Dr. Nandini Yadava (Physicist/Scientist)
San Diego, CA, USA
(M) +1-858-717-4976 (USA) nandini7754@gmail.com
ORCiD: 0000-0001-5522-2450

Summary:

Dynamic plasma physicist (Ph.D., Physics) with 7+ years of experience in tokamak plasma research and currently working as a postdoc at the DIII-D National Fusion Facility. I specialize in experimental spectroscopy along with interpretive modeling to understand important aspects of plasma physics. Experienced in installing and operating several spectroscopic diagnostics at ADITYA-U, including visible, VUV diagnostics. Current expertise includes experience with Python-based packages for analysis and visualization, utilizing a Bayesian inference workflow for Balmer emissions in power and particle balance studies. Good knowledge of divertor detachment physics, plasma-neutral interactions, Balmer-series spectroscopy, and atomic–molecular modeling. Led detachment experiments at DIII-D. Built Python/IDL tools, including an interactive spectral-analysis GUI. Capable of working on low-Z to high-Z impurity ions and neutrals with expertise in experimental diagnostics, data-driven insight, and polished visuals for fusion devices.

Key expertise: Spectroscopy, Atomic & Molecular physics, Plasma physics, Divertor detachment, Neutrals, low-Z and high-Z impurities, Particle balance studies, Plasma-neutral interaction, Bayesian inference, Python

Work Experience:

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 using existing atomic and molecular database (ADAS/AMJUL/YACORA). - Active collaborations with multiple institutions. - Hands-on experience with high-performance computing clusters. - Proficient in running modeling codes on SLURM-based systems. - Involved in scientific outreach activities. - Spectrometers working with: VUV-SPRED (Survey, Poor Resolution and Extended Domain), Visible-WiSE (Wise Spectral Emission) - Python, IDL, MATLAB and OMFIT.
Ph. D. (Physics) [2020-2023]	Institute of Science, Nirma University, Ahmedabad, Gujarat, India. Thesis title: "Spectroscopic Investigation of Neutrals and Impurity Dynamics in the Edge Region of Aditya-U Tokamak" [1]
Senior Research Fellow [2021-2022]	Indian Institute of Technology (IIT), Kanpur, Uttar Pradesh
Junior Research Fellow [2018-2021]	The National Institute of Engineering, Mysuru, Karnataka
Research Scholar [2016-2018]	Gujarat University, Ahmedabad, Gujarat
Scientific Assistant [2015-2016]	Institute for Plasma Research, Gandhinagar

[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.

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Academic qualifications:

Master of Science (Physics) [2013-2015]	School of Science, Gujarat University, India 1st Rank (80.3 %) Project title: "Variable regulated power supply using IC LM317"
Bachelor of Science (Physics) [2010-2013]	C. U. Shah Science College, Gujarat University, India 2nd Rank (79.23 %) from. Project title: "Op-amp IC tester with dual 12V DC power supply" and "Sensitive Alarm system for LPG Leakage and smoke detection"

Awards/ achievements:

2024	US-DOE Experiment Award[2]
2022	Buti Young Scientist Award[3]
2021	PSSI - Z. H. Sholapurwala Award for Fusion Research
2018	PSSI visiting student fellowship [November 2017 to March 2018]
2017	PSSI poster award
2016	Selected for the DST-INSPIRE Fellowship.

Key skills:

Languages & Environments	Python (NumPy, Pandas, SciPy, Matplotlib) MATLAB IDL Linux & Windows
Spectroscopy & Modeling	Line-shape modeling (Doppler/Stark/Zeeman) FWHM estimates continuum/opacity (self-absorption) analysis Robust peak detection & fitting (custom routines)
Inference & UQ	Bayesian inference (adaptive grids)
Visualization & GUIs	Production-grade plotting (Matplotlib) Interactive spectral-analysis GUI (sliders, range controls, overlays) Decision-grade figures for papers/talks
Plasma and Atomic Molecular Physics Tools	OMFIT CHERAB; OpenADAS; UEDGE (edge modeling); DEGAS2 (neutral transport) SITA (in-house impurity transport)
Instrumentation - Spectroscopy	Spectrometers : Visible, UV, VUV, NIR Detectors :Photomultiplier tubes; CCD/ICCD/CMOS cameras; photodiodes Optics : Interference & neutral-density filters; optical fibers; lenses; mirrors; gratings; translation stages
Vacuum & Gas Handling	Turbo-molecular, diffusion, and rotary pumps; Pirani/Penning/ionization gauges; leak detector; mass-flow meters/controllers
Electronics & DAQ	Pre-amps/amps; function/signal generators; oscilloscopes
Misc.	Langmuir probe setup/operation

