Ayush Jaiswal

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Contact Information

Indian Institute of Technology, Gandhinagar
Palaj, Gandhinagar
India, 382355(Pin code)

Homepage: https://ayushjwl.github.io
Linkedin: www.linkedin.com/in/ayush-jaiswal
✉ E-mail: ayush.jaiswal@iitgn.ac.in
✉ E-mail: jaiswalapplication@gmail.com

Research Background

Algebraic Geometry

More specifically, I am studying parabolic bundles and d-holomorphic bundles on Klein surfaces. I have described gauge theoretic quotients of certain space of connections on parabolic bundles on Klein surface as embedded in real points of moduli of parabolic bundles on compact Riemann surface. Presently, I am studying some invariants associated to moduli spaces. I am also exploring Tropical geometry.

Education

2017–2023 | **Indian Institute of Technology, Gandhinagar(IITGn)**, India

- Ph.D. in Discipline of Mathematics, CPI: **7.94** – via 44 credits.
  - Thesis: *On d-holomorphic connections and gauge theoretic aspects of parabolic bundles over Klein surface*
- Advisor: Prof. Sanjaykumar Amrutiya.

2013–2015 | **Indian Institute of Technology, Kanpur(IITK)**, India.

- M.Sc., Mathematics. CPI: **7.2** – via 80 credits

Technical Skills

- *Programming Languages*: C, Python
- *Technical Softwares*: MATLAB, Git-hub, Latex

Research Interests

Algebraic Geometry

- Parabolic bundles
- d-holomorphic bundles

Selected Publications/Preprints

1. Sanjay Amrutiya, Ayush Jaiswal, "*On d-holomorphic connections*", arXiv preprint arXiv : 2208:04354; 2022.
2. Sanjay Amrutiya, Ayush Jaiswal, "*A gauge theoretic aspects of parabolic bundles over Klein surfaces*", arXiv preprint arXiv : 2202:06210; 2022.

Professional Achievements/Awards/Scholarships

2010–2011	Secured 2nd position(merit based) in during B.Sc.(IInd year)
2013	*Joint Admission Test for Masters(JAM)* organised by *Indian Institute of Technology, Delhi(IITD)*
2015	*Graduate Aptitude Test for Engineering(GATE)* organised by *Indian Institute of Technology, Kanpur(IITK)*
2016	*Graduate Aptitude Test for Engineering(GATE)* organised by *Indian Institute of Science, Bangalore(IISC)*
2015,2016	*Junior Research Fellow(JRF)* organised by *Council of Scientific and Industrial Research(CSIR)*

Workshops/ Conferences attended

10 Feb – 14 Feb, 2020	*Moduli of bundles and related structures* ICTS, Bangalore, India.
4 Mar – 15 Mar, 2019	Workshop *Characteristic classes and cobordism* IIT Bombay, Powai, Maharashtra, India.
24 June–13 July 2019	AIS(Advanced Instructional School) *Linear Algebraic Groups* IIT Bombay, Powai, Maharashtra, India.
2 January – 2 May, 2021	AIC(Advanced Instructioncal Course) *Commutative Algebra* online mode.
25 June – 14 July, 2018	AIS(Advanced Instructional School) *Basic Algebraic Geometry* IISER Pune, Pune, Maharashtra, India.

Delivered Talks/Poster Presentations

12 Dec – 16 Dec, 2022	On d-holomorphic connections(Talk) *Conference on Algebraic Geometry* Harish Chandra Research Institute, Prayagraj, India.
6 Feb – 11 Feb, 2023	On d-holomorphic connections(Poster presentation) *Vector bundles in Chennai* Department of mathematics, IIT Madras, Chennai, India.

Teaching Experience

Autumn 2017 – 2018	Teaching Fellow MA 101, Mathematics I(Real Analysis and Several Variable Calculus) at IIT Gandhinagar, Gujarat, India
Spring 2018 – 2019	Graduate Teaching Fellow MA 102, Mathematics II(Linear Algebra and Differential Equations) at IIT Gandhinagar, Gujarat, India
Autumn 2019 – 2020	Graduate Teaching Fellow MA 504, Linear Algebra at IIT Gandhinagar, Gujarat, India
Spring 2019 – 2020	Graduate Teaching Fellow MA 102, Mathematics II(Several Variable Calculus and Complex Analysis) at IIT Gandhinagar, Gujarat, India