

ALAPAN MUKHOPADHYAY

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Math. department

University of Michigan

EDUCATION

PhD in Mathematics 2017- Apr 2023(expected)
University of Michigan
Advisor: Prof. Karen Smith

M.Sc in Mathematics 2015-2017
Chennai Mathematical Institute, India
CGPA: 9.75

B.Sc (Hons.) in Mathematics and Physics 2012-2015
Chennai Mathematical Institute, India
CGPA: 9.25

RESEARCH INTEREST

Commutative Algebra, Algebraic Geometry

PUBLICATION AND PREPRINTS

4) *Ind-étale vs Formally étale*, with Shubhodip Mondal, submitted, 2022, <https://arxiv.org/abs/2209.09392>.

3) *Frobenius-Poincaré function and Hilbert-Kunz multiplicity*, submitted, 2022, <https://arxiv.org/abs/2201.02717>.

2) *Reducedness of formally unramified algebras over fields*, with Karen Smith, Journal of Algebra, 2021, <https://arxiv.org/abs/2005.05833>

1) *Multi-point Seshadri constants on ruled surfaces*, with Krishna Hanumanthu, Proc. Amer. Math. Soc(2017), <https://arxiv.org/abs/1610.07812>.

AWARDS

Rackham One-Term Dissertation Fellowship, University of Michigan Winter 2021
Usha Sharma Bhalla Graduate Fellowship, University of Michigan 2020
Tuition fee waiver and stipend, Chennai Mathematical Institute 2012 - 2017
Selected for the CMI-ENS (Paris) exchange programme, Chennai Mathematical Institute 2015
Inspire Scholarship for Higher Education (SHE), Ministry of Science and Technology, India 2013-2017

TEACHING

Calculus 2, Math 116, Instructor, Michigan Winter '19; Fall '19,'20, '21; Summer '21
Calculus 1, Math 115, Instructor, Michigan Fall '17, '18; Winter '18
Complex Analysis (graduate level), Teaching Assistant, Chennai Mathematical Institute 2017
Field and Galois Theory (elective course), Teaching Assistant, Chennai Mathematical Institute 2016
Topology (undergraduate course), Teaching Assistant, Chennai Mathematical Institute 2014

TALKS

<i>Algebraic Geometry and Singularities workshop and conference, Mini talk, Univ. of Washington, Seattle</i>	June 2022
<i>Commutative Algebra Seminar, Univ. Illinois at Chicago</i>	Apr 2022
<i>Special session in Commutative Algebra, Joint Mathematical Meeting 2022, AMS</i>	Apr 2022
<i>Recent developments in Commutative Algebra, AMS sectional, Purdue</i>	March 2022
<i>Commutative Algebra Seminar, University of Utah</i>	2022
<i>CHAMP seminar series</i>	2022
<i>Graduate Student Conference, Temple University.</i>	2021
<i>Chennai Mathematical Institute, Online Lecture Series.</i>	2020
<i>Commutative Algebra Seminar, University of Michigan.</i>	2019
<i>Seminar series, Chennai Mathematical Institute.</i>	2019
Multi-point Seshadri Constant on ruled surfaces <i>M.Sc thesis defence, Chennai Mathematical Institute.</i>	2017

POSTER PRESENTATIONS

<i>Recent Advances in Classical Algebraic Geometry, ICM satellite, Jagiellonian University, Krakow</i>	2022
<i>KUMUNU, University of Nebraska, Lincoln</i>	2022
<i>Special month on singularities and K-theory, Utah</i>	2021
<i>GO 60, Celebrating Giorgio Ottaviani's 60th Birthday, CIRM-FBK event</i>	2021
<i>Conference for Early Commutative Algebra Researchers</i>	2020

OTHER TALKS

Frobenius functor and finite projective dimension <i>Student CA, Michigan</i>	2022
Lim Ulrich sequence: proof of Lech's conjecture for graded base rings, following Linquan Ma <i>Preprint AG Seminar, Michigan</i>	2021
Elliptic Curves <i>Student Algebraic Geometry seminar, Michigan</i>	2021
Singularities in positive characteristics <i>Student Commutative Algebra Seminar, Michigan</i>	2021
F-signature under birational morphisms, following Ma, Polstra, Schwede, Tucker <i>Preprint AG Seminar, Michigan</i>	2020
Relative Smoothness of Rings <i>Student Commutative Algebra Seminar, Michigan</i>	2019
Toric Varieties <i>Student Algebraic Geometry seminar, Michigan</i>	2018

CONFERENCES

<i>Recent Advances in Classical Algebraic Geometry, ICM satellite, Jagiellonian University, Krakow</i>	2022
<i>Algebraic Geometry and Singularities workshop and conference, University of Washington, Seattle</i>	2022
<i>KUMUNU, University of Nebraska, Lincoln</i>	2022
<i>Commutative Algebra session, Fall central sectional meeting, AMS, Creighton University, Omaha, NE</i>	2021
<i>Singularities in Positive Characteristic, CIRM</i>	2021
<i>Special Month on Singularities and K-stability, Utah</i>	2021
<i>Unifying themes in Geomtry, Lake Como School of Advanced Studies</i>	2021
<i>Algebraic and Tropical online meeting, Lecture series on Tropical Geometry</i>	2020
<i>Conference on Commutative Algebra and its Interaction with Algebraic Geometry, in honour of Bernd Ulrich, Notre Dame, Indiana</i>	2019
<i>Morgantown Algebra Days, West Virginia University</i>	2019
<i>D-modules and Hodge Theory, UIC</i>	2018
<i>GSCAGT, Temple University</i>	2018
<i>Workshop On Seshadri Constant, Chennai Mathematical Institute</i>	2017
<i>Workshop on Commutative Algebra, Chennai Mathematical Institute</i>	2015
<i>AIS school on Number Theory, Chennai Mathematical Institute</i>	2014

INTERNSHIPS

École Normale Supérieure(Paris) (CMI- ENS Exchange Programme) May, June 2015
Topic: Elliptic Curves; Advisor: Prof. Jan Nekovar.

Chennai Mathematical Institute May, June 2014
Topic: Algebraic Number Theory; Advisor: Prof. R. Sridharan.

Indian Statistical Institute, Kolkata May-July, 2013
Topic: Commutative Algebra; Advisors: Prof. Neena Gupta, Prof. Amartya Dutta.

Jadavpur University, Kolkata May-July 2013
Topic: Power series rings; Advisor: Prof. Indranath Sengupta.

ORGANIZATION

Internal seminar devoted to sharing research work, Michigan 2021
MREG (Michigan Research Experiences for Graduate Students), co-organized with other students, Michigan 2021