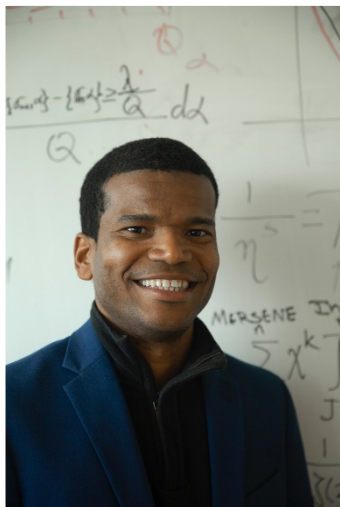


Latinxs and Hispanics in Mathematical Sciences



Geremías Polanco Encarnación

The Dominican Republic is the birth place of the first University of the Americas, Universidad Autónoma de Santo Domingo (UASD). Founded in 1538, it has been said that it took them close to 500 years to graduate the first mathematician. The career of pure mathematics was created in the 1990's and in the spring of 2003, Geremías Polanco Encarnación stood as the only student of pure mathematics in the graduating class. Polanco Encarnación discovered his passion for mathematics while helping fellow senior high school students and while volunteering as a tutor in the poor community where he grew up. A few years after his graduation, Polanco Encarnación received a Fulbright scholarship to pursue graduate studies in the USA, and he graduated from the University of Illinois at Urbana-Champaign in 2012 with a Ph.D. in mathematics. His doctoral thesis was in number theory, and his advisor was Dr. Kenneth Stolarsky.

Today, Dr. Polanco works as an assistant professor of mathematics at Hampshire College, a member of the Five College Consortium in Western Massachusetts. His contributions in the areas of teaching, advising, research and service is a valuable help in the fulfillment of the college's mission. In particular, he has contributed to the development of mathematics at Hampshire together with Dr. Sarah Hews, and their dedicated work has made this area become one of the top 25 concentrations chosen by Hampshire students. Dr. Polanco has also been involved in the development of mathematics in the Dominican Republic. He is the PI for a research grant in number theory aimed to help develop professors from the local university to become Ph.D. candidates in a soon-to-start Ph.D. program. He has helped organize several research conferences in number theory, and as a Green-16 Project NExT fellow, he contributed to the organization of several JMM workshops.

One of the areas of Polanco Encarnación's research work is Combinatorial Number Theory. In this field, he has worked specifically with Sturmian sequences. Sturmian sequences are non-periodic sequences of minimal complexity. They provide a mathematical model for quasicrystals, a 2011 nobel-prize winning discovery (quasicrystals are of special interest in different areas of modern industry because of their light absorption, adhesion and friction reduction properties, poor heat conduction, and their potential for use in compound reinforcing for mechanical tools. Promising areas of applications include the reinforcement of medical instruments and culinary tools. Polanco Encarnación's contributions to this area of research include a definition of Sturmian sequences through an algorithm called the Minimum Excluded with Skipping Algorithm (MES).

"Hispanic Heritage Month is an opportunity to show that Mathematics is a discipline sought after in Latin American/Hispanic countries. It shows not only our accomplishments, but also the great potential that may be dormant in our home countries. It is a call for all of us to take actions to reach to all those with less opportunity and help them develop their full potential."

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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