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Padmavathi Srinivasan

Employment

2023–current	**Boston University**, *Tenure Track Assistant Professor*
2022–2023	**Institute of Computational and Experimental Research in Mathematics**, *Senior Research Associate, Simons Collaboration on Arithmetic Geometry, Number Theory, and Computation*
2019–2022	**University of Georgia**, *Limited Term Assistant Professor*
2016–2019	**Georgia Institute of Technology**, *Hale Visiting Assistant Professor*

Education

2011–2016	**Massachusetts Institute of Technology**, *PhD in Mathematics* Advisor: Bjorn Poonen
2009–2011	**Chennai Mathematical Institute**, *MSc in Mathematics*
2006–2009	**Chennai Mathematical Institute**, *BSc (Honours) in Physics*

Awards

2024–2027	**NSF Division of Mathematical Sciences Standard Grant for Models of curves, rational points and modified diagonal cycles. Award Number: 2401547**
2019–2021	**AMS Simons Travel Grant**
May-July 2022	**Simons fellowship for attending thematic programme " K-theory, algebraic cycles and motivic homotopy theory" at Isaac Newton Institute, Cambridge UK (declined due to visa reasons)**

Preprints and Publications

1. Covers of curves, Ceresa cycles, and unlikely intersections (with Tejasi Bhatnagar, Sheela Devadas and Toren D'Nelly Warady), arxiv:2603.01445.

2. Minimal regular normal crossings models of superelliptic curves (with Andrew Obus), arxiv:2506.24091.

3. Certifying non-triviality of Ceresa classes of curves (joint with Jordan Ellenberg and Adam Logan), arxiv:2112.03873.

4. Curve equations from expansions of 1-forms at a nonrational point (joint with Raymond von Bommel, Edgar Costa, and Bjorn Poonen), *To appear in Proceedings of LMFDB, Computation and Number Theory (LuCaNT)*, arxiv:2506.14026

5. p-adic adelic metrics and Quadratic Chabauty (joint with Amnon Besser and J.Steffen Mueller),*Journal für die reine und angewandte Mathematik (Crelles Journal), vol. 2025, no. 828, 2025, pp. 223-305.* , arxiv:2112.03873, doi.org/10.1515/crelle-2025-0063.

6. Quadratic enrichment of the logarithmic derivative of the zeta function (joint with Margaret Bilu, Wei Ho, Isabel Vogt and Kirsten Wickelgren), *Transactions of the AMS, 2024.*, arXiv:2210.03035, doi:10.1090/btran/201.

7 Finiteness of reductions of Hecke orbits (with Mark Kisin, Yek Hay Joshua Lam and Ananth N. Shankar), *J. Eur. Math. Soc. 27 (2025), no. 4, pp. 1447–1464*, arxiv:2109.05147, doi.org/10.4171/JEMS/1395.

8 Computing non-surjective primes associated to Galois representations of genus 2 curves (joint with Barinder S. Banwait, Armand Brumer, Hyun Jong Kim, Zev Klagsbrun, Jacob Mayle and Isabel Vogt), *Contemporary Mathematics, 796. 2023. Journal Link*, arxiv:2301.02222, doi.org/10.1090/conm/796

9 Conductor-discriminant inequality for hyperelliptic curves in odd residue characteristic (with Andrew Obus), *International Mathematical Research Notices, July 2023*, arxiv:1910.02589, doi:10.1093/imrn/rnad173.

10 Group-theoretic Johnson classes and a non-hyperelliptic curve with torsion Ceresa class (with Dean Bisogno, Wanlin Li and Daniel Litt), *Épijournal de Géométrie Algébrique, March 2023*, arxiv:2004.06146, doi:10.46298/epiga.2023.volume7.6849.

11 Explicit minimal embedded resolutions of divisors on models of the projective line (with Andrew Obus), *Research in Number Theory. Apr 2022.*, arxiv:2105.03030, doi:10.1007/s40993-022-00323-y.

12 Surface bundles and the section conjecture (with Wanlin Li, Daniel Litt and Nick Salter), *Mathematische Annalen. Jul 2022.*, arxiv:2010.07331, doi:10.1007/s00208-022-02421-9.

