

# Suvrajit Bhattacharjee, Postdoctoral fellow

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## Contact Information:

- Matematisk institutt  
Universitetet i Oslo  
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Norway.
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- <https://suvrajitbhattacharjee.github.io>

## Research Interests:

- Operator algebras, quantum groups and noncommutative geometry

## Education:

- Indian Statistical Institute, Kolkata  
Ph.D. in Mathematics, December, 2020  
Dissertation Topic: Quantum Symmetries in Noncommutative Geometry  
Advisor: Prof. Debashish Goswami
- Ramakrishna Mission Vivekananda University  
M.Sc. in Mathematics, June, 2015  
CGPA: 9.06
- University of Calcutta  
B.Sc. in Mathematics, June, 2013  
First-Class Honours

## Employment:

- Mathematics Institute, University of Oslo, Oslo, Norway,  
Postdoc,  
April, 2023 – present.
- Mathematical Institute of Charles University, Prague, Czech Republic,  
Postdoc,  
April, 2022 – March, 2023.
- Indian Institute of Science Education and Research, Kolkata, India,  
National Postdoctoral Fellowship, Science and Engineering Research Board, India,  
December, 2021 – February, 2022.

- Indian Statistical Institute, Kolkata, India,  
Visiting Scientist,  
January, 2021 – November, 2021.
- Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland,  
Adjunct Professor, (Postdoc),  
October, 2020 – September, 2022 (couldn't join due to travel restrictions caused by the pandemic).

### **Publications and Preprints:**

- with Forough, M., “Quasi-invariant lifts of completely positive maps for groupoid actions”, arXiv preprint math.OA/2405.07859, 2024.
- with Goswami, D., “Complex structures on Three-point space”, Proceedings of the International Conference on Infinite Dimensional Analysis, Quantum Probability and Related Topics, QP38, 2024.
- with Joardar, S., Roy, S., “Braided quantum symmetries of graph  $C^*$ -algebras”, Internat. J. Math., Vol. 35, 2024.
- with Joardar, S., “Equivariant  $C^*$ -correspondences and compact quantum group actions on Pimsner algebras”, To appear in Canadian Journal of Mathematics, 2024.
- with Anshu, Rahaman, A., Roy, S., “Anyonic quantum symmetries of finite spaces”, Lett. Math. Phys., Vol. 113, 2023.
- with Joardar, S., Mukhopadhyay, S., “Levi-Civita connections from toral actions”, J. Geom. Phys., Vol. 181, 2022.
- with Chirvasitu, A., Goswami, D., “Quantum Galois groups of subfactors”, Internat. J. Math., Vol. 33, 2022.
- with Biswas, I., Goswami, D., “Generalized symmetry in noncommutative (complex) geometry”, J. Geom. Phys., Vol. 166, 2021.
- with Goswami, D., “Hopf coactions on odd spheres”, J. Algebra, Vol. 539, 2019.

### **Honours and Awards:**

- Fall Semester 2023, Fields Institute Thematic Program in Operator Algebras, Postdoctoral Fellowship.
- 2021-2023, Science and Engineering Research Board, India, National Postdoctoral Fellowship.
- 2021-2023, National Board for Higher Mathematics, Postdoctoral Fellowship.
- 2021-2023, Indian Institute of Science Education and Research, Postdoctoral Fellowship.

- 2015–2020, Indian Statistical Institute, Ph.D. Fellowship.
- 2015–2020, National Board for Higher Mathematics, Ph.D. Scholarship.
- 2015–2020, Council of Scientific and Industrial Research, Ph.D. Scholarship.
- 2013–2015, National Board for Higher Mathematics, M.Sc. Scholarship.

**Talks:**

- Crystallization and K-theoretical aspects of the quantum twistor bundle, Noncommutativity behind the dunes, Delft University of Technology, Delft. (October, 2024)
- Braided quantum groups and their actions, Noncommutativity along the North sea in Odense, University of Southern Denmark, Odense. (August, 2024)
- Equivariant lifting problem for continuous fields of completely positive maps, Operator Algebra Seminar, University of Oslo, Oslo. (September, 2023)
- Equivariant lifting problem for continuous fields of completely positive maps, Quantum Groups and Noncommutative Geometry in Prague, Charles University, Prague. (September, 2023)
- (Equivariant) lifting problem for completely positive maps, Indian Statistical Institute, Kolkata. (July, 2023)
- Actions of compact quantum groups 2, NCG&T Malý Seminar, Prague. (November, 2022)
- Actions of compact quantum groups 1, NCG&T Malý Seminar, Prague. (November, 2022)
- An introduction to (braided) quantum groups, Inter IISER-NISER Math meet, Indian Institute of Science Education and Research, Kolkata. (June, 2022)
- Kasparov product and its properties, NCG&T Malý Seminar, Prague. (April, 2022)
- Braided quantum symmetries of graph  $C^*$ -algebras, NCG&T Seminar, Prague. (April, 2022)
- Kasparov modules and constructions, NCG&T Malý Seminar, Prague. (April, 2022)
- Braided quantum symmetries of graph  $C^*$ -algebras, Quantum Groups Seminar, Copenhagen. (March, 2022)
- Quantum Groups, Indian Institute of Science Education and Research, Kolkata. (February, 2020)
- Hopf Algebroids in Noncommutative Geometry, Noncommutative Geometry and Its Applications @ NISER, National Institute of Science Education and Research, Bhubaneswar. (January, 2020)

