Renu Shekhawat

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

rs_math1904@isibang.ac.in

Education

Indian Statistical Institute, Bangalore Centre   Bengaluru, India
Philosophiae Doctorate in Mathematics   Jul 2019-present
Supervisor : Dr. Soumyashant Nayak

University of Rajasthan   Jaipur, India
Master of Mathematics   Aug 2016 - Aug 2018

Sophia Girls' College   Ajmer, India
Bachelor of Mathematics   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).

  (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).

  (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 on June 25, 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

- Real Ananlysis, B.math(I) - Semester I   Aug 2025 - Nov 2025
  Instructor : Prof. B. V. Rajarama Bhat

- Function spaces, B.math(III) - Semester I   Aug 2023 - Nov 2023
  Instructor : Prof. Soumyashant Nayak

- Complex Analysis, M.Math(I) - Semester II   Jan 2022 - May 2022
  Instructor : Prof. Ramesh Sreekantan

- Complex Analysis, B.Math(III) - Semester I   Sep 2021 - Dec 2021
  Instructor : Prof. Mathew Joseph

Conferences / Workshops Attended

- **Young Mathematicians in C^* Algebras (YMC^*A) 2025**   Odense, Denmark
  University of Southern Denmark (SDU), Odense   Jul 21 - 25, 2025

- **International Workshop on Operator Theory and its Applications
  (IWOTA) 2025**   Enschede, Netherlands
  University of Twente, Enschede   Jul 14 - 18, 2025

- **20th Workshop: Noncommutative Probability, Operator Algebras
  and Related Topics, with Applications**   Będlewo, Poland
  Research and Conference Centre of the Institute of Mathematics of the Polish
  Academy of Sciences, Będlewo   Jul 6 - 12, 2025

- **Young Mathematicians in Operator Algebras**   Delhi, India
  Indian Statistical Institute, Delhi Centre   Mar 24 – 28, 2025

- **Conference on Operator Algebra and Related Topics (COART)**   Mumbai, India
  Indian Institute of Technology, Bombay   Feb 24 – 29, 2025

- **Noncommutative Mathematics and Applications (NCMA)**   Bengaluru, India
  Indian Statistical Institute, Bangalore Centre   Oct 24 – 26, 2024

- **Young Mathematicians in Operator Algebras**   Delhi, India
  Indian Statistical Institute, Delhi Centre   Feb 26 – Mar 02, 2024

- **International Conference on Spectral and Approximation Theory
  (ICSAT)**   Kochi, India
  Cochin University of Science and Technology, Kerala   Nov 27 – 30, 2023

- **Conference on Functional Analysis and Related Topics (CFART)**   Mumbai, India
  Indian Institute of Technology, Bombay   Feb 21 – 25, 2023

- **IWM (Indian Women and Mathematics) Annual Conference**   Pune, India
  Indian Institute of Science Education and Research, Pune   Dec 27 - 29, 2022

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

  Summer School on Mathematical Aspects of Quantum Mechanics   Bengaluru, India

  Indian Institute of Science, Bengaluru   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