13 An arithmetic count of the lines meeting four lines in $\mathbb{P}^3$ (with Kirsten Wickelgren), *Transactions of the AMS, 2021.*, arxiv:1810.03503, doi:10.1090/tran/8307.

14 A virtually ample field that is not ample, *Israel Journal of Mathematics. Oct 2019. 1-8.*, arxiv.org:1810.05184, doi:10.1007/s11856-019-1934-y.

15 Zeta functions of a class of Artin-Schreier curves with many automorphisms (with Irene Bouw, Wei Ho, Beth Malmskog, Renate Scheidler and Christelle Vincent), *Association for Women in Mathematics Series, 3. 2016. 87-124.*, arxiv:1410.7031, doi.org/10.1007/978-3-319-30976-7_4.

Work in preparation

1 Conductor-discriminant inequality for tamely ramified cyclic covers (joint with Andrew Obus and Connor Stewart), *In preparation*.

2 p-adic adelic metrics and Quadratic Chabauty II (joint with Amnon Besser and J.Steffen Mueller), *In preparation*.

Other writing

1 Practical Suggestions for Mathematical Writing. (With Renee Bell, Borys Kadets, Nicholas Triantafillou, and Isabel Vogt.) *Notices of the AMS, Volume 68, Number 6, 930-934.*, Available here.

2 Thinking Positive: Arithmetic Geometry in Characteristic p. (With Renee Bell, Julia Hartmann, Valentijn Karemaker, and Isabel Vogt.) *Notices of the AMS, Volume 66, Number 2, 239-241.*, Available here.

3 Conductors and minimal discriminants of hyperelliptic curves: a comparison in the tame case, arxiv:1910.08228.

4 Explicit computation of Tamagawa numbers and sizes of component groups of Neron models of Jacobians using Matrix-Tree theorems, Thesis, Chapter 4.

5 Conductors and discriminants of hyperelliptic curves with rational Weierstrass points, arxiv:1508.05172.

Mentoring, leadership, and invited lecture series

Spring 2026	Reading course on Elliptic curves and Algebraic Number Theory: Kayla Chandler, Ophelia You, Joel Chew Yin Xian.
Fall 2025 onwards	PhD student Matthew Broe
Fall 2024–Spring 2025	PhD student Liqiang Huang
Spring 2024	Postdoc Aashraya Jha
Fall 2023-Fall 2025	Postdoc Jerson Caro
June 2024	IAS Workshop **Women in algebraic geometry** *Topic: Experiments with Ceresa cycles of low genus curves*
August 2023	Guest lecturer, PROMYS Boston
June 2023	Guest lecturer, PROMYS India
October 2022	Lecturer for virtual course on Heights in Diophantine Geometry. Enrolment: 97 undergraduate and graduate students worldwide. **Preliminary Arizona Winter School**
Spring 2022	Honors thesis projects in Linear Algebra of Hays Burns and Sachin Rajeev at the University of Georgia
June 2020	ICERM Workshop **Arithmetic Geometry, Number Theory, and Computation** (Co-led with Isabel Vogt) *Topic: Galois representations of abelian surfaces*

Conference organization

Fall 2026	Pathways Workshop: Representation Theory Under the Influence of Quantum Field Theory & Motivic Homotopy Theory (Co-organizing with Ana Balibanu, Asilata Bapat, Teena Gerhardt, Iva Halacheva and Kirsten Wickelgren)
Fall 2024 onwards	Preliminary Arizona Winter School (Co-organizing with Renee Bell and Brandon Levin.)

Past conferences that I have helped organize

May 2024	ICERM Workshop **The Ceresa cycle in arithmetic and geometry** (Co-organized with Daniel Corey, Jordan Ellenberg, Wanlin Li, Daniel Litt, and Congling Qiu.)
Sep 2023	AWM Research Symposium, Special session on **Recent advances in curves and abelian varieties**, Atlanta (Co-organized with Renee Bell and Isabel Vogt.)
May 2022	**ADDING: Anabelian Days Down IN Georgia** (Co-organized with Borys Kadets, Daniel Litt, and Nicholas Triantafillou.)
Mar 2022	AMS Special Session on **Curves, Jacobians, and Abelian Varieties** at the AMS Spring Southeastern Sectional Meeting (Co-organizing with Andrew Obus and Tony Shaska) (Cancelled due to COVID)
Sep and Dec 2020	**PAJAMAS: PAlmetto Joint Arithmetic, Modularity, and Analysis Series** (Co-organized with Jenny Fuselier, Arindam Roy, Frank Thorne and David Zureick-Brown.)
June 2019	AMS Mathematical Research Communities, **Explicit methods in arithmetic geometry in characteristic** p (Co-organized with Renee Bell, Julia Hartmann, Valentijn Karemarker and Isabel Vogt)
Mar 2019	**GATTACA: GeorgiA Tech Tropical, Arithmetic and Combinatorial Algebraic geometry** (Co-organized with Matt Baker, Philipp Jell, and Yoav Len.)

