

# SUBIN PULARI

Email: [spulari@hse.ru](mailto:spulari@hse.ru) ◊ Alternate Email: [gsubing@gmail.com](mailto:gsubing@gmail.com)

Age: 29 ◊ Homepage: <https://pularisubin.github.io/> ORCiD: <https://orcid.org/0000-0001-8426-4326>

## PROFESSIONAL EXPERIENCE

---

### Assistant Professor

Faculty of Computer Science, HSE University, Moscow

*September 2025 - Present*

### CNRS Postdoctoral Researcher

LabRI, Université de Bordeaux

*October 2024 - September 2025*

### Senior Project Associate

Department of Computer Science and Engineering, Indian Institute of Technology Kanpur

*June 2024 - September 2024*

## EDUCATION

---

### Indian Institute of Technology Kanpur

*July 2018 - June 2024*

Ph.D. & Master of Technology (M.Tech) in Computer Science and Engineering

CPI: 10/10

Department of Computer Science and Engineering

Advisors: Dr.Satyadev Nandakumar and Dr.Sunil Simon

### National Institute of Technology Calicut

*July 2014 - May 2018*

Bachelor of Technology (B.Tech) in Computer Science and Engineering

CGPA: 9.53/10

Department of Computer Science and Engineering

## RESEARCH INTERESTS

---

- Algorithmic Information Theory.
- Computational Complexity Theory.
- Meta-complexity and Pseudorandomness.
- Computability and Complexity in Analysis.
- Ergodic Theory and Symbolic Dynamical Systems.
- Effective Fractal Dimension and Finite-State Dimension.

## PUBLICATIONS

---

1. **The Agafonov and Schnorr-Stimm theorems for probabilistic automata** (with Laurent Bienvenu and Hugo Gimbert), *45th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2025)*, Goa, India (To Appear)
2. **Real numbers equally compressible in every base**, (with Satyadev Nandakumar), *ACM Transactions on Computation Theory*, 2025, Volume 17, Issue 3, Article No.: 16, Pages 1 - 28.
3. **Point-to-set Principle and Constructive Dimension Faithfulness** (with Satyadev Nandakumar and Akhil S), *49th International Symposium on Mathematical Foundations of Computer Science (MFCS) 2024*, Bratislava, Slovakia.
4. **Finite-state relative dimension, dimensions of A. P. subsequences and a finite-state van Lambalgen's theorem** (with Satyadev Nandakumar and Akhil S), *Information and Computation*, Volume 298, June 2024, 105156.

5. **A Weyl Criterion for Finite-State Dimension and Applications** (with Jack H. Lutz and Satyadev Nandakumar), *48th International Symposium on Mathematical Foundations of Computer Science (MFCS) 2023 , Bordeaux, France.*
6. **Real numbers equally compressible in every base**, (with Satyadev Nandakumar), *40th International Symposium on Theoretical Aspects of Computer Science (STACS) 2023, Hamburg, Germany, 2023 (Invited to the STACS special issue of ACM Transactions on Computation Theory).*
7. **Finite-State Relative Dimension and the Dimensions of AP Subsequences**, (with Satyadev Nandakumar and Akhil S), *The 17th Annual Conference on Theory and Applications of Models of Computation (TAMC) 2022, Tianjin, China.*
8. **Ergodic Theorems and Converges for PSPACE Functions**,(with Satyadev Nandakumar), *Theory of Computing Systems (2022).*
9. **Ergodic Theorems for PSPACE functions and their converses**, (with Satyadev Nandakumar), *46th International Symposium on the Mathematical Foundations of Computer Science (MFCS) 2021, Tallinn, Estonia.*
10. **An analogue of Pillai's theorem for continued fraction normality and an application to subsequences** (with Satyadev Nandakumar, Prateek Vishnoi and Gopal Viswanathan), *Bulletin of the London Mathematical Society, Volume 53, Issue 5, October 2021, Pages 1414-1428.*

## PREPRINTS

---

1. **One-Way Functions and Polynomial Time Dimension** (with Satyadev Nandakumar, Akhil S and Suronjona Sarma), *ArXiv : <https://arxiv.org/abs/2411.02392>.*

