



Soumyashant Nayak

soumyashant@gmail.com

WORK

Assistant Professor in Stat-Math Unit, **Indian Statistical Institute**, Bangalore Centre. Jul 2020 – Present

Postdoc (Bioinformatics), Perelman School of Medicine, **University of Pennsylvania**. Sep 2016 – Jun 2020

EDUCATION

PhD (Mathematics), **University of Pennsylvania**. Aug 2011 – Aug 2016

B. Math. (Hons.), **ISI Bangalore**. Jul 2008 – May 2011

SELECTED PUBLICATIONS IN MATHEMATICS

1. *Algebraic aspects and functoriality of the set of affiliated operators* I Ghosh, **S Nayak**
International Mathematics Research Notices, Volume 2024, Issue 21 (2024), 13525–13562.
2. *A stronger form of Yamamoto's theorem on singular values* **S Nayak**
Linear Algebra and its Applications, Volume 679 (2023), 231–245.
3. *The Hadamard determinant inequality - Extensions to operators on a Hilbert space* **S Nayak**
Journal of Functional Analysis 274 (2018), no. 10, 2978–3002.

OTHER SELECTED PUBLICATIONS (APPLIED STATISTICS/MATHEMATICS)

1. *Self-cleaning formulations of mixed metal oxide-silver micro-nano structures with spiky coronae as antimicrobial coatings for fabrics and surfaces*, Ramya P. B., B. M. Shenoy, M. Verma, **S. Nayak**, G. Hegde, N. S. John;
Materials Advances, Volume 5, Issue 10, 2024, Pages 4293–4310, ISSN 2633–5409.
2. *Comparative evaluation of full-length isoform quantification from RNA-Seq*, D. Sarantopoulou, T. G. Brooks, **S. Nayak**, A. Mrcela, N. F. Lahens, G. R. Grant; BMC Bioinformatics (2021) May 25;22(1):266.
3. *Circadian control of lung inflammation in influenza infection*, S. Sengupta, S. Y. Tang, J. Devine, **S. Nayak**, S. Zhang, A. Valenzuela, C. B. Lopez, G. R. Grant, G. A. FitzGerald; Nature Communications 10, 4107 (2019).

HONORS AND AWARDS

Startup Research Grant, Awarded by Science and Engineering Research Board (SERB), Govt. of India 2021
Ramanujan Fellowship, Awarded by SERB, Govt. of India 2019
KVPY Fellowship, Awarded to 200 students by Dept. of Science & Technology, Govt. of India 2006–2011
1st International Olympiad on Astronomy and Astrophysics, Gold Medal 2008
X-XI International Astronomy Olympiad, Silver Medal, Bronze Medal, respectively 2006, '07
Indian National Mathematical Olympiad, Selected among top 30 students countrywide 2006, '07, '08
Indian National Astronomy Olympiad, Selected among top 30 students countrywide 2004, '05, '06, '07, '08
National Child Award for Exceptional Achievement, Awarded by Department of Women & Child Development, Govt. of India 2007

OTHERS

Supervised two PhD theses in mathematics at ISI, Bangalore. submitted May-June 2025
Invited expert for workshop organized by Central Institute of Indian Languages (CIIL), Mysuru, on translation of the undergraduate mathematics textbook, *Principles of Mathematical Analysis* by W. Rudin, into the Odia language under the **National Translation Mission** . 19-25 May, 2025
Selected among top three teams (as part of a team of four members) and awarded \$5000.00 for customer discovery in the Penn I-Corps workshop for testing and validation of our startup idea on AI-based analysis of dental radiological data. Dec, 2017