

CURRICULUM VITAE

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SEX Male

DATE OF BIRTH March 31, 1992

AFFILIATION • *Post-doctoral Research Fellow, IISER Tirupati (July 2023 –)*
• *Institute Post-doctoral Fellow, IIT Madras (July 2021 – June 2023)*

EDUCATION • Ph.D in Mathematics,
Tata Institute of Fundamental Research, Mumbai, India 2015 – 2021

Thesis title: *On Chow Group Of 1-cycles And Abel-Jacobi Maps
On The Moduli Space Of Parabolic Bundles Over A Curve*
Advisor: Prof. Indranil Biswas

• M.Sc. in Mathematics,
Chennai Mathematical Institute (CMI), Chennai, India 2013 – 2015

• B.Sc. (Honours) in Mathematics and Computer Science,
Chennai Mathematical Institute, Chennai, India 2010 – 2013

RESEARCH INTERESTS Algebraic Geometry, more specifically: moduli space of vector bundles
and related topics, parabolic vector bundles, Algebraic stacks.

COMPUTER SKILLS **Programming:** Haskell, Python, C, C++, Java

Scripting: \LaTeX

LANGUAGES *Bengali*: native
Hindi, English: fluent

- PUBLICATIONS AND PREPRINTS
- (With I. Biswas and A. Dey) Brauer group of moduli of parabolic symplectic bundles (submitted)
 - (With A. Paul) Equivariant parabolic connections and stack of roots (submitted) [arxiv link](#)
 - (With S. Majumder) Orthogonal and symplectic parabolic connections and stack of roots
Bulletin des Sciences Mathématiques Vol. 191 (2024)
<https://doi.org/10.1016/j.bulsci.2024.103397>
 - (With A. Paul) Real structures on root stacks and parabolic connections
Geometriae Dedicata Vol. 218, No. 35 (2024)
<https://doi.org/10.1007/s10711-023-00880-1>
 - (With I. Biswas and A. Dey) Chen–Ruan cohomology and orbifold Euler characteristic of moduli spaces of parabolic bundles
Journal of Geometry and Physics Vol. 202, no. 105236 (2024)
<https://doi.org/10.1016/j.geomphys.2024.105236>
 - (With I. Biswas and A. Dey) Brauer group of moduli stack of stable parabolic $\mathrm{PGL}(r)$ -bundles over a curve
International Journal of Mathematics Vol. 35, No. 01 (2023)
<https://doi.org/10.1142/S0129167X23500957>
 - On Abel-Jacobi maps of moduli of parabolic bundles over a curve
Communications in Algebra Vol. 49, No. 9 (2021)
<https://doi.org/10.1080/00927872.2021.1903913>
 - Chow group of 1-cycles of the moduli of parabolic bundles over a curve
Proceedings – Mathematical Sciences Vol. 131, No. 22 (2021)
<https://doi.org/10.1007/s12044-021-00616-9>
 - (With A. Paul) Picard Group and Fundamental Group of the Moduli of Higgs Bundles on Curves
Complex Manifolds Vol. 5, issue 1 (2018)
<https://doi.org/10.1515/coma-2018-0009>

AWARDS AND SCHOLARSHIPS • Recipient of **INSPIRE Scholarship**, funded by the government of India, for the period 2010-2015.

- Selected for **NBHM Junior Research Fellowship** (2013).

TALKS GIVEN

- *Real Structures on Root Stacks and Parabolic Connections*
Invited lecture at the the Discussion meeting on Algebra and Geometry, IISER Bhopal (August 2023)
- *Chen–Ruan cohomology for the moduli space of parabolic vector bundles over a curve*
IISER Kolkata (December 19, 2022)
- *Brauer group of the moduli stack of stable parabolic $PGL(r)$ – bundles over a curve*
Invited lecture at SRM university Amaravathi, India (July 19, 2022) [Link](#)
- *Moduli of parabolic bundles over a curve and its first rational Chow group*
Algebraic Geometry Seminar, IIT Bombay (September 7, 2020)
- *Picard Group and Fundamental Group of the Moduli of Higgs Bundles on Curves*
CIRM Luminy, France (January 31, 2019)
- *Stable and semistable vector bundles*
Geometry seminar, TIFR Mumbai (January 19, 2018)
- *Kodaira vanishing theorem on compact complex manifolds*, TIFR Mumbai (December 26, 2017)

WORKSHOPS/
CONFERENCES
ATTENDED

- *NCM Workshop on derived categories and semi-orthogonal decompositions*, CMI Chennai, India (June 2024)
- *BIRS-CMI workshop on New directions in rational points*, CMI Chennai, India (January 2024)
- *Workshop on Spherical Varieties and Related Topics*, IIT Madras, India (December 2023)

- *Topics in Hodge Theory*, ICTS Bangalore, India (February 2023)
- *Vector Bundles in Chennai*, Indian Institute of Technology Chennai, India (February 2023)
- *Topics in Algebraic Geometry and Commutative Algebra*, SRM university Amaravathi, India (July 2022)
- *Vector Bundles 2022*, TIFR Mumbai (March 2022)
- *Lecture Series in Algebraic Geometry*, (online) IIT Madras (November 2021)
- *Moduli Of Vector Bundles And Related Structures*, ICTS Bangalore (February 2020)
- *Winter School Master Class: Complex Geometry: A Modern Viewpoint*, CIRM (Centre International de Rencontres Mathématiques), Marseille, France (January 2019)
- *ATMW Geometric Invariant Theory*, Kerala School of Mathematics, Kerala (May 2018)
- *Discussion Meeting On Analytic And Algebraic Geometry*, ICTS Bangalore (March 2018)
- *National Conference On Commutative Algebra and Algebraic Geometry (CAAG)*, IISER Pune (December 2017)
- *AIS Workshop on Differential Geometry*, IISER Pune (September 2017)
- *Advanced Instructional School on Schemes and Cohomology*, Kerala School of Mathematics, Kerala (December 2014)

COURSES TAUGHT

- Instructor for *Basic Mathematics*, IISER Tirupati (Fall 2024)
- Co-instructor for *Commutative Algebra*, IISER Tirupati (Spring 2024)
- Teaching assistant for *Probability and Statistics*, IISER Tirupati (Fall 2023)
- Teaching assistant for *Series and Matrices*, IIT Madras (Spring 2023)

- Principal instructor for *Algebra II*, IIT Madras (Fall 2022)

EVENTS

ORGANIZED

- *Graduate College Seminar on Moduli Spaces and Geometric Invariant Theory*, IISER Tirupati (ongoing) [website link](#)
- *Lecture Series in Algebraic Geometry* (online seminar), IIT Madras (2021) [website link](#)

REFERENCES

- (1) Indranil Biswas
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email: indranil.biswas@snu.edu.in , indranil29@gmail.com
- (2) Arijit Dey
Address: Department of Mathematics, Indian Institute of Technology Chennai, Chennai-600036, Tamil Nadu, India
email: arijit@iitm.ac.in , arijitdey@gmail.com
- (3) D. S. Nagaraj
Address: Department of Mathematics, Indian Institute of Science Education and Research Tirupati, Chittoor-517619, Andhra Pradesh, India
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