

# Latinxs and Hispanics in Mathematical Sciences



## Laura Odylis Mora

PhD Student

North Carolina State University

Laura Mora, a dedicated third-year PhD student in Operations Research at North Carolina State University, makes significant contributions to the mathematical sciences through impactful research and dedicated service, encompassing her teaching assistant roles and mentoring within the program. She holds a Bachelor's degree from the University of Puerto Rico - Mayagüez and a Post-Baccalaureate Certificate in Mathematics from Smith College.

Laura's current research tackles the environmental issues arising from concentrated animal feeding operations across the United States. Driven by the necessity to lessen the adverse effects of manure management on air, soil, and water quality, her work centers on creating a mixed-integer linear optimization (MILP) model for the sustainable management of this agricultural byproduct. This study involves a comprehensive supply chain analysis, tracing the movement of manure from concentrated animal feeding operations (CAFOs) to processing plants and subsequently to fertilizer manufacturers. The model takes into account the transportation of manure, the costs linked to processing manure into a granulated fertilizer additive, and the ensuing transportation of this granulated product. By employing operations research methodologies, this research aims to quantify the economic viability of this supply chain and offer a data-driven framework for addressing the intricate logistical and environmental factors of manure management in areas with intensive animal agriculture.

Her service contributions to the mathematical sciences are diverse. She has actively served as a teaching assistant for a range of undergraduate and master's level courses, including calculus, linear algebra, and introduction to operations research, directly supporting the department's educational goals. Moreover, her involvement in the Operations Research Graduate Student Association at NC State, where she has held the roles of treasurer and secretary, illustrates her dedication to the organizational and community aspects of her academic department.

Beyond these service roles, Laura actively mentors students interested in pursuing graduate studies, especially those considering the Operations Research program at NC State. Her recruitment efforts for NC State's Operations Research program include participating in job fairs at the University of Puerto Rico - Mayagüez, cultivating interest in the field. Furthermore, she participates in panels for prospective and current students, sharing her perspectives and experiences within the program.

*"I love seeing the vast spectrum of Latin American cultures celebrated. As someone with Puerto Rican and Nicaraguan roots, born in Virginia, my identity can feel complex. But during this month, I see so many stories that resonate, so many histories that connect us. Seeing Hispanic Americans represented in my field, and in the places I aspire to be career-wise, makes me feel truly welcome. It's a powerful reminder that I belong, and that my contributions matter."*

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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](https://LATHISMS.ORG).

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