## RESEARCH VISITS

---

- |   |                      |
|---|----------------------|
| <b>Tata Institute of Fundamental Research, Mumbai</b><br><i>Visiting Students' Research Programme (VSRP 2018)</i>           | May 2018 - July 2018 |
| · Research supervised by Dr.Piyush Srivastava, Reader, School of Technology and Computer Science, TIFR, Mumbai.             |                      |
| <br><b>Indian Institute of Technology Kanpur</b><br><i>Students-Undergraduate Research Graduate Excellence (SURGE 2017)</i> | May 2017 - July 2017 |
| · Research supervised by Dr.Satyadev Nandakumar, Associate Professor, CSED, IITK.   |                      |

## WORKSHOPS ATTENDED

---

- |  |              |
|--|--------------|
| <b>IMS Graduate Summer School in Logic</b>   | July 2022    |
| · Summer School in Mathematical Logic at Institute of Mathematical Sciences (IMS), National University of Singapore. |              |
| <br><b>CSA50 - Pratiksha Trust Workshop on Theoretical Computer Science</b>  | January 2019 |
| · Venue: Indian Institute of Science, Bangalore, India   |              |

## TEACHING EXPERIENCE

---

- |   |            |
|---|------------|
| <b>Graduate Teaching Assistantship</b>                | IIT Kanpur |
| · Principles of Programming Languages (2018 and 2019) |            |
| · Computer Organization (2018)                        |            |

- Algorithmic Information Theory (2019)
- Theory of Computation (2020)
- Mathematics for Computer Science (2020 and 2021)
- Computational Complexity (2021)
- Quantum Computing (2022)

## INVITED TALKS

---

1. **Automates Seminar, Institut de Recherche en Informatique Fondamentale (IRIF), Paris (17 January 2025)**, *On the Compressibility of Real Numbers: New insights using exponential sums.*
2. **Logic Seminar, Department of Mathematics, National University of Singapore (5 March 2025)**, *On the Compressibility of Real Numbers: New insights using exponential sums*
3. **Séminaire Algorithmique, Groupe de recherche en informatique, image et instrumentation de Caen (GREYC), Caen (11 March 2025)**, *A Duality Between One-Way Functions and Non-Robustness of Polynomial Time Dimension*

## SEMINAR AND CONFERENCE TALKS

---

1. **On the Compressibility of Real Numbers: Certain insights using Fourier analytic methods**, *M2F Seminar, LaBRI, Université de Bordeaux (12 November 2024)*.
2. **A Weyl Criterion for Finite-State Dimension and Applications**, *48th International Symposium on Mathematical Foundations of Computer Science (MFCS) 2023, Bordeaux, France (August 29 2023)*.
3. **Real numbers equally compressible in every base**, *40th International Symposium on Theoretical Aspects of Computer Science (STACS) 2023, Hamburg, Germany, (March 9 2023)*.

## REPORTS / DISSERTATIONS

---

### **On resource bounded ergodic theorems and the utility of exponential sums in Algorithmic Information Theory**

*PhD Thesis (IIT Kanpur)*

- Supervised by Dr. Satyadev Nandakumar and Dr. Sunil Simon

### **On certain applications of Fourier Analysis in the theory of Finite-State Dimension**

*MTech Thesis (IIT Kanpur)*

- Supervised by Dr. Satyadev Nandakumar and Dr. Sunil Simon

### **On Finite State Ergodic Markov Chains**

*B.Tech Major Project (NIT Calicut)*

- Supervised by Dr. K. Murali Krishnan

## ACADEMIC HONORS AND AWARDS

---

- Gold Medal for the highest CGPA in Bachelor of Technology (B.Tech) Computer Science and Engineering 2018, National Institute of Technology Calicut.
- Best Student Project Award 2018 by Tata Consultancy Services Limited (TCS) for the B.Tech project titled *On Finite State Ergodic Markov Chains*.

- Best Project Award in B.Tech Computer Science and Engineering 2018 by C.R.E.C. Parent Teacher Association, National Institute of Technology Calicut for the B.Tech project titled *On Finite State Ergodic Markov Chains*.

## OTHER PROFESSIONAL SERVICES

---

- Conferences refereed - Computability in Europe (CiE)

## REFERENCES

---

Available upon request.