Curriculum Vitæ

Pranabesh Das

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Homepage

Personal Information

Nationality:	Indian
Gender:	Male
Languages:	English, Bengali, Hindi, Español.

Academic Employment

Xavier University of Louisiana, New Orleans, Louisiana
Assistant Professor, Tenure-Track
September 2022-Current

Dalhousie University, Halifax, Canada
AARMS Postdoctoral Fellow, July 2021 - August 2022, supported by
Atlantic Association for Research in the Mathematical Sciences(AARMS).

University of Waterloo, Canada
Postdoctoral Fellow, Department of Pure Mathematics, June 2018 - June 2021.

Université Pierre and Marie Curie (Paris VI), Paris, France
Visiting Postdoc, Sept - Nov 2017

The Institute of Mathematical Sciences (IMSc), Chennai, India
Postdoctoral Fellow in Mathematics, 2017-2018.

Education

Indian Statistical Institute, Delhi, India
Ph.D., Mathematics, 2018.

Thesis Title:	Perfect Powers in Certain Diophantine Equations and Recurrence Sequences.
Topic:	Number Theory.

Ramakrishna Mission Vivekananda University, West Bengal, India
M.Sc., Mathematics, 2011.

University of Calcutta, Kolkata, India
B.Sc., Mathematics (Hon's), 2008.

Research Interest

Number Theory
Diophantine Equation: Modular Method, Linear forms in Logarithms
Diophantine Approximation: Thue Equations, Hypergeometric method
Transcendental Number Theory: Mahler method
Recurrence Sequences
Elliptic Curve Cryptography

Publications	**Powers in product of terms of Pell's and Pell Lucas sequences** *International Journal of Number Theory* **11** (2015), no.4, 1259–1274. Authors: Bravo J.J., Das P., Guzman S. and Laishram S. **Invitation to integral and rational points on curves and surfaces** **Rational points, rational curves and entire holomorphic curves** **on projective varieties** *Contemp. Math.*, **654**(2015), Centre Rech. Math. Proc., Amer. Math. Soc. Authors: Das P. and Turchet A. **Variants of Erdős-Selfridge superelliptic curves and their rational points** *Mathematika*, **64** (2018), no. 2, 380-386. Authors: Das P., Laishram S. and Saradha N. **Cubes in product of terms from an Arithmetic Progression** *Acta Arithmetica*, **184** (2018) , no. 2, 117-126. Authors: Das P., Laishram S. and Saradha N. **Sums of fifth powers being a perfect power: A special case** *J. Ramanujan Math. Soc.*, **35** (1), 1-11, (2020). Authors: Das P., Dey P.K., and Rout S.S. **Perfect powers in alternating sum of consecutive powers** *Glasnik Mathematikcki* , **55** (75), 37-53 (2020). Authors: Das P., Dey P.K., Maji B., and Rout S.S. **Repdigits in Narayana's Cows sequence and their consequences** *Journal of Integer Sequences*, vol **23**(2020), no. 8, Art. 20.8.7. Authors: Bravo J.J., Das P., and Guzmán S. **Perfect powers in sum of three fifth powers** Journal of Number Theory, vol **236**, July 2022, Pages 443-462. Authors: Das P., Dey P.K., Koutsianas A., and Tzanakis N.
Preprints	**Explicit rational solutions to the Variants of Erdős-Selfridge superelliptic curves** Authors: Das P., Laishram S., Saradha N., and Sharma D(39 Pages) (To appear in the International Journal of Number Theory after minor corrections).
Work in Progress	**Rational solutions in Erdős-Selfridge Superelliptic curves for small exponents** Authors: Das P., Koutsianas A, and Laishram S. In Preparation. **Generalized Fermat equation of signature (3, 3, n)** Authors: Das P. and Koutsianas A. In Preparation. **Rational points on Erdős-Selfridge Hyperelliptic curves** Authors: Das P. In Preparation **On Rudin's conjecture on number of squares in an arithmetic progression** Authors: Das P. and Laishram S. In Preparation.

Work in Progress	**Algebraic Independence of certain rational functions** Authors: Das P. and Philippon P. In Preparation.
External Research Grants	Awarded a competitive funding of worth 50000$ from the **Atlantic Association for Research in the Mathematical Sciences (AARMS), Canada** for 2021-2023.
Teaching	**MATH 1030I: Intensive Precalculus** Fall 2022 (Current, two sections), Xavier University of Louisiana, New Orleans. **MATH 3080: Introduction to Complex Variables** Winter 2022, Dalhousie University, Canada. **Math 135: Algebra for Honors Mathematics** Fall 2018, Fall 2019, and Fall 2020, University of Waterloo, Canada. **Math 128: Calculus 2 for the Sciences** Winter 2019, Winter 2021, University of Waterloo, Canada. **Math 127: Calculus 1 for the Sciences** Winter 2020, University of Waterloo, Canada. **Advanced Instructional School(AIS) on Analytic Number Theory, 2015 KIIT, Bhubaneswar, India** Tutor for two courses on linear forms in logarithms and transcendence. **Advanced Instructional School(AIS) on Diophantine Equation, 2014 HP University, Shimla, India** Tutor for a course on continued fractions, 2014
Supervision	**Co-supervising a undergraduate student at Dalhousie with Karl Dilcher.**
Organization	**Co-organizer** of the **Number Theory seminar** at Dalhousie, 2021- 2022.
Academic Visit	**Indian Statistical Institute, Delhi, India** June-July, 2019; Feb-Mar, 2018 **Universidad del Cauca, Popayan, Colombia** Dec, 2018 **University of Crete, Heraklion, Greece** Dec 2017 **Tata Institute of Fundamental Research(TIFR) Mumbai, India** Nov, 2016; Nov-Dec, 2014 **University of Debrecen, Debrecen, Hungary** 16th Oct- 21st Oct, 2016 **University of Paris VI, Jussieu, Paris, France** 16th Sep- 15th Oct, 2016 **Harish Chandra Research Institute, Allahabad, India** Feb-March, 2016