Upcoming talks and visits

Mar 2026	AMS Spring Sectional Meeting, Boston College, Special session on Arithmetic Dynamics
June 2026	Workshop on Algebraic Geometry and Machine learning, ICARM
June 2026	ChaBONNty, Max Planck Institute of Mathematics, Bonn
Nov 2026	Pan Asia Number Theory Conference, National University of Singapore

Visiting Positions

July 2022	**Research Program**, *Park City Mathematics Institute: Number Theory Informed by Computation*, Park City, UT
May 2022	**Collaborate@ICERM**, *Institute of Computational and Experimental Research in Mathematics*, Providence, RI
July 2019	**Research in pairs**, *Mathematisches Forschungsinstitut Oberwolfach (MFO, Oberwolfach Research Institute for Mathematics)*, Oberwolfach, Germany

Honours

CMI Medal of Excellence, MSc in Mathematics, top of class

CMI Medal of Excellence, BSc (Honours) in Physics, top of class

Research talks and presentations

Mar 2026	Harvard Number theory seminar
Jan 2026	Brown Algebraic Geometry seminar
Dec 2025	Harvard CMSA Algebraic Geometry seminar (rescheduled)
Oct 2025	Dartmouth Algebra and Number theory seminar
July 2025	Invited speaker in Summer Institute in Algebraic Geometry Week 3 session on p-adic geometry, p-adic Hodge theory and Shimura Varieties
May 2025	AWM Symposium, University of Wisconsin-Madison, Curves and abelian varieties in characteristic p
Apr 2025	Local arithmetic of curves, Bristol
Mar 2025	Texas Algebraic Geometry Symposium
Feb 2025	Pittsburg Number theory day
Jan 2025	Boston College Number theory seminar
Nov 2024	Arithmetic, Geometry, Space and Time, ICMS, Edinburgh
Jun 2024	CTNT: Connecticut workshop in number theory
Jun 2024	Brin MRC Workshop: Vistas in number theory
Apr 2024	MIT Number theory seminar
Mar 2024	Princeton-IAS Arithmetic Geometry seminar
Dec 2023	Boston University, Algebra seminar
Oct 2023	Harvard University, Number theory seminar
Oct 2023	Five college number theory seminar, Amherst college
Sep 2023	Duke university algebraic geometry seminar
Sep 2023	Rational points on modular curves (virtual). Bangalore, India
Aug 2023	Colorado State University, number theory seminar
Aug 2023	BIRS: Curves algebraic, tropical and logarithmic, Banff
July 2023	University of Groningen, number theory seminar

