

Aarathi Parameswaran

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Education

Indiana University <i>Ph.D. in Informatics, Luddy School of Informatics, Computing and Engineering</i> Specialization: Complex Networks and Systems	Bloomington, Indiana 2025–present
University of Bonn <i>M.Sc. in Physics, Bonn-Cologne Graduate School of Physics and Astronomy</i> Specialization: Theoretical and Experimental Physics, Network Science Relevant coursework: Advanced Quantum Theory, Particle Physics, Statistical Data Analysis, Complex Networks and Energy Grids, Quantum Computing, Quantum Optics, Theoretical Neuroscience, Energy Production.	Bonn, Germany 2022–2025
Azim Premji University <i>B.Sc. (Hons) in Physics, School of Arts and Sciences</i> Specialization: Nonlinear Dynamics Minor: Media and Democracy Relevant coursework: Advanced Mechanics, Quantum Mechanics, Nonlinear Dynamics, Solid State Physics, Optics, Thermodynamics, Computing in Physics, Political Philosophy, Media Studies.	Bangalore, India 2019–2022

Experience

Forschungszentrum Jülich and University of Cologne <i>Master's Thesis</i> Topic: Structural Transitions in Optimal Networks. Supervisor: Prof. Dirk Witthaut. Group: Network Science Group (Cologne) and Energy Networks and Complex Systems (FZ Jülich).	Cologne, Germany 2024–2025
Institute for Applied Physics, University of Bonn <i>Graduate Assistant</i> Nonlinear Quantum Optics group. Supervisor: Prof. Sebastian Hofferberth.	Bonn, Germany 2023–2024
Azim Premji University <i>Bachelor Thesis</i> Topic: Investigating Taylor-Couette Flow. Supervisor: Dr. Kaustubh Manchanda.	Bangalore, India 2021–2022

Workshops & Schools

Complexity Science Winter School <i>Complexity Science Hub</i> Project: Impact of Internet Shutdowns on Collective Action in Conflict Regions.	Vienna, Austria February 2025
Complexity72h Workshop <i>Universidad Carlos III de Madrid</i> Project: Metro Networks Efficiency using Max-Plus Algebra. Supervisor: Dr. Ebrahim Patel.	Madrid, Spain June 2024
Spring College on the Physics of Complex Systems <i>International Center for Theoretical Physics</i> Courses: Courses: Statistical Mechanics of Random Matrices, Thermodynamics of Information, Collective Dynamics, RNA Physics.	Trieste, Italy February 2024

Introductory Summer School on Astronomy and Astrophysics
Inter-University Centre for Astronomy and Astrophysics

Pune, India
May 2022

Gravitational Waves Data Analysis Workshop
International Center for Theoretical Sciences

Bangalore, India
May 2022

Conferences and Talks:

NetSci Conference

Maastricht, Netherlands

Contributed Talk

June 2025

Presentation: Symmetry Breaking in Minimum Dissipation Networks

Infosys Science Foundation

Bangalore, India

Invited Talk

July 2022

Awards & Honors

2025: Associate Instructor Fellowship, Luddy School of Informatics, Computing and Engineering

2025: Summer Fellowship, Luddy School of Informatics, Computing and Engineering

2025: Lagrange Fellowship (declined), ISI Foundation, Turin.

2022: International Max Planck Research Scholarship (declined), MPI for Solid State Physics, Stuttgart.

2022: Honor's Degree, Azim Premji University, Bangalore

Skills

Programming: Python, Mathematica, MATLAB, R

Libraries: NetworkX, NumPy, SciPy, pandas, Qiskit, seaborn, sklearn, iminuit

Typesetting: \LaTeX

Other Achievements and Interests

Student Council: BCGS (2023), Azim Premji University (2019–2021).

Interests: Football (soccer), Reading, Running, Music Instrumentalist, Philosophy of Science, Linguistics.