# CURRICULUM VITAE


## Arnab Mandal

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## Research Interests

Quantum groups, Operator algebras, Noncommutative Geometry, Finite group theory and Graph theory.

## Education

- Madhyamik in 2003 with 80.25% marks.
- Higher secondary in 2005 with 83.1% marks.
- Bachelor of mathematics from Ramakrishna Mission Vidyamandira, Belur Math, India with 68.75% marks in 2008.
- Masters of mathematics from Ramakrishna Mission Vidyamandira, Belur Math, India with 73.1% marks in 2010.
- Ph.D. from Indian Statistical Institute, Kolkata in 2017 under supervision of professor Debashish Goswami.

## Achievements and fellowships

- Secured rank 13 in B.Sc. Mathematics (honours), University of Calcutta in 2008.
- Secured rank 2 in M.Sc. Mathematics, RKMV University of Calcutta in 2010.
- Ph.D. fellowship from Indian Statistical Institute Kolkata in 2010.
- Ph.D fellowship from National Board of Higher Mathematics (NBHM) in 2010 (not availed).
- UGC-CSIR (NET) fellowship in Mathematical Sciences with Rank-39 in 2009, December (not availed).

- Qualified GATE in Mathematics with Rank-24 in 2010 (not availed).
- Postdoctoral fellowship from NISER, Bhubaneswar in 2017.
- NPDF from SERB in 2017 (01.09.17- 23.08.18).

## Published articles and preprints

1. **Arnab Mandal**, *Quantum isometry group of dual of finitely generated discrete groups-II*, Annales Mathematiques Blaise Pascal, 23 (2016), no.2, p-219-247.
2. Pavel Etingof, Debashish Goswami, **Arnab Mandal**, Chelsea Walton, *Hopf coactions on commutative algebras generated by a quadratically independent comodule*, Comm.Algebra, 45 (2017), no.8, 3410-3412.
3. Debashish Goswami, **Arnab Mandal**, *Quantum isometry group of dual of finitely generated discrete groups and quantum groups*, Rev.Math.Phys, 29 (2017), no.3, 1750008, 38pp.
4. Soumalya Joardar, **Arnab Mandal**, *Quantum symmetry of Graph C*- algebras associated with connected graphs*, Infinite Dimensional Analysis, Quantum Probability and Related Topics, 21 (2018), no.3, 1850019, 18pp.
5. **Arnab Mandal**, *Example of a group whose quantum isometry group does not depend on the generating set*, Glasgow Mathematical Journal, 61 (2019), no.1, 1-11.
6. Jyotishman Bhowmick, **Arnab Mandal**, Sutanu Roy, Adam Skalski, *Quantum symmetries of the twisted tensor products of C*-algebras*, Comm.Math.Phys, 368 (2019), no.3, 1051-1085.
7. Debashish Goswami, **Arnab Mandal**, *Quantum Isometry Group of Deformation: A counterexample*, Annales Mathematiques Blaise pascal 26 (2019), no 1, 55-65.
8. Soumalya Joardar, **Arnab Mandal**, *An example of explicit dependence of quantum symmetry on KMS states*, J. Ramanujan Math. Soc. 35 (2020), no.4, 299-306.
9. Soumalya Joardar, **Arnab Mandal**, *Quantum symmetry of Graph C*- algebra at critical inverse temperature*, Studia Math 256 (2021), no. 1, 1-20.
10. Angsuman Das, **Arnab Mandal**, *Classification of Cayley Rose Window Graphs*, Theory and Applications of Graphs, vol 8 (2021).

11. Soumalya Joardar, **Arnab Mandal**, *Invariance of KMS states on Graph C*-algebras under classical and quantum symmetry*, Proc. Edinb. Math. Soc. (2) 64 (2021), no. 4, 762–778.

12. Ujjal Karmakar, **Arnab Mandal**, *Rigidity on quantum symmetry for a certain class of graph C*-algebras*, J.Math.Phys 65 (2024), no.8, 17pp.

13. Ujjal Karmakar, **Arnab Mandal** *Quantum symmetries of graph C*-algebras having maximal permutational symmetry*, Internat.J.Math 36(2025), no.10, 23pp.

14. Angsuman Das, **Arnab Mandal**, *Solvability of a group based on its number of subgroups*, to appear in Comm.Algebra.

15. Angsuman Das, **Arnab Mandal**, *Groups in which prime order elements commute*, to appear in International Journal of Group Theory.

16. Ujjal Karmakar, **Arnab Mandal** *Quantum Automorphism Group of Direct Sum of Cuntz Algebras*, to appear in Studia Mathematica.

17. Angsuman Das, **Arnab Mandal**, *On Independence number of Comaximal subgroup graph*, submitted.

18. Angsuman Das, **Arnab Mandal**, Labani Sarkar, *The Difference Subgroup Graph of a Finite Group*, submitted.

19. Rajibul Haque, Ujjal Karmakar, **Arnab Mandal**, *Some results on Bichon's quantum automorphism group of graphs*, submitted.

## Workshop and Conferences attended

- Conference on operator algebras at ISI Kolkata in July-August, 2011.
- Lecture series on (easy) quantum groups by Moritz Weber at IMSC, Chennai (4.01.15-23.01.15).
- Workshop on noncommutative geometry- I at ISI Kolkata (10.08.15-21.08.15).
- Workshop on operator theory and complex geometry at ISI Kolkata (07.09.15-11.09.15).
- Workshop on noncommutative geometry- II at ISI Kolkata (26.10.15-30.10.15).
- Workshop on quantum groups at Institute of Mathematics Polish Academy of Sciences, Poland (14.11.16-18.11.16).

## Seminars

- Quantum isometry group of certain class of group algebras (24.07.13) at ISI, Kolkata.
- Quantum symmetry group of compact matrix quantum groups (04.08.14) at ISI, Kolkata.
- Linear coaction on finitely generated algebra preserving some non-degenerate bilinear form (12.10.15) at ISI, Kolkata.
- Spectral theorem for unbounded normal operators (04.03.16) at ISI, Kolkata.
- Quantum symmetries of dual of finitely generated discrete groups (21.10.16) at NISER, Bhubaneswar.

## Teaching Experience

- TA of M101 course at NISER (01.08.17-30.11.17).
- TA of M102 course at NISER (02.01.18- 30.04.18).
- I have taken the courses Real Analysis, General Topology, Functional Analysis, Linear Algebra, Group Theory and Ring Theory, Metric space, Operator Algebra and Stochastic Process at Presidency University till date.

## Research Guidance

Phd Students

- Ujjal Karmakar (thesis title: Various aspects of quantum symmetries of graph C*-algebras)
- Rajibul Haque ( tentative thesis title: Compact matrix quantum groups arising as quantum symmetries )
- Labani Sarkar [jointly with Dr. Angsuman Das] (tentative thesis title: On some graphs defined on groups)