Sarasij Maitra

Curriculum Vitae

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Education

2022–present	**Postdoctoral Researcher/Lecturer**, *University of Utah*
2016–2022	**PhD in Mathematics**, *University of Virginia*
2014–2016	**M.Math**, *Indian Statistical Institute*, Kolkata
2011–2014	**B.Math**, *Indian Statistical Institute*, Bangalore

Papers and Preprints

- **Extremal behavior of reduced type of one dimensional rings** with V. Mukundan (Submitted)
- **Valuations and Nonzero Torsion in Module of Differentials** with V. Mukundan; Bulletin des Sciences Mathématiques, Volume 187, October 2023, 103287
- **Partial Trace Ideals, Torsion and Canonical Module**; (Submitted)
- **Torsion in Differentials and Berger's Conjecture** with C. Huneke and V. Mukundan; Res Math Sci 8, 60 (2021)
- **Traceable PRFs: Full Collusion Resistance and Active Security** with D. J. Wu; **PKC 2022**
- **Finding Points On Varieties with *MACAULAY2*** with S. Bisui, T. T. Nguyễn, Z. Jiang and K. Schwede (To appear in the Journal of Software for Algebra and Geometry)
- **On Reflexive and I-Ulrich Modules over Curve Singularities**, with H. Dao and P. Sridhar; Trans. Amer. Math. Soc. Ser. B 10 (2023), 355-380
- **Partial Trace Ideals and Berger's Conjecture**; Journal of Algebra, 598: 1–23, 2022.

Awards and Achievements

- **AMS–Simons Travel Grant 2023–2025**
- **The Joint Mathematics Meetings 2022 Travel Grant** (Later shifted to a virtual venue)
- **Jefferson Scholars Foundation Research Prize, 2021.**
- **All-University Graduate Teaching Award, University of Virginia, 2019-2020**.
- (2019) Travel Grant for Mathematical Sciences Research Institute 883 Commutative Algebra and its Interaction with Algebraic Geometry.
- 1st Division with Distinction in M. Math.

o 1st Division with Distinction in B. Math.

Software

o *RandomPoints*, (Macaulay 2), with S. Bisui, T. T. Nguyễn, Z. Jiang, K. Schwede.
o *SwitchingFields*, (Macaulay 2), with Z. Jiang.

Invited Talks and Poster Presentations

April 2023	**On the reduced type of one dimensional analytic k-algebras** Morgantown Algebra Days (MAD), West Virginia University
April 2023	**The Frobenius Problem** MathCircle, Salt Lake City, University of Utah
February 2023	**Frobenius Problem and Numerical Semigroup Rings** Math for All, Salt Lake City, University of Utah
Februrary 2023	**Module of Differentials and Berger's Conjecture** Algebra Seminar, University of Georgia
October 2022	**Discussions on Berger's Conjecture** Commutative Algebra Seminar, University of Utah
April 2022	**Notes On Berger's Conjecture** Graduate Seminar, University of Virginia
April 2022	**On Reflexive and I-Ulrich Modules**, *AMS Special Session on Commutative Algebra*, Joint Mathematics Meetings
March 2022	**Torsion in Module of Differentials**, *Special Session on Recent Developments in Commutative Algebra*, AMS Spring Central Sectional Meeting at Purdue University, West Lafayette, IN
March 2022	**Traceable PRFs: Full Collusion Resistance and Active Security (Upcoming)** PKC, Japan (virtual)
January 2022	**Partial Trace Ideals and Berger's Conjecture** Virtual Commutative Algebra Seminar, University of Illinois at Chicago
April 2021	**Discussions on I-Ulrich Modules** Virtual Commutative Algebra Seminar, Purdue University
April 2021	**An Introduction To Gröbner Bases**, *(Joint Talk with Stephanie Shand)* Graduate Seminar, University of Virginia
February 2021	**Discussions on I-Ulrich Modules** Algebra Seminar, West Virginia University
January 2021	**Discussions on Berger's Conjecture** Joint Mathematics Meetings
October 2020	**A Study of Colength in Dimension One** Commutative and Homological Algebra Market Presentations (CHAMP)
June 2020	**Poster: An Approach to Berger's Conjecture** Early Commutative Algebra Researchers (eCARs)

June 2020	**A Simple Study of Colength**
	Graduate Student Seminar, New Mexico State University
March 2020	**"Berger's Conjecture from the Viewpoint of an Invariant of the Module of Differentials"–An Approach to Berger's Conjecture**
	A Zoom Session on Commutative Algebra

Conferences Organized

October 2022	**AMS Special Session on Building Bridges Between Commutative Algebra and Nearby Areas**, *Fall Western Sectional Meeting*, University of Utah, Co-organizers: J. Cameron, T. Tribone

Teaching

Spring 2023	**Assistant Professor (Lecturer)**, *University of Utah*
	MATH 3150-004 PDE's for Engineers
Fall 2022	**Assistant Professor (Lecturer)**, *University of Utah*
	MATH 1321-001 Accelerated Engineering Calculus II
Spring 2022	**Graduate Teaching Instructor**, *University of Virginia*
	MATH 1310-400 Calculus I (Flipped Model)
Fall 2021	**Graduate Teaching Instructor**, *University of Virginia*
	MATH 1410-001 Financial Mathematics
Fall 2020	**Graduate Teaching Instructor**, *University of Virginia*
	MATH 1320-200 Calculus II (Online Flipped Model)
Fall 2019	**Graduate Teaching Instructor**, *University of Virginia*
	MATH 1310-001 Calculus I (Flipped Model)
Spring 2019	**Graduate Teaching Instructor**, *University of Virginia*
	MATH 1220-009 A Survey of Calculus II
Spring 2018	**Graduate Teaching Instructor**, *University of Virginia*
	MATH 1210-008 A Survey of Calculus I
Fall 2017	**Graduate Teaching Instructor**, *University of Virginia*
	MATH 1210-007 A Survey of Calculus I
Spring 2017	**Graduate Teaching Assistant**, *University of Virginia*
	MATH 1310-100 Calculus I, MATH 3250-300 Ordinary Differential Equations
Fall 2016	**Graduate Teaching Assistant**, *University of Virginia*
	MATH 1310-500, MATH 1310-700 Calculus I

Service

○ High School Sectional Leader, Mathcircle University of Utah, Spring 2023
○ Reviewer for various mathematics journals
○ Graduate Teaching Mentor at the University of Virginia, 2020-2021
○ AWM Mentor at the University of Utah, 2022-2023

Memberships

- Association for Women in Mathematics (AWM)
- American Mathematical Society (AMS)

Other Projects

Jan - May, 2016   Project on *Bargaining Games with Time-Independent and Time-Dependent Preferences* under Prof. Souvik Roy of Indian Statistical Institute, Kolkata. [Project Report]

Dec, 2014   Reading Project on *Hopf Algebra* under Prof. Jyotishman Bhowmick of Indian Statistical Institute, Kolkata.

May - July, 2013   Indian Academy of Sciences Summer Project on *Algebraic Geometry* under Prof. Kapil Hari Paranjape at Indian Institute of Science Education and Research, Mohali. [Project Report]

Skills

Language Skills   English, Bengali, Hindi

Technologies   Working knowledge of Macaulay 2, LaTeX, Python, R, HTML, MATLAB