

Latinxs and Hispanics in Mathematical Sciences



“Hispanic Heritage Month is a time for us to celebrate the accomplishments of Latinx and Hispanic members of our mathematics community. In doing so, we allow the younger generation to see themselves represented in our field and know that they are not alone in this profession and that they too can pursue a career in mathematics.”

Alexander J. Barrios

Alex grew up in Hialeah, FL, the son of Colombian immigrants. While passionate about mathematics, Alex’s dream throughout his earlier schooling was to be an airline pilot. Following his high school graduation, Alex attended Miami Dade Community College and received his A.A. in mathematics in 2009. During his first year at Miami Dade, Alex’s academic advisor, Dr. E. Carter Burrus Jr., recommended he apply to the Math Alliance’s REU at the University of Iowa. It was at this REU, that Alex learned that mathematics goes beyond calculus and that one can make a living as a research mathematician.

With this new perspective, Alex decided to pursue a bachelor’s in mathematics so that he could pursue a graduate degree. He transferred to Brown University where he received his Bachelors in 2011 and during summer of 2009 and 2010, he participated in the Cornell Summer Math Institute and MSRI-UP, respectively. His experience at MSRI-UP got him interested in number theory and he would go on to receive his Ph.D. from Purdue University in number theory under the guidance of Dr. Edray Goins who was also his research advisor at MSRI-UP. Alex is currently Visiting Assistant Professor of Mathematics at Carleton College.

Alex’s research interest is in number theory, with an emphasis on elliptic curves. Elliptic curves have provided the mathematical bridge to solving intractable problems in number theory such as Fermat’s Last Theorem. Alex’s research focuses on constructive methods pertaining to elliptic curves and the use of these methods to better understand the explicit nature of the ABC Conjecture in the realm of elliptic curves.

Alex would not be where he is today if it were not for the great mentorship he received throughout his academic journey and his participation in programs that allowed him to see the beauty of mathematics and its potential as a career path. He has continued the tradition of mentorship and strives to know the aspirations of his mentees so that he can provide guidance and support so that they can achieve their goals. In addition to mentoring students, Alex has led undergraduate students in research projects involving original research in number theory through Pomona’s Research in Mathematics Experience (PRiME) in 2019 and MSRI-UP in 2020. His research group at PRiME was awarded the prize for the best undergraduate research presentation at MAA MathFest in 2019.

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](https://lathisms.org).

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