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Arjun Paul

Curriculum Vitae

Personal Details

First Name: **Arjun**
Surname: **Paul**
Gender: **Male**
Date of Birth: **January 29, 1990**
Nationality: **Indian**
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Languages

Bengali Fluent
Hindi Fluent
English Fluent

Positions held

August 2018 to Present **Post-doctoral Fellow**, Department of Mathematics, IMSc, Chennai, India.

April 2018 to July 2018 **Short-term Visiting Fellow**, School of Mathematics, TIFR, Mumbai, India.

Education

2013–2018 **Ph.D. in Mathematics**, *Tata Institute of Fundamental Research*, Mumbai, India.
Ph.D. Thesis Title: *On equivariant bundles, logarithmic connections and moduli of principal bundles*.
Thesis advisor: Professor Indranil Biswas.
Thesis submitted on April 11, 2018, and defended on July 30, 2018.

2010–2012 **M.Sc. in Mathematics**, *Jadavpur University*, Kolkata, West Bengal, India.

2007–2010 **B.Sc. (Honours) in Mathematics**, *Jadavpur University*, Kolkata, West Bengal, India.

Research Interests

Complex algebraic geometry and differential geometry of vector bundles and principal bundles, logarithmic connections on bundles, equivariant bundles, and moduli spaces of bundles.

Talks given

8. *Fundamental group of moduli of principal bundles on curves*, at a Seminar in the Department of Mathematics, IIT Bombay, July 27, 2018.

7. *Fundamental group of moduli of principal bundles on curves*, at Workshop on Geometric Invariant Theory 2018, Kerala School of Mathematics, May 2018.

6. *Equivariant bundles*, at Mathematics Students' Seminar in the School of Mathematics, Tata Institute of Fundamental Research, Mumbai, April 17, 2018.

5. *Moduli of Semistable vector bundles on curves*, at Geometry Seminar in the School of Mathematics, Tata Institute of Fundamental Research, Mumbai, February 09, 2018.

4. *Semistable vector bundles and Higgs bundles*, at Mathematics Students' Seminar in the School of Mathematics, Tata Institute of Fundamental Research, Mumbai, November 21, 2017.

3. *Connection on vector bundles*, at Mathematics Students' Seminar in the School of Mathematics, Tata Institute of Fundamental Research, Mumbai, February 07, 2017.

2. *Vector bundles and moduli spaces of sheaves*, an informal lecture series in the School of Mathematics, Tata Institute of Fundamental Research, Mumbai, November 2015 to May 2016.

1. *Kobayashi-Hitchin correspondence*, at Mathematics Students' Seminar in the School of Mathematics, Tata Institute of Fundamental Research, Mumbai, February 17, 2015.

Workshops/Schools/Conferences

2018 **Conference on Algebraic Geometry and related areas**, *July 10–12, 2018*, IMSc, Chennai, India.

2018 **Workshop on Geometric Invariant Theory**, *May 14–19, 2018*, Kerala School of Mathematic, Kozhikode, India.

2018 **Analytic Geometry**, *March 26–30, 2018*, tifr, Mumbai, India.

2018 **Analytic and Algebraic Geometry**, *March 19–24, 2018*, Madhava Lecture Hall, ICTS, Bangalore, India.

2017 **Algebraic Geometry and Number Theory conference**, *December 14–20, 2017*, Indian Statistical Institute, Bangalore Center, India.

2017 **Moduli Spaces**, *September 11–16, 2017*, Ventotene (LT), Italy.

2017 **Annual Discussion Meeting on Complex Analytic Geometry**, *March 27–31, 2017*, tifr, Mumbai.

2017 **Complex Geometry**, *March 20–25, 2017*, Ramanujan Lecture Hall, ICTS, Bengaluru, India.

2016 **Higgs Bundles**, *March 21–April 01, 2016*, Madhava Lecture Hall, ICTS, Bangalore, India.

2015 **Algebraic Geometry conference**, *December 10–16, 2015*, Indian Statistical Institute, Bangalore Center, India.

2015 **School on Algebraic Surfaces**, *July 20–August 01, 2015*, Advanced Training in Mathematics Schools, Manipal University, India.

Publications and preprints

6. System of Hodge Bundles and Generalized Opers on Smooth Projective Varieties, (with Suratno Basu and Arideep Saha); (*preprint*).

5. Fundamental group of moduli of principal bundles on curves, (with Indranil Biswas and Swarnava Mukhopadhyay); arXiv:1609.06436 (*preprint*).

4. Logarithmic connections on principal bundles over a Riemann surface, (with Indranil Biswas, Ananyo Dan and Arideep Saha), *Internat. J. Math.* Vol. **28** (2017), No. 12, 1750088, 18 pp, (doi:10.1142/S0129167X17500884); arXiv:1705.00852.

3. Equivariant bundles and adapted connections, (with Indranil Biswas and Arideep Saha), *New York J. Math.* **23** (2017), 859–872; arXiv:1707.05467.

2. Criterion for logarithmic connections with prescribed residues, (with Indranil Biswas and Ananyo Dan), *Manuscr. Math.* **155** (2018), 77–88; (doi: 10.1007/s00229-017-0935-6); arXiv:1703.09864.

1. Equivariant bundles and connections, (with Indranil Biswas), *Ann. Global Anal. Geom.* **51** (2017), 347–358; MR3648994; (doi: 10.1007/s10455-016-9538-9); arXiv:1611.08854.

Awards/Fellowships

CSIR-UGC Junior Research Fellowship (June 2012).

Other Skills and Interests

- Computer programming: C, C++, HTML, java script, css, Python.
- Photography and Painting.

References

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