Dr. Nandini Yadava (Physicist/Scientist)
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Present Status:

Postdoctoral researcher [2023-present]	Oak Ridge Associated Universities, Tennessee, USA DIII-D National Fusion Facility, San Diego, USA Currently working on a technique to characterize the detached plasma through quantification of plasma-atomic and plasma-molecular contributions in particle, power and momentum balance. This utilizes several existing visible diagnostics of DIII-D along with extensive computational analysis based on a Bayesian inference technique.

Ph. D. Thesis title:

"Spectroscopic Investigation of Neutrals and Impurity Dynamics in the Edge Region of Aditya-U Tokamak" [1]

Work Experience:

Ph. D. (Physics)	[2020-2023] Institute of Science, Nirma University, Ahmedabad, Gujarat, India
Senior Research Fellow	[2021-2022] Senior Research Fellow, Indian Institute of Technology, Kanpur, UP, India
Junior Research Fellow	[2018-2021] Junior Research Fellow, The National Institute of Engineering, Karnataka, India
Research Scholar	[2016-2018] Research Scholar, Gujarat University, Ahmedabad, Gujarat, India
Scientific Assistant	[2015-2016] Scientific Assistant, Institute for Plasma Research, Gandhinagar, India

Academic qualifications:

Master of Science (Physics)	[2013-2015] Gujarat University, India 1st Rank (80.3 %) [2]
Bachelor of Science (Physics)	[2010-2013] Gujarat University, India 2nd Rank (79.23 %) [3]

Awards/ achievements:

2024	US-DOE Experiment Award[4]
2022	Buti Young Scientist Award[5] (presented thesis work)
2021	PSSI - Z. H. Sholapurwala Award for Fusion Research[6]
2018	PSSI visiting student fellowship [November 2017 to March 2018]
2017	PSSI poster award
2016	Selected for the DST-INSPIRE Fellowship.

Scientific contributions (66)

Peer reviewed publications (30)	Conference proceedings (International-12)
Papers in preparation (3)	Presentations: Oral (7), Poster (16)

1. **Nandini Yadava,** et al. Plasma and Fusion Research 17 (2022), 2401095-2401095.
2. **Nandini Yadava**, et al. Plasma and Fusion Research, 16 (2021), 2402055-2402055.
3. **Nandini Yadava**, et al. Atoms 7, no. 3 (2019): 87.
4. **Nandini Yadava**, et al. Nuclear Fusion 59 (2019), no 10, 106003.

Planned contributions:

5. **APS-DPP 2025 oral presentation (18th November 2025):**
   Understanding Detachment Processes in DIII-D via Bayesian Analysis of Balmer Emissions
6. **Under review:**
   Assessment of DIII-D plasma with Balmer analysis technique to quantify plasma detachment, **N. Yadava,** et al.

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[1] Research work was carried out at the Institute for Plasma Research, Gandhinagar, Gujarat, India during 2015 to 2023 under different fellowship and institutional support.
[2] Project title: "Variable regulated power supply using IC LM317"
[3] Project title: "Op-amp IC tester with dual 12V DC power supply" and "Sensitive Alarm system for LPG Leakage and smoke detection"
[4] Proposed experiment: Validation of edge fluid codes for degree of detachment of the high-field side divertor + Quantification of Plasma-Molecular Interaction Effects on Divertor Detachment in L-mode and H-mode.
[5] Oral presentation: Understanding the Physical Processes Prevailing in the Edge Plasma Region of ADITYA-U Tokamak using Spectroscopic Measurements more details: https://www.pssi.in/documents/buti_young_scientist_award.html
[6] Presented work: Impurity Transport in Aditya-U Tokamak with Indigenously Developed Semi-Implicit Impurity Transport Code