

Renu Shekhawat

Stat-Math Unit, Indian Statistical Institute, 8th Mile, Mysore Road, RVCE Post, Bengaluru - 560 059
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Education

Indian Statistical Institute, Bangalore Centre

Philosophiae Doctorate in Mathematics
Supervisor : Dr. Soumyashant Nayak

Bengaluru, India
Jul 2019-present

University of Rajasthan

Master of Mathematics

Jaipur, India
Aug 2016 - Aug 2018

Sophia Girls' College

Bachelor of Mathematics

Ajmer, India
Jul 2013 - Jul 2016

Research Interests

Matrix analysis, Functional analysis, Operator algebras

Publications / Preprints

- S. Nayak, R. Shekhawat; *A stronger form of Yamamoto's theorem II : Spectral operators* (2024).
(accepted for publication in the Journal of Operator Theory, available at : <https://arxiv.org/abs/2410.16318>)
- S. Nayak, R Shekhawat; *On the Jordan-Chevalley-Dunford decomposition of operators in type I Murray-von Neumann algebras* (2025).
(submitted, available at : <https://arxiv.org/abs/2506.17227>).

Thesis

On the Jordan-Chevalley-Dunford Decomposition of Certain Classes of Operators and Convergence of Their Normalized Power Sequences. (Submitted June 2025).

Fellowships / Scholarships

Junior Research Fellowship

(Declined due to acceptance of the Institute fellowship at ISI)

- University Grants Commission, Government of India. Dec 2018
- Council of Scientific and Industrial Research, Department of Science and Technology, Jun 2017
Government of India.

Inspire Scholarship for Higher Education

Department of Science and Technology, Government of India.

Jul 2013 - Jul 2018

Teaching Assistant / Grader

• Real Analysis, B.math(I) - Semester I Instructor : Prof. B. V. Rajarama Bhat	Aug 2025 - Nov 2025
• Function spaces, B.math(III) - Semester I Instructor : Prof. Soumyashant Nayak	Aug 2023 - Nov 2023
• Complex Analysis, M.Math(I) - Semester II Instructor : Prof. Ramesh Sreekantan	Jan 2022 - May 2022
• Complex Analysis, B.Math(III) - Semester I Instructor : Prof. Mathew Joseph	Sep 2021 - Dec 2021

Conferences / Workshops Attended

• Young Mathematicians in C^* Algebras (YMC* A) 2025 University of Southern Denmark (SDU), Odense	Odense, Denmark Jul 21 - 25, 2025
• International Workshop on Operator Theory and its Applications (IWOTA) 2025 University of Twente, Enschede	Enschede, Netherlands Jul 14 - 18, 2025
• 20th Workshop: Noncommutative Probability, Operator Algebras and Related Topics, with Applications Research and Conference Centre of the Institute of Mathematics of the Polish Academy of Sciences, Będlewo	Będlewo, Poland Jul 6 - 12, 2025
• Young Mathematicians in Operator Algebras Indian Statistical Institute, Delhi Centre	Delhi, India Mar 24 – 28, 2025
• Conference on Operator Algebra and Related Topics (COART) Indian Institute of Technology, Bombay	Mumbai, India Feb 24 – 29, 2025
• Noncommutative Mathematics and Applications (NCMA) Indian Statistical Institute, Bangalore Centre	Bengaluru, India Oct 24 – 26, 2024
• Young Mathematicians in Operator Algebras Indian Statistical Institute, Delhi Centre	Delhi, India Feb 26 – Mar 02, 2024
• International Conference on Spectral and Approximation Theory (ICSAT) Cochin University of Science and Technology, Kerala	Kochi, India Nov 27 – 30, 2023
• Conference on Functional Analysis and Related Topics (CFART) Indian Institute of Technology, Bombay	Mumbai, India Feb 21 – 25, 2023
• IWM (Indian Women and Mathematics) Annual Conference Indian Institute of Science Education and Research, Pune	Pune, India Dec 27 - 29, 2022

- **Indo-French Centre for Applied Mathematics (IFCAM)**

Summer School on Mathematical Aspects of Quantum Mechanics
Indian Institute of Science, Bengaluru

Bengaluru, India
Jun 01 – 12, 2022

Talks

- **Invited Talks :**

- *A spatial form of Yamamoto's theorem for spectral operators*
Analysis and Probability Research Group (APRG) Seminar,
Indian Institute of Science, Bengaluru Sep 22, 2025

- **Contributed Talks :**

- *A stronger form of Yamamoto's theorem on singular values*
IWOTA 2025, University of Twente, Enschede Jul 18, 2025
- *Jordan-Chevalley-Dunford decomposition in Type I Murray-von Neumann algebras*
20th Workshop: Noncommutative Probability, Operator Algebras and Related Topics,
with Applications, Będlewo Jul 10, 2025
- *Convergence of the normalized power sequence for spectral operators*
COART, Indian Institute of Technology, Bombay Feb 27, 2025
- *On Matrices over $C(X)$ for X a Stonean space*
ICSAT, Cochin University of Science and Technology, Kerala Nov 27, 2023

- **Seminar Talks :**

- *An elementary computational approach to the Jordan-Chevalley decomposition
and the Jordan canonical form.*
PDF - RS Annual Symposium, Indian Statistical Institute, Bangalore Centre Jan 31, 2025
- *Convergence of the normalized power sequence for spectral operators*
QP - Day at ISI, Indian Statistical Institute, Bangalore Centre Jan 15, 2025