2019 PRiME:

Pomona Research in Mathematics Experience

General Information

The Department of Mathematics at Pomona College will offer an 8-week residential program to conduct research in pure mathematics. The program, entitled PRiME (Pomona Research in Mathematics Experience), will run from June 9, 2019 through August 4, 2019. The program will be directed by Edray Goins (Pomona College) and Alex Barrios (Carleton College). During the eight week program, students will work together on research projects in arithmetic geometry. More details on these two projects can be found by visiting the webpage

`http://research.pomona.edu/prime`

Goals and Expectations

During the summer, each of the undergraduate participants will:

- Complete a research project done in collaboration with other PRiME students.
- Give a presentation at MAA's MathFest and write a technical report.
- Attend a series of colloquium talks given by leading researchers in their fields.
- Attend workshops aimed at developing skills and techniques needed for research careers in the mathematical sciences.

In order to successfully complete this project, participants will:

- Meet at least 10 hours every week for a minimum of 8 weeks.
- Be introduced to Abstract Algebra, Complex Analysis, Differential Geometry, Graph Theory, and Number Theory.
- Learn how to use an advanced symbolic computational package, such as `Sage` and `Mathematica`.
- Learn how to use LaTeX, a mathematical typesetting language.
- Write a technical paper explaining the details of the project.
- Design a poster giving an overview of the project.

Stipend and Travel

Upon the successful completion of the 8-week program, participants will receive a $4,000 stipend. They will also receive up to $1,500 for travel (to and from Pomona College and also to attend conferences after the completion of the PRiME program). The program will provide on-campus housing at Pomona College.

Prerequisites and Application Instructions

Students must be undergraduates in good standing, although preference will be given to applicants who will begin either their junior or senior year in the Fall of 2019. Applicants must have taken a proof-based course in Abstract Algebra, Discrete Mathematics, or Number Theory. National Science Foundation (NSF) funding also requires that participants must be either US Citizens or Permanent Residents. Applications should be submitted through MathPrograms.org:

`https://www.mathprograms.org/db/programs/793`

For a complete application, potential participants will need to submit

- Three letters of recommendation.
- An unofficial transcript or list of math courses and grades. An official transcript may be required upon admission.
- A cover letter addressing your interest in the PRiME program. Applicants should address what they hope to get out of participating in PRiME and also which of the two research topics they prefer to participate in.

For full consideration, applications should be received no later than **Friday, March 1, 2019**. Decisions will be announced by Monday, March 4, 2019. In accordance with the new REU consortium rule, applicants will not be required to accept or decline an offer before March 8, 2019.

The program is being sponsored by the National Science Foundation (DMS-1560394). For more information, contact Edray Goins at (909) 621-8711 or `edray.goins@pomona.edu`; or Alex Barrios at `abarrios@carleton.edu`.