[2] 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.
[3] Details: https://www.pssi.in/documents/buti_young_scientist_award.html

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Experimental (Tokamak & Linear Devices)

- **Tokamak devices: DIII-D, ADITYA-U and SST-1**
- ADITYA-U/SST-1:
  - Poloidal asymmetry measurement in neutral temperatures.
  - Plasma recycling and wall-conditioning studies.
  - Neutral and impurity transport modelling.
  - Integrated and maintained visible, NIR, and VUV spectrometers for in-situ measurements.
- DIII-D
  - Experienced in handling VUV/visible (SPRED and WiSE) spectrometer at DIII-D.
  - Open questions for NT divertor design: field direction, closure and pumping.
  - Extend detachment models to minimal baffling case: XPR stability and leg length dependence.
  - Characterizing the role of neutrals on edge and divertor conditions.
  - Helium exhaust studies at DIII-D utilizing new experimental diagnostics.
  - Characterization of the SOL in various scenarios using the Helium Beam at the DIII-D Helicon Antenna.
  - The role of SOL flows and recycling in neutral fueling asymmetries and the impact on pedestal performance.
- Linear device:
  - Experiment to understand rotational and vibrational temperature variations on different plasmas (RF-plasma linear devices and the Plasma Wind Tunnel).

Physics studies:

Detachment quantification

- Designed an experiment to have a density scan for understanding the degree of detachment.
- For different Greenwald fraction densities lower divertor profile is compared for Atomic and Molecular physics.
- Designed plasma detachment quantification experiment for code validation.

Edge-Plasma Diagnostics & Analysis

- Estimated neutral and impurity ion temperatures via Doppler and Zeeman broadening; assessed plasma opacity (self-absorption).
- Designed, executed, and analyzed gas-puff (Ar/Ne/H) and pellet-injection experiments for edge-region characterization.

Recycling, Particle Balance & Influx

- Quantified effects of plasma-facing components on neutral/impurity influx, recycling, and overall particle balance.
- Evaluated lithiumization and GDC impacts using quantitative particle-balance methodologies.

Neutral & Impurity Transport Modeling

- Simulated transport with DEGAS2 and in-house SITA (Study of Impurity Transport in ADITYA-U) code. (O, C, Ne, Ar and Fe impurity studies)
- Analyzed molecular-hydrogen effects on recycling influx; investigated diffusivity vs. Z in ADITYA-U plasmas.

Linear-Device Spectroscopy

- Measured vibrational temperatures (N_2, CN) via Boltzmann plots in RF and arc plasmas (PWT).
- Derived electron temperature via line-ratio methods; quantified H_2 contamination effects on N_2 spectra.

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Detailed scientific contribution

Recently submitted (3)

1. Assessment of DIII-D plasma with Balmer analysis technique to quantify plasma detachment, **N. Yadava,** F. Scotti, M. Groth, A. W. Leonard, A.G. McLean, N. Osborne, X. Pope, G. Ronchi, D. Thomas, K. Verhaegh and R. Wilcox, Submitted to: Plasma Physics and Controlled Fusion, Internal review completed.

2. Effect of outer divertor leg detachment on the high field side scrape-off layer in DIII-D and ASDEX Upgrade, R. Gerru, D. Hachmeister, G. Burke, L. Horvath, T.M. Wilks, A. Bortolon, J.W. Hughes, Q. Pratt, F. Scott, C. Tsui, R. Hood, **N. Yadava**, G. Ronchi, J. Damba, the DIII-D Team, and the ASDEX Upgrade Team (Internal Tracker, planned to submit in Nuclear Fusion)

3. Outward Neoclassical Convection Drives High-Z Impurity Expulsion in DIII-D High-Density and High-Performance Hybrid Plasmas, S. Shi, S. Ding, B. S. Victor, T. Odstrcil, J. Lestz, A. Tema Biwole, L. Schmitz, H. Wang, A. M. Garofal, J. McClenaghan[2], G. Avdeeva, D. Truong, **N. Yadava**, A. McLean, A. Moser, A. Leonard, E. Belli and J. Candy (Internal completed, planned to submit in Physical Review Letters)

Peer-reviewed publications (29)

4. Vibrational Temperature Estimation of Nitrogen Molecules in Radio-Frequency (RF) Produced Plasma, **Nandini Yadava,** et al. Plasma and Fusion Research 17 (2022), 2401095-2401095.

