Field	Details
Name	Dr. V P Madhurima
Designation	Assistant Professor
Department	Physics
School	Engineering & Technology
Total Experience	5 Months
Qualification	Ph.D: **Physics** PG: **Solid State Physics** UG: **Electronics Technology**
Areas of Specialization	Carbon Nanomaterials; Green Energy; Environmental Remediation
Research Publications	Total: 5 SCI: 5
Patents	Filed: - Granted: -
Funded Projects	-
Consultancy	-
Administrative Responsibilities	-

Papers Published:

1. V.P. Madhurima, Pramod H. Borse, Kusum Kumari, T.N. Rao, P.K. Jain, "Improved photocatalytic activity of carbon-based polymeric semiconductor for efficient decontamination of wastewater: Effect of reaction atmosphere and pyrolysis temperature" Optical Materials, (2020). https://doi.org/10.1016/j.optmat.2020.110523
2. V.P. Madhurima, Kusum Kumari, P.K. Jain, "A facile single-step approach to achieve in situ expanded g-C3N4 for improved photodegradation performance" Polymers for Advanced Technologies, (2023). https://doi.org/10.1002/pat.5908
3. V.P. Madhurima, Kusum Kumari, P.K. Jain, "Synthesis and study of carbon nanomaterials through arc discharge technique for efficient adsorption of organic dyes" Diamond and Related Materials, (2024). https://doi.org/10.1016/j.diamond.2023.110538
4. V.P. Madhurima, Kusum Kumari, P.K. Jain, "Synergistic wastewater detoxification using h-BN and g-C3N4: Understanding the photo-assisted charge carrier dynamics" ChemistrySelect, (2025). https://doi.org/10.1002/slct.202500909
5. V.P. Madhurima, Kusum Kumari, P.K. Jain, "Highly efficient 1D/2D nanohybrid photocatalyst made from arc discharge synthesized MWCNTs and g-C3N4 for visible-light photocatalysis" PhysicaScripta, (2026). **DOI** 10.1088/1402-4896/ae4791
6. V.P. Madhurima, Kusum Kumari, P.K. Jain, "Synergistic Charge Separation and Rapid Photodegradation of Organic Pollutants Using a Novel 2D/2D Hybrid Photocatalyst: Graphene Nanoplatelets Anchored on g-C3N4". Under review.

7. V.P. Madhurima, Kusum Kumari, P.K. Jain, "Engineering of novel g-C3N4 photocatalyst using arc-discharge synthesized sphere-like carbon nanoparticles for enhanced photocatalytic activity". Under submission.

Conferences Attended:

1. **V.P. Madhurima**, "*Carbon Nanomaterial-Regulated Charge Separation in g-C_3N_4 Photocatalysts for Advanced Energy Applications*", Conference on Advanced Carbon Materials (CACM-2026), BITS Hyderabad Campus. Oral Presentation.
2. **V.P. Madhurima**, "*Design and Optimization of Graphitic-Carbon Nitride Hybrid Nanostructures for Enhanced Photocatalytic Activity*", Adavanced Energy Materials & Devices (AEMD-2024), Govt. City College, Hyderabad. Oral Presentation.
3. **V.P. Madhurima,** participated in one-week Kaaryashala on "Nano Materials for Energy and Environment (NanoMatEn^2)" from January 22nd – 29th, 2023 sponsored by SERB under Accelerate Vigyan Scheme organized by CSIR- Institute of Minerals and Materials Technology (CSIR-IMMT), Bhubaneswar, Odisha.
4. **V.P. Madhurima**, participated in the Hands-on training programme on "X-ray Photoelectron Spectroscopy" held from 7th – 9th December 2022 at Central Facilities for Research & Development (CFRD), Osmania University, Hyderabad.
5. **V.P. Madhurima**, Balaji Padya, Kusum Kumari, and P.K. Jain, "*Carbon-based 2D/2D GNP/g-C3N4 nanocomposite for heterogeneous photodegradation of organic pollutants under visible light irradiation*", Advances in Science and Technology of Graphene-2022 (Virtual Mode). Oral Presentation
6. **V.P. Madhurima**, participated in a one-week short-term virtual training programme on "*Synthesis Characterization and its Application of Nanomaterials*," from 24th to 29th Aug 2020 held at JNTU, Hyderabad.
7. **V.P. Madhurima**, Kusum Kumari, T.N. Rao, and P.K. Jain, "*Carbon-based polymeric semiconductor for organic pollutant degradation: synthesis, properties and photocatalytic performance*," Conference on Carbon Materials-2019, New Delhi. Poster Presentation.
8. **V.P. Madhurima**, Kusum Kumari, Supriya Chakrabarti, Balaji Padyaa, T.N. Rao, and P.K. Jain, "*Optimization of buffer gas pressure and arc voltage for carbon nanotubular structures growth and their energy storage studies*," ICAFMD-2019, NIT Warangal. Oral Presentation.
9. **V.P. Madhurima**, Supriya Chakrabarti, Kusum Kumari, Balaji Padya, E Prasanth Kumar, M. Sagar and P.K. Jain, "*Synthesis of Concentric-shelled Carbon Nanostructures produced by Arc Discharge for Energy Storage Application*," NCMfEE-2018, Osmania University, Hyderabad. Poster Presentation.
10. **V.P. Madhurima** and G Prasad, "*ISLANDS, POTENTIAL WELLS & QUANTUM EFFECTS-Building Blocks for Nanodevices*", Think Nano-2016, IISc Bangalore. Poster Presentation.

Awards and Honors:

1. Inspire Fellowship, DST – 2017
2. University First Rank in MSc, Osmania University – 2016
3. UGC PG Merit Scholarship for University Rank Holder – 2014
4. Best Outgoing Student in Academics, Loyola Academy – 2014