she studied mathematics and informatics engineering. Then she completed a master's in number theory at Universidad de la República, Uruguay. Soon after her master's, Villar was awarded a Fulbright Fellowship and went to University of Texas at Austin for her Ph.D. in Mathematics. She received her Ph.D. in May 2017, advised by Rachel Ward. After graduating, Dr. Villar spent a semester as a Research Fellow at the Simons Institute in UC Berkeley. Currently, Dr. Villar is a Moore-Sloan Fellow at the NYU Center for Data Science. She is also affiliated with the Courant Institute of Mathematical Sciences and the Simons Collaboration Algorithms and Geometry.

Villar's main research interest is in Mathematical Data Science, a relatively new research field that studies classical mathematical tools and algorithmic techniques (like statistics, machine learning, and optimization) in the context of problems related with the processing of large amounts of data. For instance, Dr. Villar is interested in sampling and dimensionality reduction techniques that allow for efficient (sub-linear time) algorithms with mathematical guarantees. She is also interested in the interplay between optimization and machine learning. Optimization techniques are used as a tool to solve machine learning problems, but machine learning can also be explored as a tool for solving structured optimization problems. Dr. Villar is also interested in understanding the current paradigms of machine learning (deep learning the main example) from a theoretical point of view.

*"I believe Latino-American culture is beautiful. The food, the music, and dancing, but mainly, the importance of the family and the drive to help your community. I believe most people in the U.S. can see that, but unfortunately the current political climate has made us a target for racism and xenophobia. Hispanic Heritage Month has been trying to increase the visibility of Hispanic culture as part of the American culture for many years. Now it seems like a small step towards bringing this country together."*

---

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).

*Thanks to the American Mathematical Society for support of Lathisms.*