5. Investigation of Recycling and Impurities Influxes in ADITYA-U Tokamak Plasmas, **Nandini Yadava**, et al. Plasma and Fusion Research, 16, 2402055-2402055.

6. Spatial Profile of Neutral Temperature Measurement in Aditya-U Tokamak Plasmas, **Nandini Yadava**, et al. Atoms 7, no. 3 (2019): 87.

7. Observation of Poloidal Asymmetry in Measured Neutral Temperatures in Aditya-U Tokamak Plasma, **Nandini Yadava**, et al. Nuclear Fusion 59 (2019), no 10, 106003.

8. Real-time vertical position estimation of the plasma column using fast imaging in the Aditya-U tokamak. Suman Aich, Sharvil Patel, Laxmikanta Pradhan, Ashok Kumar Kumawat, Bharat Hegde, Kalpesh Galodiya, RL Tanna, Kumarpalsinh A Jadeja, Malay Bikas Chowdhuri, **Nandini Yadava,** K Patel, H Raj, AB Patel, R Kumar, K Singh, S Dolui, A Kumar, J Ghosh, K Yadav, I Haque, S Banerjee, N Ramaiya. *Nuclear Fusion* (2025) 65, no. 8: 086030.

9. Stabilization of sawteeth instability by short gas pulse injection in ADITYA-U tokamak Suman Dolui, Kaushlender Singh, Bharat Hegde, T Macwan, SK Hoque, Umesh Nagora, S Purohit, AN Adhiya, KA Jadeja, Harshita Raj, Ankit Kumar, Ashok K Kumawat, Suman Aich, Rohit Kumar, KM Patel, P Gautam, Sharvil Patel, **N Yadava,** N Ramaiya, MK Gupta, SK Pathak, MB Chowdhuri, S Sharma, A Kuley, RL Tanna, PK Chattopadhyay, A Sen, YC Saxena, R Pal, Joydeep Ghosh, (2025) *2501.01871*.

10. Upgraded space and time resolved visible spectroscopic diagnostic on ADITYA-U tokamak,Dipexa Modi, MB Chowdhuri, **N Yadava,** A Kumar, N Ramaiya, A Gauttam, U Rajvanshi, M Rathor, S Patel, RR Sheeba, KBK Mayya, SK Pathak, J Ghosh, (2024) *Review of Scientific Instruments* 95.12.

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11. Plasma performance enhancement and impurity control using a novel technique of argon–hydrogen mixture fueled glow discharge wall conditioning in the ADITYA-U tokamak, Jadeja, K. A., …. **Yadava, N.** et al. Nuclear Fusion 64.10 (2024): 106048.

12. Effect of impurity seeding on Edge toroidal rotation in ADITYA-U tokamak, Kumar, Ankit,…. **Yadava, N,** et al. Nuclear Fusion (2024) 64: 086019.

13. Overview of physics results from the ADITYA-U tokamak and future experiments, Tanna, R. L., … **Yadava, N**. et al. Nuclear Fusion (2024) 64: 112011.

14. Micro-particle injection experiments in ADITYA-U tokamak using an inductively driven pellet injector, Pahari, Sambaran, …. **Yadavaa, N.** et al. Nuclear Fusion 64.5 (2024): 056007.

15. Role of pinch in Argon impurity transport in ohmic discharges of Aditya-U Tokamak, Shah, Kajal,…. **Yadava, N.** et al. Scientific Reports 13.1 (2023): 16087.

16. Computational and Experimental Study of Nonequilibrium Flow in Plasma Wind Tunnel, Unnikrishnan, Vinay, **Yadava, Nandini** et al. Journal of Thermophysics and Heat Transfer 37.3 (2023): 565-578.

17. Initial results from near-infrared spectroscopy on ADITYA-U tokamak, Ramaiya, N., **Yadava, N.** et al. Review of Scientific Instruments 93.11 (2022).

18. Impurity Behavior in High Performance ADITYA Tokamak Plasmas, Chowdhuri, M. B., Manchanda, R., Ghosh, J., **Yadava, N.** et al. Plasma and Fusion Research 17 (2022): 2402011-2402011.