Refereed Journals	**Refereed articles in The Ramanujan Journal, Integers, MathSciNet, and Communications in Mathematics.**
Membership	**Member of the Canadian Mathematical Society.**
Seminars	**TBD** 2022- 2023 Ottawa/Carleton Number Theory Seminar(Invited) (Upcoming) October 26, 2022.

Some interesting superelliptic curves and their rational solutions
ISI Delhi Web Seminar (Invited), Jan 19, 2021, Indian Statistical Institute, Delhi, India.
Mathematics Webinar (Invited), Dec 4, 2021, BITS Pilani, Hyderabad, India.
Mathematics Colloquium (Invited), Nov 4, 2021, Dalhousie University, Halifax, Canada.

Fermat's Theorem: Past, Present and Future
Honours seminar, Oct 13, 2021, Dalhousie University, Halifax, Canada.

Rational points on certain super elliptic curves
Arithmetic Geometry Seminar (Invited), April 9, 2021.
National and Kapodistrian University of Athens, Athens, Greece

Teorema de Fermat: Pasado, Presente y Futuro
Seminario MATDIS (Invited), Universidad del Cauca, Colombia, Sept, 2020.

Repdigits in Narayana's cows sequence and its consequences
IIIT Delhi, June 2019

Erdős- Selfridge superelliptic curves and their rational points
Universidad Del Cauca, Popayan, Colombia, Dec, 2018 (Invited Colloquium).

Variants of Erdős- Selfridge superelliptic curves and their rational points
University of Pierre and Marie Curie, Paris VI, France, 16th Oct, 2017.
Number Theory Seminar (Invited), University of Waterloo, Canada, Oct, 2018.

On variations of Shifted Schäffer's Equation
University of Pierre and Marie Curie (Invited), Paris VI, France, 29th Sept, 2016.
University of Debrecen (Invited), Hungary, 21st Oct, 2016.

On Some Equations Involving Binary Recurrence Sequences
Indian Statistical Institute, Delhi, August,2015.

On Ramanujan-Nagell Equation
Indian Statistical Institute, Delhi, August,2014.

On Roth's Theorem and Its Applications
Indian Statistical Institute, Delhi, August,2013.

Workshops and Conferences	**CMS Winter Meeting, Toronto, Canada** Dec 2019

Advanced School and Workshop on Arithmetic of Hyperelliptic Curves
ICTP, Trieste, Italy, Aug - Sep 2017

French-German Summer School Galois Theory and Number Theory
University of Konstanz, Germany, July 2015

Workshops and Conferences	**Discussion Meeting on Analytic Number Theory, TIFR, Mumbai, India** Jan 2015. **AIS on Algebraic Number Theory, Chennai Mathematical Institute, India** July 2014. **CIMPA school on Algebraic Curves over Finite Fields, UP Diliman, Philippines** July- Aug 2013 **Rational Points, Rational Curves and Entire Holomorphic Curves on Projective Varieties, University of Montreal, Canada**, Jun, 2013.
Awards and Fellowships	Selected for two year prestigious postdoctoral fellowship from Atlantic Association for Research in the Mathematical Sciences(AARMS)(2021-2023). Offered a tenure-track assistant professor position at the Xiamen University at the Malaysia Campus(2022). Offered a tenured assistant professor position at the Birla Institute of Science and Technology, Pilani at the Hyderabad Campus, India (2021). Offered a visiting assistant professor position at the American University of Sharjah, Sharjah (2021). Offered postdoctoral/visiting scientist positions from several places including University of Waterloo, Canada University of Technology (TU Graz), Austria The Institute of Mathematical Sciences, Chennai, India Harish Chandra Research Institute, Allahabad, India LIA Indo-French visiting scientist fellowship, 2016, UPMC, Paris Indian Statistical Institute, PhD fellowship in Mathematics, 2011-2016 Awarded only to 8 best students in India. Prestigious CSIR PhD fellowship, June 2011 Masters fellowship, National Board for Higher Mathematics (NBHM) (Awarded only to the best 29 students in India, 2008)
References	Available on request