

# Latinxs and Hispanics in Mathematical Sciences



## Imelda Trejo

Imelda Trejo was born in Tasquillo, a small city in Hidalgo, Mexico, where her family works at the local market selling grain products, fruits and vegetables. She realized that she was skilled in mathematics as a child while working in her family business. Trejo learned basic numerical operations such as addition and multiplication there. Little by little, she became an expert in numbers; consequently, Trejo was able to quickly compute large numerical calculations in her head. Some clients did not trust Trejo's arithmetic when figuring out the total payment for their purchases using a pen and paper, and they required her father to double check her calculations, but her results were always the same as her father's. With each passing year, her awareness of being good at mathematical computations grew. Because of those experiences and her success during her elementary and high school years, Trejo chose to major in mathematics. In college, while working on X-Ray Computer Tomography research, Imelda noticed that she had a great passion for applying her knowledge of mathematics to solve real-world problems, so she decided to pursue a mathematical research career. Trejo completed her master's degree in applied mathematics at the Research Center of Mathematics (CIMAT), Guanajuato, Mexico, and is currently on her fourth year in the Ph.D. program in Mathematics at the University of Texas at Arlington (UTA).

*"I am so proud of being a Latina. I learned from my family and my culture that working hard, working in teams, and never giving up on my dreams will make me successful in life."*

Trejo's research interest is in applied mathematics, specifically she is interested in solving real-world problems by combining mathematics and computer simulations. In her dissertation research, she studied the interactions between immune and bone cells during the bone-fracture-healing process. The correct interaction of these cells determines the success of the healing of a broken bone. Trejo and her advisor, Dr. Hristo Kojouharov, have developed a mathematical model which exhibits that a correct modulation of inflammation by macrophages and progenitor bone cells secures, and accelerates, the healing of a bone.

Because of her research contributions and excellence in the study of mathematics, Trejo received the 2008 Sotero Prieto Award, which recognizes the best bachelor's research in Mexico, a full scholarship from the Mexican Science Foundation (CONACYT) to work toward her master's and Ph.D. degree in mathematics, the 2016 R. Kannan Memorial Scholarship and the 2017 John A. Gardner Scholarship for her excellence in the study of mathematics. In addition, Trejo received the 2017 Outstanding Student Presentation award from the Mathematical Association of America-Texas Section for the best research talk in her session at the 97th Annual Section Meeting at Texas A&M University-Commerce.

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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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