19. Physics studies of ADITYA and ADITYA-U tokamak plasmas using spectroscopic diagnostics. Manchanda, R., Chowdhuri, M. B., Ghosh, J., Ramaiya, **N., Yadava,** et al. (2022). Nuclear Fusion 62, 042014

20. A diagnostic for measuring radial profile of visible continuum radiation from ADITYA-U Tokamak Plasmas, Chowdhuri, M. B., Manchanda, R., Ghosh, J., **Yadava, N.,** et al. (2021). Fusion Engineering and Design, 173, 112884.

21. Lithium wall conditioning techniques in ADITYA-U tokamak for impurity and fuel control. Jadeja, K. A., Ghosh, J., **Yadava, N.**, et al. (2021) Nuclear Fusion 62, no. 1 016003.

22. Observations of visible argon line emissions and its spatial profile from Aditya-U tokamak plasma. Shah, K., Ghosh, J., Shukla, G., Chowdhuri, M. B., Manchanda, R., **Yadava, N.** et al. (2021). Review of Scientific Instruments, 92(5), 053548.

23. Gas-puff induced cold pulse propagation in ADITYA-U tokamak. Tanmay Macwan, Harshita Raj, …. **Nandini Yadava** et al. (2021) Nuclear Fusion, 61(9), 096029, 2021.

24. Overview of recent experimental results from the ADITYA-U Tokamak. R L Tanna, Tanmay Macwan, … **Nandini Yadava**, et al. (2021). Nuclear Fusion

25. Real-time feedback control system for ADITYA-U horizontal plasma position stabilization, Kumar, Rohit, … **Nandini Yadava** et al. Fusion Engineering and Design 165 (2021): 112218.

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26. Poloidal rotation and edge ion temperature measurements using spectroscopy diagnostic on Aditya-U tokamak, Gaurav Shukla, …, **Nandini Yadava**, et al., Atoms 7, no. 3 (2019): 93.

27. Modeling of the Hα emission from ADITYA tokamak plasmas, Ritu Dey, …, **Nandini Yadava**, et al. Atoms 7, no. 4 (2019): 95.

28. Evaluation of Oxygen Transport Coefficient in Aditya Tokamak using Radial Profile of O4+ Emissivity and Importance of Atomic Data Used therein, M. B. Chowdhuri, …, **Nandini Yadava**, et al., Atoms 7, no. 3 (2019): 90.

29. Investigation of atomic and molecular processes in Hα emission through modelling of measured Hα emissivity profile using DEGAS2 in the ADITYA tokamak, Ritu Dey, …, **Nandini Yadava** et al. (2019) Nuclear Fusion 59, no.7: 076005.

30. Overview of operation and experiments in the ADITYA-U tokamak, R.L. Tanna, …, **Nandini Yadava** et al. (2019) Nuclear Fusion 59, no. 11: 112006.

31. Development of RF Based capacitively coupled plasma system for tungsten nano deposition on graphite, Sachin S Chauhan, …., **Nandini Yadava** et al. (2018) Material Research Express 5, no 11, 115020.

32. Quantification of molecular contribution in particle influx estimation using S/XB calculations of Hα emission in tokamaks, Ritu Dey and **Nandini Yadava** et al., Atoms (Revision 1 completed 1819368)

Conference proceedings (International-9)

33. Core Impurity Spectroscopy in a Complex Mixed-Species Environment. Dinh Truong, …. **Nandini Yadava** et al., 66th APS Division of Plasma Physics Meeting 2024

34. Investigation of high-n Balmer lines and D2-Fulcher band during high-recycling and detached divertor DIII-D plasma, **Nandini Yadava** et al. 66th APS Division of Plasma Physics Meeting 2024

35. Quantitative Study Of Influx, Recycling And Particle Balance With Different Wall Conditioning In ADITYA-U Tokamak (2259), Nandini Yadava, 29th IAEA Fusion Energy Conference 2023, London, UK.

36. Investigation of Charge Dependency in impurity transport in Aditya-U tokamak, **Nandini Yadava** et al. 63rd APS Division of Plasma Physics Meeting 2021 (virtual).

37. Investigation of Self-Absorbed Lithium Spectral Line Emissions during Li2TiO3 Injection in ADITYA-U tokamak, **Nandini Yadava** et al, 28th Fusion Energy Conference 2021 (virtual).

