

# Sarasij Maitra

## Curriculum Vitae

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### Education

- 2016–present **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

- **RandomRationalPoints package for Macaulay2** (with S. Bisui, T. T. Nguyễn, Z. Jiang and K. Schwede) ([arXiv](#))
- **On Reflexive and  $I$ -Ulrich Modules over Curve Singularities**, with H. Dao, P. Sridhar. (submitted) ([arXiv](#))
- **Partial Trace Ideals and Berger's Conjecture** (submitted) ([arXiv](#))

### Awards and Achievements

- **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.
- 1<sup>st</sup> Division with Distinction in M. Math.
- 1<sup>st</sup> Division with Distinction in B. Math.

### Software

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

### Invited Talks and Poster Presentations

- 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

## Teaching

- 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

## Conferences Attended

- January, 2021 **Joint Mathematics Meetings.**
- June, 2020 **eCARs, Early Commutative Algebra Researchers.**
- April, 2020 **CAZoom - Virtually bringing together commutative algebra and related fields.**
- March, 2020 **A Zoom Special Session On Commutative Algebra.**
- June, 2019 **Conference on Commutative Algebra and its Interaction with Algebraic Geometry In Honor of Bernd Ulrich.**  
University of Notre Dame, Indiana
- Apr, 2019 **Morgantown Algebra Days.**  
West Virginia University, Morgantown, West Virginia
- Oct, 2018 **Fall Central Sectional Meeting.**  
University of Michigan, Ann Arbor, Ann Arbor, MI

Mar, 2018 **Mini Workshop.**

University of Virginia

Nov, 2017 **Workshop on Topics in Algebraic Geometry.**

University of North Carolina, Chapel Hill

## Other Projects

Ongoing Reading and Reseach Project on *Fully Homomorphic Encryption and Constrained Pseudorandom Functions* under Prof. David Wu, Computer Science, University of Virginia.

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

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

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

## Skills

Language English, Bengali, Hindi  
Skills

Technologies Working knowledge of Macaulay 2,  $\text{\LaTeX}$ , Python, R, HTML