

Poornima Belvotagi

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Education

- 2020–2026 **Ph.D. in Mathematics (expected Dec 2026)**, *UC San Diego*
Advisor: Kiran Kedlaya
- 2014–2019 **B.S-M.S in Mathematics**, *IISER Pune*
Advisor: Baskar Balasubramanyam

Appointments

- Jan-Jun 2027 **Postdoctoral Researcher**, *Lodha Mathematical Sciences Institute*, Mumbai
- 2019–2020 **Research Assistant**, *IISER Tirupati*
Advisor: Anilatmaja Aryasomayajula

Research

Interests p -adic differential equations, p -adic cohomology theories, Berkovich spaces

Preprints:

- 2026 *Uniform local models of quasi-unipotent p -adic differential equations*. Preprint.

In preparation:

- 2026 *Symmetric differentials and flat connections in characteristic p* , with Dimitri Dine (project mentored by Hélène Esnault).

Teaching Experience

Lead TA at UC San Diego:

- MATH 20B Calculus/Science and Engineering (WI23)
MATH 18 Linear Algebra (SP23)

TAship at UC San Diego:

- MATH 4C Precalculus (FA25)
MATH 20B Calculus/Science and Engineering (FA20, SP21, SS21)
MATH 20C Calculus and Analytic Geometry (SS21)
MATH 102 Applied Linear Algebra (FA23, WI24, SP24, FA25)
MATH 103A Modern Algebra (WI22)
MATH 109 Introduction to Proofs (SP22, WI25, SP25)
MATH 140B Foundations of Real Analysis (WI26)
MATH 180A Introduction to Probability (FA24)
MATH 187 Introduction to Cryptography (WI21, FA21, FA22)

Invited Talks

- March 2026 Georgia Tech Algebra seminar, Atlanta
Nov 2025 University of Arizona NT seminar, Tucson

Jan 2024 MRC special session on Explicit Computations with Stacks Joint Mathematical Meeting (JMM), San Francisco

Honors and Awards

2026 Emily Zhu Memorial Award
2020-2025 James B. Ax Fellowship (UC San Diego).
2020 Prime Minister Research Fellowship, Highest paying graduate fellowship in India by Ministry of Human Resources and Development(declined)
2014-2019 KVPY Fellowship(Scholarship by Department of Science and Technology, Govt. of India.)

Conferences and Workshops

March 2025 Representation theory of p -adic groups, Arizona Winter School, Tucson
July 2024 Introduction to the Theory of Algebraic Curves, UC Berkeley
May 2024 Local Systems in Algebraic Geometry, RTG workshop, Ohio State University
Nov 2023 p -adic Arithmetic Geometry, Institute for Advanced Study, Princeton
June 2023 Explicit Computations with Stacks, Mathematical Research Communities (MRC), Buffalo NY
March 2023 Spring School on Non-archimedean geometry and eigenvarieties, Heidelberg
Jan 2023 Spring Opportunities Workshop, Institute of Advanced Study, Princeton
August 2022 Community building in Langlands Programme (CLAP), Hausdorff Center for Mathematics, Bonn
July 2022 Thematic Program in p -adic L-functions and Eigenvarieties, University of Notre Dame
March 2022 Automorphic Forms Beyond GL_2 , Arizona Winter School (AWS), Tucson
Dec 2019 NCM Workshop on Modular Forms and Galois Representations, IISER Tirupati
Sep 2019 Perfectoid spaces workshop, International Center for Theoretical Sciences(ICTS), Bengaluru
August 2019 ATM Workshop on Linear Algebraic Groups, Indian Institute of Technology(IIT), Bombay
Feb 2017 Pune-Mumbai Number Theory Seminar, IISER Pune

Notable Service

Association for Women in Mathematics (AWM) at UC San Diego:

2021-2023 President of the chapter. Organized community-building, diversity and outreach events including weekly teas, support group chats and interview series.
2023 Our chapter won the EDI Excellence Award.
2020-2021 Mentorship coordinator. Created a faculty to graduate students and graduate to undergraduates mentorship. Established the undergraduate AWM chapter.

- 2021 Our Chapter won the AWM 2021 Student Chapter Award for Professional development.

Organization:

- WI24, SP24 Graduate Student Workshop in Algebra, Number Theory and Geometry, quarterly one-day conference for graduate students at UC San Diego to give talks about their research.
- 2023 Co-organized Math Field Day, series of talks and activities for High School students. This event was covered in an article by the San Diego Union Tribune

Mentorship:

- 2023-2025 AWM Mentor Network, mentor for women, and gender non-conforming individuals
- 2022, 2023 Mentor for high school students. Responsible for creating the syllabus and teaching higher level Geometry.
- 2022, 2023 Twoples, Directed reading for Senior undergraduates.
- 2022 Mentor for RTG - Graduate directed reading for undergraduates
- 2021 Peer mentoring as a part of Mathematics Graduate Student Council(MGSC) for incoming graduate students.