38. A Diagnostic for Measurement of Radial Profile of Visible Bremsstrahlung for determining Z eff in ADITYA-U Tokamak Plasmas, M. B. Chowdhuri, …, **N. Yadava**, et al. High Temperature Plasma Diagnostic Conference 2020, Online conference, LANL, New Mexico, US. (virtual)

39. Observation of spatially resolved Argon line emissions in ADITYA-U tokamak using high resolution spectroscopic diagnostic, K. Shah, …, **N. Yadava**, et al. High Temperature Plasma Diagnostic Conference 2020, Online conference, LANL, New Mexico, US. (virtual)

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40. Investigation of Recycling and Impurities Influxes in ADITYA-U Tokamak Plasmas, **Nandini Yadava**, et al. 29th International Toki Conference 2020, Online conference, Toki, Japan. (virtual)

41. Effect of multiple periodic gas puff on neutral temperature in Aditya – U tokamak, **Nandini Yadava**, et al. 27th IAEA Fusion Energy Conference 2018, Institute for Plasma Research, Gandhinagar 382428, Gujarat, India.

42. Neon Gas Seeded Radiative Improved Mode in Aditya-U Tokamak**,** M. B. Chowdhuri…, **N. Yadava**, et al. 27th IAEA Fusion Energy Conference 2018, Institute for Plasma Research, Gandhinagar 382428, Gujarat, India.

43. Impurity Screening in High Density Aditya Tokamak Plasmas**,** R. Manchanda, M. B. Chowdhuri, **Nandini Yadava**, et al. 27th IAEA Fusion Energy Conference 2018, Institute for Plasma Research, Gandhinagar 382428, Gujarat, India.

44. Development of RF based capacitively coupled plasma system for deposition of tungsten nano layers on graphite, Sachin S. Chauhan, …, **Nandini Yadav**, et al. 27th IAEA Fusion Energy Conference 2018, Institute for Plasma Research, Gandhinagar 382428, Gujarat, India.

Oral presentation (International-3)

45. Investigation of Charge Dependency in impurity transport in Aditya-U tokamak. **Nandini Yadava** et al., 63rd Annual Meeting of the APS Division of Plasma Physics 2021; Pittsburgh, PA (virtual)

46. Vibrational temperature estimation of nitrogen molecules in radio-frequency (RF) produced plasma, **Nandini Yadava**, et al. 30th International Toki Conference on Plasma and Fusion Research 2021 (virtual)

47. Behavior of hydrogen and impurities in ADITYA-U tokamak plasmas after lithium coating, **Nandini Yadava** et al, V International Summer School on the Physics of Plasma-Surface Interactions 2021, Moscow, MEPhI, (virtual)

Oral presentation (National-4)

48. Spectroscopic Plasma Diagnostic Technique to Estimate Temperature from Lines Emissions Influenced by Magnetic Field, **Nandini Yadava** et al. 8th PSSI Plasma Scholars Colloquium (PSC-2020, Kalinga Institute of Industrial Technology (KIIT). (virtual)

49. Simulation of Zeeman Influenced and Impurity Ion Spectral Lines in Aditya-U tokamak, **Nandini Yadava** et al. 3rd National seminar on nonlinear and complex phenomena, 2020, Jadavpur University, Kolkata.

50. Impurity Ion Temperature Measurement using Zeeman Influenced Spectral Lines in Aditya-U Tokamak, **Nandini Yadava** et al., 34th National Symposium on Plasma Science and Technology 2019, Vellore, Chennai.

51. Spatial profile measurement of H_α and C^+ ion Temperature in Aditya-U Tokamak**,** **Nandini Yadava** et al., 7th PSSI-Plasma Scholars Colloquium, Institute for Advanced Research (IAR), 8 - 10 August 2019, Gandhinagar, Gujarat.

Poster presentations (International-4)

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52. Initial Results from Spectroscopic Investigation of Plasma-Molecular Interaction on DIII-D Detached Divertor Plasma, **Nandini Yadava,** et al., 26th International Conference on Plasma Surface Interaction in Controlled Fusion Devices (PSI-26), in Marseille, France, from May 12th to May 17th, 2024.

53. Global Particle Balance and Recycling Properties in Aditya-U Tokamak Plasmas, **Nandini Yadava,** et al., 5th Asia-Pacific Conference on Plasma Physics 2021. (virtual)

54. Investigation of Self-Absorbed Lithium Spectral Line Emissions during Li2TiO3 Injection in ADITYA-U tokamak, **Nandini Yadava**, et al., 28th Fusion Energy Conference 2021. (virtual)

55. Plasma Gas Temperature Measurement with Boltzmann Plot Method of 6MW PWT **Nandini Yadava** et al., 12th International Conference on Plasma Science and Applications 2019, University of Lucknow, INDIA.

