

Nidhi Kaihnsa

CONTACT INFORMATION

Max Planck Institute
Mathematics in the Sciences
22 Inselstrasse
Leipzig, Germany, 04103

Personal Webpage:
personal-homepages.mis.mpg.de/kaihnsa
Email: kaihnsa@mis.mpg.de
+49 (0) 341 - 9959 -760

RESEARCH INTERESTS

- Real Algebraic Geometry
- Convex Algebraic Geometry
- Polynomial Optimisation
- Chemical Reaction Networks

EDUCATION

Max Planck Institute, Mathematics in the Sciences, Leipzig, Germany

Ph.D. Candidate, Mathematics (expected 2019).

- Advisor: Bernd Sturmfels.

Indian Institute of Science Education and Research, Mohali, India

Dual B.S-M.S in Mathematics, May 2015.

- Advisor: Alok Maharana.

PREPRINTS AND PUBLICATIONS

- (1) N. Kaihnsa, M. Kummer, D. Plaumann, M.N. Sayyary, and B. Sturmfels. *Sixty Four Curves of Degree Six*, Experimental Mathematics, published online, 2017.
- (2) N. Kaihnsa. *Attainable Regions of Dynamical Systems*, arXiv:1802.07298.
- (3) P. Dey, P. Görlach, and N. Kaihnsa. *Coordinate-wise Powers of Algebraic Varieties*, arXiv:1807.03295.
- (4) D. Ciripoi, N. Kaihnsa, A. Löhne, and B. Sturmfels. *Computing Convex Hulls of Trajectories*, arXiv:1810.03547.
- (5) N. Kaihnsa, J. Martini, Y. Ren, and Mohab Safey El Din. *Cooperativity in Ligand Binding Molecules*, in preparation.

CONFERENCE PRESENTATIONS POSTERS AND INVITED TALKS

Sixty Four Curves of Degree Six

- *SIAM Conference on Applied and Algebraic Geometry*. Poster session. August 2017. Atlanta, GA.

Attainable Regions of Dynamical Systems

- *Interactions between Algebra and the Sciences*. May 2017. Max Planck Institute, Leipzig, Germany.
- *Workshop on Optimization, Machine Learning and Data Science*. April 2018. Braunschweig, Germany.
- *Seminar at the Institute for Algebra and Geometry, Magdeburg*. April 2018. Magdeburg, Germany.
- *Math-Bio Day*. April 2018. Max Planck Institute, Leipzig, Germany.

Coordinate-wise Powers of Algebraic Varieties

- *Student seminar- Nonlinear Algebra seminar*. June 2017. Max Planck Institute, Leipzig, Germany.

Computing Convex Hulls of Trajectories

- *Nonlinear Algebra*. ICERM semester Fall 2018. Providence, RI.
- *Seminar in Combinatorial Aspects of Commutative Algebra and Algebraic Geometry*. December 2018. IIT Bombay. Mumbai, India.

AWARDS AND ACHIEVEMENTS

- **IMPRS Fellowship**. Max Planck Society, Germany. 2016-present.
- **INSPIRE Fellowship**. Department of Science and Technology, Government of India. 2010-2015.
- **DAAD WISE Scholarship**. Germany. 2013.
- **IAS Summer Fellowship**. Indian Academy of Sciences. 2012.
- **NTS Scholarship**. NCERT, India. 2008-2012.

EXTRA-CURRICULAR ACTIVITIES

- **Member of Election Board for Ombudsperson**, Max Planck Institute, Mathematics in the Sciences. 2017.
- **IISER Mohali Alumni Association**, Interim Executive Member. IISER Mohali. 2016-2017.
- **Student Library**, Member. IISER Mohali. Spring 2015.
- **Anchor, Musical Event at Insomnia (IISER Mohali Cultural Fest)**, IISER Mohali. 2013.
- **Mathematics Club**, Member. IISER Mohali.
- **Editor, Student Magazine - Manthan**, IISER Mohali. 2011-2012.
- **Debsoc - Debating Society**, Member. IISER Mohali 2010-2011.

RELEVANT SKILLS

Programming: Macaulay2, Mathematica, Matlab, Sage.

Languages: Hindi (native), English (fluent), Sanskrit (fluent), German (Intermediate).