MONTCLAIR
STATE
UNIVERSITY

SUMMA
Strengthening Underrepresented Minorities in Mathematical Achievement

RESEARCH EXPERIENCE FOR UNDERGRADUATES
IN MATHEMATICS AT MSU

Interdisciplinary Research in Graph Theory and its Applications in the Sciences
Program Dates: 6/13-7/29, 2022

This program is a part of the National Research Experience for Undergraduates Program (NREUP) funded by the Mathematical Association of America (MAA), the National Science Foundation Division of Mathematical Sciences (NSF-DMS), and the National Security Agency (NSA).

Program Director: Dr. Aihua Li, Department of Mathematical Sciences, Montclair State University
Office: CCIS 130H, Phone: 973-655-7271, Email: lia@montclair.edu

Funding: $4400 per person + meal stipend + commuting stipend.

Research Projects: (two participants in each team)
Project 1. Zero Divisor Graphs of Certain Matrices Modulo a Prime Number
Project 2. Graph Theory Applications in Modeling Evolution of Chagas Disease Vectors

Student Responsibility: This is a full-time research internship.
> Students are expected to spend at least three hours on campus for group meetings with faculty mentors and other participants during the daily sessions (3-4 weekday mornings per week).
> Beyond the regular daily meetings with the faculty mentors, each student is expected to spend 4 hours each day for independent research or work with group partners.
> Students will make two oral presentations to the group, one in the middle, the other at the end, and submit a final report at the end of the program.
> Students will develop a research paper for publication in the following year.

Student Qualification: Undergraduate minority students majoring in mathematics; GPA of at least 3.2; U. S. citizen or permanent resident; Commitment for full time research during the six weeks; Interested in mathematics research; Completion of Calculus and Linear Algebra is preferred, but not mandatory.

Please send in your application by May 10, 2022 to Dr. Aihua Li by email to lia@montclair.edu. Please put "NREUP Application" in the subject of your email. The application should include a short essay of your research background and interests, your resume, and an unofficial transcript in your current institution. Your You will receive notification within two weeks upon receipt of your application.

Faculty Mentor:

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