56. Preliminary Results for Estimation of Neutral Temperature in Aditya-U Tokamak**, Nandini Yadava** et al. IAEA-ICTP School on Atomic and Molecular Spectroscopy 2019.

Poster presentations (National-10)

57. Impurity Transport in Aditya-U Tokamak with Indigenously Developed Semi-Implicit Impurity Transport Code, **Nandini Yadava,** et al. 34th National Symposium on Plasma Science and Technology 2021, Birla Institute of Technology (BIT), Mesra, Jaipur. (virtual)

58. Neutral and impurity influx measurement from limiter and wall of Aditya-U Tokamak **Nandini Yadava**, et al. 8th Topical conference (TC-2020) on Atomic and Molecular Collisions for Plasma Applications 2020, IIT-Roorkee.

59. Investigation of Neutral Recycling and Ion Temperature of Various Plasma Species in ADITYA and ADITYA-U Tokamak, **Nandini Yadava**, et al. National Symposium for Commemorating 30-years of ADITYA Tokamak 2020, Entrepreneurship Development Institute of India, Ahmedabad.

60. Spectroscopic Studies of Cold Atomic Hydrogen in Aditya-U Tokamak Edge**, Nandini Yadava,** et al. 22nd National Conference on Atomic and Molecular Physics 2019, Indian Institute of Technology (IIT), Kanpur.

61. Hydrogen-alpha (Hα) simulation emitting from different plasma locations, **Nandini Yadava**, et al. 33rd National Symposium on Plasma Science and Technology 2018, Delhi University, Delhi.

62. Global Particle Balance and Wall Recycling Study for Aditya – U Tokamak, **Nandini Yadava**, et al. 6th PSSI-Plasma Scholars Colloquium 2018, Sikkim Manipal Institute of Technology, Sikkim.

63. Measurement of Recycling Coefficient for Aditya – U tokamak, **Nandini Yadava**, et al. 6th PSSI-Plasma Scholars Colloquium 2018, Sikkim Manipal Institute of Technology, Sikkim.

64. Identification and Simulation of Spectral Molecular Bands of Nitrogen Present in Rf Plasmas**, Nandini Yadava**, et al. 32nd National Symposium on Plasma Science and Technology 2017, IPR, Gandhinagar.

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65. Studies of Oxygen Impurity Behavior in Aditya Tokamak Plasma, **Nandini Yadava**, et al. 32nd National Symposium on Plasma Science and Technology 2017, IPR, Gandhinagar.

66. Simulation of Hydrogen-alpha (Hα) spectral line shape emitting from the edge region of Aditya Tokamak, **N. Yadava**, et al. 21st National Conference on Atomic and Molecular Physics 2017, PRL, Ahmedabad.

Schools

- Participated in V International Summer School on the Physics of Plasma-Surface Interactions organized online during July 05 – 09, 2021, Moscow, MEPhI, presented work entitled, "Behavior of hydrogen and impurities in ADITYA-U tokamak plasmas after lithium coating"

- Participated in the IAEA-ICTP School on Atomic and Molecular Spectroscopy– 2019 in during 6th to 10th May 2019 jointly organized by International Atomic Energy Agency (IAEA) and International Center for Theoretical Physics (ICTP), Trieste, Italy.

- Participated in the Summer School Program (SSP- 2014) during 2ndJune to 11thJuly 2014 organized by Institute for Plasma Research (IPR), Gandhinagar, and worked on a project entitled "Characterization of the Time Domain Reflectometer (TDR)" from the Institute for Plasma Research (IPR) during the Summer School Program (SSP- 2014), June 2014 to July 2014.

Conferences/seminars/workshops attended

- One day Symposium in memory of Prof. P. K. Kaw on 6thNovember 2017 organized by IPR.
- One Day Program on Prof. P. C. Vaidya on 10thSeptember 2017 organized at Senate Hall, Gujarat University.
- one-day National Workshop on Analytical Techniques for Material Characterization (NWATMC) on 22ndMarch 2017 organized by Department of Physics, S. P. University, Gujarat.
- Gujarat Science Congress as Participant held at GERMI 4-5 February 2017.
- one-day seminar on "Advanced Programming Techniques in MATLAB and Data Analytics with MATLAB" on 22ndSeptember 2016.
- Participated in the National level "One day acquaintance program" held at Gujarat University, Ahmedabad and sponsored by Inter University Accelerator Center, New Delhi on 19th July 2014.
- Participated in the National Seminar on "High Potential Research Areas" in Physics, held at St. Xavier's College, Ahmedabad on January 31st, 2013.