- Generalized Symmetry in Noncommutative Complex Geometry, Quantum flag manifolds, Charles University, Prague. (September, 2019)
- Hopf Algebroids, Graduate seminar, Indian Statistical Institute, Kolkata. (April, 2019)
- Quantum Symmetry, Graduate seminar, Indian Statistical Institute, Kolkata. (April, 2018)
- Hopf Coactions on Commutative Algebras, Graduate seminar, Indian Statistical Institute, Kolkata. (March, 2017)
- Algebraic Groups and Hopf Algebras, Graduate seminar, Indian Statistical Institute, Kolkata. (September, 2016)
- Infinite Galois Theory, Graduate seminar, Indian Statistical Institute, Kolkata. (January, 2016)

**Events:**

- Co-organizer of the workshop Geometry and Analysis of Quantum Groups 2023, University of Oslo, Oslo. (November, 2023)

**Workshops and Conferences Attended:**

- Noncommutativity along the North sea in Odense, University of Southern Denmark, Odense. (August, 2024)
- Noncommutativity in the North - MikaelFest, University of Gothenburg/Chalmers University of Technology, Gothenburg. (June, 2024)
- Point sets: Dynamics, Sampling, and Operator Algebras, University of Oslo, Oslo. (May, 2024)
- Quantum Groups and Noncommutative Geometry in Prague, Charles University, Prague. (September, 2023)
- Operator Algebras and Mathematical Physics (Yasu Festa 60), University of Tokyo, Tokyo. (July, 2023)
- Quantum Groups: Current Trends and New Perspectives, University of Oslo, Oslo. (December, 2022)
- Noncommutative Harmonic Analysis and Quantum Groups, Institute of Mathematics, Polish Academy of Sciences, Będlewo. (September, 2022)
- Noncommutative Geometry and Its Applications @ NISER, National Institute of Science Education and Research, Bhubaneswar. (January, 2020)
- KBS Fest, Indian Statistical Institute, Bangalore. (December, 2019)

- Quantum Flag Manifolds, Charles University, Prague. (September, 2019)
- Recent Advances in Operator Theory and Operator Algebras, Indian Statistical Institute, Bangalore. (December, 2018)
- International Conference on Non-commutative Geometry, S. N. Bose National Centre for Basic Sciences, Kolkata. (November, 2018)
- Conference on Quantum Groups and Non-commutative Geometry, National Institute of Science Education and Research, Bhubaneswar. (January, 2018)
- CIMPA Research School on Recent Trends in Non-commutative Algebras, Indian Institute of Science Education and Research, Pune. (June, 2017)

### **Academic Visits:**

- Prof. Debashish Goswami, Indian Statistical Institute, Kolkata, India. (July, 2023)
- Prof. Adam Skalski, Institute of Mathematics, Polish Academy of Sciences, Warsaw. (August, 2022)
- Dr. Réamonn Ó Buachalla, Mathematical Institute, Charles University, Prague. (March, 2022)
- Dr. Soumalya Joardar, Indian Institute of Science Education and Research, Kolkata. (February, 2020)
- Dr. Sutanu Roy, National Institute of Science Education and Research, Bhubaneswar. (April, 2018; November, 2019)
- Prof. Arup Pal, Indian Statistical Institute, Delhi. (January, 2018)
- Prof. Indranil Biswas, Tata Institute of Fundamental Research, Mumbai. (November, 2017)

### **Teaching Experience:**

- Fall 2019, Teaching Assistant, Riemannian Geometry.
- Fall 2018, Teaching Assistant, Linear Algebra.
- Spring 2018, Teaching Assistant, Lie Groups and Lie Algebras.

### **References:**

- Prof. Debashish Goswami, Stat Math Unit, Indian Statistical Institute, 203 B.T. Road, Kolkata - 700108, India, goswamid@isical.ac.in
- Prof. Sergey Neshveyev, Matematisk institutt, Universitetet i Oslo, P.O. Box 1053, Blindern, 0316 Oslo, Norway, sergeyn@math.uio.no

- Dr. Réamonn Ó Buachalla, Mathematical Institute, Charles University, Sokolovská 49/83, 18 675 Prague 8, Czech Republic, obuachalla@karlin.mff.cuni.cz
- Dr. Karen R. Strung, Institute of Mathematics, Czech Academy of Sciences, Žitná 25, 115 67 Prague 1, Czech Republic, strung@math.cas.cz