

Latinxs and Hispanics in Mathematical Sciences



“For me, Hispanic Heritage Month is an excellent opportunity to stress the immense power of role models. When I was a teenager, I learned that another student from the same high school had gone on to get a Ph.D. in mathematics in the US. This seemingly innocuous bit of information completely changed my life, because it instantaneously gave me the certainty that such a path was possible for myself. One of the greatest privileges of my professional life is the possibility of inspiring younger generations, by being living proof that their dreams can be achieved.”

Javier Alejandro Chávez-Domínguez

Javier Alejandro Chávez-Domínguez is an Assistant Professor of Mathematics at the University of Oklahoma. He was born and raised in Guadalajara, México, in a family that always emphasized the importance of education. Having been fascinated by science in general since childhood, he was fortunate enough to attend a high school with a strong extra-curricular math program that led him into the Math Olympiads.

A generous scholarship from the Centro de Investigación en Matemáticas (CIMAT) allowed him to attend a strong mathematics undergraduate program, obtaining a B.Sc. from the Universidad de Guanajuato in 2004. Afterwards he received an M.Sc. from the Universidad Nacional Autónoma de México (UNAM) in 2006, and then he moved to the US where he earned a Ph.D. at Texas A&M University under the direction of William B. Johnson in 2012. Before arriving to the University of Oklahoma, he held positions as an R.H. Bing Instructor at the University of Texas at Austin and as a Severo Ochoa Postdoctoral Researcher at the Instituto de Ciencias Matemáticas (ICMAT) in Madrid, Spain.

Chávez-Domínguez’s research is in functional analysis, with a particular emphasis on the geometry of normed spaces. Since such spaces possess both a linear structure and a metric one, they provide a useful framework for modeling types of real-world data where it makes sense to add things up; the norm is a way to rigorously quantify various characteristics of the data such as its overall “height” or “width”, or the intensity of the variations within it. Another area of his research is the geometry of operator spaces, which are a quantum or noncommutative version of normed spaces; these are related, for example, to Quantum Information Theory. The study of which geometric properties of normed spaces do or do not have a quantum counterpart is a subject he finds fascinating.

Chávez-Domínguez strongly believes that mathematical research, even in pure mathematics, is much more accessible to undergraduate students than it may appear at first sight. Chávez-Domínguez also finds the mentoring of undergraduate researchers to be personally extremely satisfying. More generally, he finds joy in a variety of other ways in which he can be of help for the mathematical journeys of others; for example, by judging undergraduate poster competitions, mentoring post-docs in both teaching and research, or teaching a special class for an incarcerated student.

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.

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