Jun 2023	Arithmetic, Geometry, Cryptography and coding Theory (AGCT), Plenary talk, CIRM-Marseille
Apr 2023	Quebec-Vermont number theory seminar
Apr 2023	Harvard University, Algebraic Geometry seminar
Apr 2023	University of Pennsylvania, Algebra seminar
Apr 2023	Fields Institute, Number Theory seminar
Feb 2023	Cambridge University, Colloquium
Jan 2023	Boston University, Colloquium
Jan 2023	Joint Mathematics Meetings, AMS Special Session on Arithmetic Geometry Informed by Computation, Wednesday, January 4, 5:00 P.M.
Jan 2023	Joint Mathematics Meetings, AMS Special Session on Complex and arithmetic dynamical systems, Thursday, January 5, 2:00 P.M.
Jan 2023	Joint Mathematics Meetings, AMS Special Session on Arithmetic Statistics, Friday, January 6, 11:30 A.M.
Jan 2023	Joint Mathematics Meetings, AMS Special Session on Excursions in Arithmetic Geometry, Saturday, January 7, 2:30 P.M.
Oct 2022	Boston University, Algebra seminar
Oct 2022	Brown University, Algebra seminar
Oct 2022	Topology and Arithmetic over Global Fields, Madison
Oct 2022	Oregon State University, Number Theory seminar
Sep 2022	BATMOBILE: Biannual Algebraic and Tropical Meetings at Brown and Institutions Located in its Environs, Amherst
Jul 2022	Park City Mathematics Institute, Number Theory Informed by Computation, Research seminar
Mar 2022	Joint Mathematics Meetings, AWM Workshop: Women in Algebraic Geometry (WiAG), I
Jan 2022	Purdue University, Colloquium
Jan 2022	University of Notre Dame, Colloquium
Dec 2021	University of Wisconsin, Madison, Colloquium
Dec 2021	University of Oklahoma, Colloquium
Dec 2021	Simon Fraser University, Vancouver, Number Theory and Algebraic Geometry seminar
Nov 2021	Emory University, Algebra and Number Theory seminar
Oct 2021	Ohio State University, Columbus, Arithmetic Geometry seminar
May 2021	Rational Points and Galois Representations, University of Pittsburg
May 2021	University of Wisconsin, Madison, Number Theory seminar
Jan 2021	Joint Mathematics Meetings, AMS Special Session on Branching Out: Ramification Invariants in Algebra and Geometry
Jan 2021	Joint Mathematics Meetings, AMS Special Session on Algebraic and Arithmetic Geometry
Dec 2020	Jerusalem - Be´er Sheva Algebraic Geometry Seminar
Dec 2020	VANTAGE, Virtual seminar on open conjectures in Number Theory and Arithmetic Geometry
June 2020	Chennai Mathematical Institute, CMI Online Seminar Series
Mar 2020	AGONIZE, Arithmetic Geometry is ONline In Zoom, Everyone

Feb 2020	Duke university, Algebraic Geometry seminar
Feb 2020	University of Pittsburg, Algebra seminar
Jan 2020	Joint Mathematics Meetings, AMS Special Session on Rational Points on Algebraic Varieties: Theory and Computation
Nov 2019	Front Range Number Theory Day, Colorado State University
Nov 2019	MAAIM–Modular forms, Arithmetic, and Women, Emory university
Sep 2019	MANTIS: Michigan Algebra and Number Theory Intercity Symposium, University of Michigan
Sep 2019	AMS Fall Central Sectional Meeting, University of Wisconsin-Madison, Special Session on Geometry and Topology in Arithmetic
Aug 2019	University of Georgia, Oberseminar
July 2019	University of Groningen, Number theory seminar
June 2019	Arithmetic of Low-Dimensional Abelian Varieties, ICERM, Lightning talk
Apr 2019	AMS Spring Eastern Sectional Meeting, University of Connecticut Hartford, Special Session on Mathematical Cryptology, University of Connecticut Hartford
Mar 2019	AMS Spring Central and Western Joint Sectional Meeting, University of Hawai'i at Mānoa, Special Session on Algebraic Points
Feb 2019	Braids, Resolvent Degree and Hilbert's 13th Problem, IPAM, Lightning talk
Feb 2019	Stanford university, Algebraic geometry Seminar
Jan 19	Joint Mathematics Meetings, AMS Special Session on Number Theory, Arithmetic Geometry, and Computation
Dec 2018	Brown university, Algebra seminar
Nov 2018	University of Washington (Seattle), Number theory seminar
Nov 2018	University of Pennsylvania, Galois seminar
Oct 2018	Northwestern university, Number theory seminar
Mar 2018	AMS Central Sectional Meeting, Columbus, Ohio, Special Session on Algebraic and Combinatorial Aspects of Tropical Geometry
Feb 2018	Georgia Algebraic Geometry Symposium, Georgia Institute of Technology
Sep 2017	AMS Central Sectional Meeting, Denton, Texas, Special Session on Numbers, Functions, Transcendence, and Geometry
Jan 2017	Joint Mathematics Meetings, AMS Special Session on Minimal integral models of algebraic curves
Dec 2016	Georgia Institute of Technology, Algebra seminar
Nov 2016	Junior number theory days, Rutgers, Newark
Nov 2016	Emory university, Algebra seminar
Oct 2016	University of South Carolina, Algebraic geometry, arithmetic geometry and commutative algebra seminar
Sep 2016	TAAAG: Topological approaches to algebra and arithmetic geometry
Apr 2016	3rd Annual Graduate Student Math Conference in Algebra/Number Theory, Brown University
Feb 2016	Ohio State University, Number theory seminar
Feb 2016	University of Wisconsin, Madison, Number theory seminar
Jan 2016	Joint Mathematics Meetings, AMS Special Session on Higher Genus Curves and Fibrations of Higher Genus Curves in Mathematical Physics and Arithmetic Geometry

