Dr. Ninad Joshi

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Interests

I am a Physicist, currently working in the field of High Performance Computing for simulation of plasma inside ion thrusters. My research interests lie in plasma physics along with dynamics of complex systems, self-organisation and its applications in other fields such as fluid dynamics.

Education

Aug. 25, 2009 Dr. phil. nat. — J.W. Goethe University
Investigations on Transport and Storage of High Ion Beam Intensities

Aug. 06, 2004 M.Sc. Physics — IIT Bombay
Frequency Resolved Optical Gating

Dec. 27, 2001 B.Sc. Physics — University of Mumbai

Publications (selected)

2024 Particle-in-Cell simulation of radio-frequency ion thruster RIT-1.0
2023 Fluid-Kinetic-Hybrid Simulation for Ion Thruster using Polymorphic Particles
2019 Experiments with low energy ion beam transport into toroidal magnetic fields
2018 Machine learning for analysis of plasma driven Ion source
2013 Traveling wave ion transport for the cyclotron gas stopper
2009 Characterization of volume type ion source for p, H_2^+, H_3^+ beams

Experience (brief)

2019 - Justus-Liebig-Universität Gießen — Jr. Research Group Leader
Institut für Theoretische Physik
Project in the field of Ion thrusters
Plasma modelling with High Performance Computing

2016 Frankfurt Institute for Advanced Studies — Postdoc Researcher
Self-organization and pattern formation,
Predictive Analysis, Time-Series Algorithms
Machine Learning, Neural Networks

2011 Michigan State University — Research Associate
Project in the field of Radioactive Ion Beams

2004 Goethe University, — Research Associate
Projects in the field of Accelerators
and Plasma Physics culminating into Doctoral thesis

Teaching

2023 - Künstliche Intelligenz I & II — Tutor
Justus-Liebig-Universität Gießen

2022 Theoretische Physik I - Mechanik und Quanten Mechanik — Tutor
Justus-Liebig-Universität Gießen

2022 Theoretische Plasmaphysik — Lecturer
Justus-Liebig-Universität Gießen

2021 Grundlagen der Plasmaphysik — Lecturer
Justus-Liebig-Universität Gießen

2019 Proseminar - Ordnungsphänomene in Physik und Gehirn — Lecturer
Goethe Universität

2005-2009 Practical Course-
Introduction Physics experiments: Electricity — Tutor
J. W. Goethe Universität

Volunteer work

Active member of Freiwillige Feuerwehr Erzhausen since 2019. Promoted to Hauptfeuerwehrmann in 2022 after completion of "Truppführer" training.