ipam institute for pure & applied mathematics

PUMA: (P)racticum for (U)ndergraduate (MA)thematicians in Inverse Problems and Data Assimilation

November 23-24, 2024

Scientific Overview

"PUMA: Practicum for Undergraduate MAthematicians" is a series of 2-day intensive programs which will showcase a specific mathematical sciences research area. This PUMA event, on Saturday, November 23 and Sunday, November 24, 2024, will feature topics in inverse problems, data assimilation, and applications.

A goal of this program is to expose Southern California students historically underrepresented in STEM (such as women and historically marginalized minorities) to the beauty of the subject.

The Practicum is introductory in nature and no prior coursework in inverse problems or data assimilation will be assumed. Students should be familiar with calculus and linear algebra, although this is not required. PUMA is designed for students who have completed minimal coursework in upper-division mathematics courses.

• Tutorials: Three lectures over two days to introduce topics in inverse problems and data assimilation

• Problem Sessions: Two graduate students will coordinate a series of three hour-long group-work sessions where students will work on problems meant to supplement the tutorials.

• Expository Talks: Four experts will give one-hour introductory presentations on various topics in inverse problems and data assimilation

• Professional Development Sessions: We will hold two hour-long workshops on REUs, CVs, requesting letters of recommendation, etc.

There is no registration cost associated with this program.

Organizers

Ricardo Baptista
(California Institute of Technology)
Malena Español
(Arizona State University)

Speakers and TAs

Tutorial Speakers: Ricardo Baptista (California Institute of Technology), Malena Español (Arizona State University)

Expository Speakers:
Oscar Leong (UCLA), Anna Ma (UC Irvine), Elisa Negrini (UCLA), Heather Zinn Brooks (Harvey Mudd College)

Graduate TAs:
Hojjat Kaveh (CalTech)
Rebecca "Matti" Ginji (UCSD)