Oct 2015	Rice University, Algebraic geometry and number theory seminar
Oct 2015	University of Georgia, Number theory and arithmetic geometry seminar
Oct 2015	Young women in Algebraic Geometry, Universität Bonn, Bonn
Sep 2015	University of Maine, Mathematics Colloquium and the Number theory seminar
July 2015	Contributed talks, Week 3, 2015 Algebraic Geometry Summer Institute, Utah
June 2015	Mathematics Colloquium, The Institute of Mathematical Sciences, Chennai

Expository lectures

Mar 2021	*Hodge-Tate theory*, Learning seminar on Abelian ℓ-adic Representations and Elliptic Curves (SeZoom), University of Georgia learning seminar
Sep 2020	*Simplest unlikely intersections in abelian varieties: the Manin-Mumford conjecture*, Zannier on Zoom (ZaZoom), University of Georgia learning seminar
Oct 2017	*An introduction to dynamical analogues of Mazur's theorem and uniform boundedness conjecture for abelian varieties*, Random Algebra and Number Theory, Emory graduate student seminar
Aug 2016	*Formal moduli for one-parameter formal Lie groups*, West Coast Algebraic Topology Summer School (WCATSS)
May 2016	*A p-adic proof of the transcendence of π*, Pure Mathematics Graduate Student Seminar(PuMaGraSS)
Nov 2015	*Compactifications of the moduli space of abelian varieties*, Seminar on Topics in Arithmetic, Geometry, Etc.(STAGE)
May 2015	*The Chabauty-Coleman method*, Seminar on Topics in Arithmetic, Geometry, Etc.(STAGE)
Feb 2015	*Good reduction of abelian varieties*, Seminar on Topics in Arithmetic, Geometry, Etc.(STAGE)
Dec 2014	*Mixed Tate motives over $\mathbb{Z}$ and multi-zeta values*, Seminar on Topics in Arithmetic, Geometry, Etc.(STAGE)
Sep 2014	*Tannakian Categories*, Seminar on Topics in Arithmetic, Geometry, Etc.(STAGE)
Mar 2014	*The weight monodromy conjecture*, Seminar on Topics in Arithmetic, Geometry, Etc.(STAGE)
Apr 2013	*Fermat's last theorem for regular primes*, Pure Mathematics Graduate Student Seminar (PuMaGraSS)
Feb 2013	*Hodge Theory*, Seminar on Topics in Arithmetic, Geometry, Etc.(STAGE)
Nov 2012	*Hilbert's irreducibility theorem*, Seminar on Topics in Arithmetic, Geometry, Etc.(STAGE)
Oct 2012	*Rational points on curves*, 18.725 Guest lecture
Apr 2012	*The fundamental group of an algebraic curve and the outer Galois action*, Seminar on Topics in Arithmetic, Geometry, Etc.(STAGE)
Mar 2012	*The inverse Galois problem for $\mathbb{C}(t)$*, Pure Mathematics Graduate Student Seminar (PuMaGraSS)

External Teaching Assistantship

Mar 2018	**Arizona Winter School, $\mathbb{A}^1$-enumerative geometry course by Kirsten Wickelgren** Study group leader
Feb 17-18, 2018	**Graduate Workshop in Algebraic Geometry for Women and Mathematicians of Minority Genders, Harvard and MIT** Teaching assistant

Teaching

Spring 2026	**MA 746: Topics in the arithmetic and geometry of curves** Instructor
Fall 2026	**MA 124: Calculus 2** Instructor
Spring 2025	**MA 442: Honors linear algebra** Instructor
Fall 2024	**MA 123: Calculus 1** Instructor
Spring 2024	**MA 341: Undergraduate Number theory and Cryptography** Instructor
Fall 2023	**MA 743: Algebraic Number theory** Instructor
Spring 2022	**Math 3300: Linear algebra and its applications** Instructor
Fall 2021	**Math 1113: Precalculus** Instructor
Spring 2021	**Math 2260: Calculus II for science and engineering** Instructor
Fall 2020	**Math 1113: Precalculus** Instructor
Spring 2020	**Math 3300: Linear algebra and its applications** Instructor
Fall 2019	**Math 2250: Calculus for science and engineering** Instructor
Spring 2019	**Math 6122: Graduate algebra 2, Galois theory and algebraic number theory** Instructor
Fall 2018	**Math 1553: Introduction to linear algebra** Instructor
Spring 2018	**Math 4150: Elementary number theory and applications** Instructor
Fall 2017	**Math 1553: Introduction to linear algebra** Instructor
Spring 2017	**Math 6122: Graduate algebra 2: Introduction to algebraic number theory** Instructor
Fall 2016	**Math 1553: Introduction to linear algebra** Instructor
Fall 2014	**18.821: Project Laboratory in Mathematics** Graduate student instructor

Grading assignments and Directed Reading Program supervision

Spring 2016	**18.726: Algebraic geometry II** Grader
Spring 2015	**18.786: Number theory II** Grader

Jan 2015	**Directed Reading Program** Mentor. Text: A course in arithmetic, by Jean-Pierre Serre
Spring 2014	**18.781: Introduction to the theory of numbers** Teaching assistant
Spring 2014	**18.726: Algebraic Geometry II** Grader
Spring 2013	**18.726: Algebraic Geometry II** Grader
Jan 2013	**Directed Reading Program** Mentor. Text: The arithmetic of elliptic curves, by Joseph Silverman
Fall 2012	**18.725: Algebraic Geometry I** Grader
Jan 2012	**Directed Reading Program** Mentor. Text: Riemann surfaces, by Otto Forster

━━━━ Service

Spring 2026	BU Number theory postdoc search committee *Committee member*
Spring 2025-current	BU Number theory PhD admissions committee *Committee member*
Spring 2025	PhD thesis committee member for Norwegian University of Science and Technology graduate student, Therese Strand *Committee member*
Spring 2024-current	On Scientific Advisory board for the Arizona Winter School
Spring 2024	NSF Grant Proposal Review, *Panelist*
Spring 2024	Algorithmic Number Theory Symposium XVI, *Program Committee Member*
Fall 2024-current	BU Number theory learning seminar *Coorganizer*
Spring 2024-current	BU Number theory seminar *Coorganizer*
Spring 2024	PhD thesis committee member for Boston University graduate student, Aashraya Jha *Panelist*
Spring 2024	PhD thesis committee member for Georgia Tech graduate student, Santana Afton *Panelist*
Fall 2023-current	Number theory group lunch, *Organizer*
Fall 2022	Preliminary Exam Committee member for UGA graduate student, Shuofeng (Simon) Xu *Panelist*
February 2022	NSF Grant Proposal Review, *Panelist*
Fall 2021	Preliminary Exam Committee member for Georgia Tech graduate student, Santana Afton *Panelist*
Fall 2019	Math 2250 calculus, *Rubric team*
Fall 2018	Georgia Tech Algebra seminar, *Co-organizer*
Fall 2018	Georgia Tech Algebra qualifying exam, *Cowriter*
Feb 2018	Panel discussion at the Graduate Workshop in Algebraic Geometry for Women and Mathematicians of Minority Genders, Harvard and MIT, *Panelist*

Fall 2017	Georgia Tech Algebra qualifying exam, *Cowriter*
May 2016	Panel discussion for graduate students on Life after quals: learning to do research, *Organizer & moderator*
Spring 2015	STAGE: Seminar on Topics in Arithmetic, Geometry, Etc., *Co-organizer*
2014–2015	MIT Friends of the Arts, *Co-organizer*
Spring 2013, Fall 2013	MIT mathematics department Transfer Credit Examiner
2012–2013	PuMaGraSS: Pure Mathematics Graduate Student Seminar, *Co-organizer*

━━━━ Miscellaneous

Programming	Python and Sage
Languages	Fluent in English, Tamil, Hindi