

CURRICULUM VITAE

PERSONAL INFORMATION

- **NAME** : Dr. Neetu Singh
- **NATIONALITY** : Indian
- **EMAIL ID** : neetusingh201989@gmail.com
- **CONTACT NO.** : +91 8887548299
- **LANGUAGES KNOWN** : English, Hindi
- **CURRENT POSITION** : Assistant Professor,
Department of Physics, Maharaja Bijli Pasi
Government P.G. College, Ashiana-Lucknow
- **DATE OF JOINING IN
GOVT. DEGREE COLLEGE** : 7th August 2021



ACADEMIC QUALIFICATIONS

Ph.D. in Physics from University of Lucknow, India. Topic: <i>Synthesis, Characterizations and LPG sensing application of polymer nanocomposites</i>			
Qualified National Eligibility Test (NET-JRF) conducted by UGC-CSIR , India in December 2012			
NAME OF THE EXAMINATION	UNIVERSITY	YEAR OF PASSING	NAME OF INSTITUTION
M.Sc. (Physics)	Chaudhary Charan Singh University, Meerut, U.P., India	2012	Department of Physics, MMH College, Ghaziabad, U.P., India
B.Sc. (Physics, Chemistry, Mathematics)	Chaudhary Charan Singh University, Meerut, U.P., India	2010	Department of Physics, MMH College, Ghaziabad, U.P., India

TEACHING/RESEARCH EXPERIENCE

1. **Two years of teaching experience** in B.Sc. Department of Physics, University of Lucknow, Lucknow, India
2. **Three years of teaching experience** at U.G. level in Government Degree College, Uttar Pradesh, India.
3. **Ten years of Research experience** in material science and environmental science.

TECHNICAL SKILLS / RESEARCH INTERESTS

- Synthesis of nanomaterials like metal oxides, polymer and polymer nanocomposites.
- Synthesis techniques like sol-gel, Co-precipitation and In-Situ polymerization.
- Fabrication of thin films using a spin-coating machine.
- Fabrication of pellets of synthesized materials.
- Experimental handling and knowledge of characterization techniques like FTIR, UV-vis, AFM, SEM, EDS and XRD.
- Optical, spectroscopic, structural and morphological analysis of nanostructured metal oxides and polymer nanocomposites.
- Knowledge of scientific software "Origin".
- Designing of self-assembled Gas sensing set-up.
- Liquefied Petroleum Gas (LPG) sensing investigations of different synthesized materials such as metal oxides, polymers and polymer nanocomposites using gas sensing setup.
- Utilization of nanomaterials and nano-catalysis for environmental remediation

FELLOWSHIPS / AWARDS / ACHIEVEMENTS

1. **CSIR-JRF (Junior Research Fellowship)** in Physical Sciences w.e.f. November 2013; Awarded by Council of Council of Scientific & Industrial Research, New Delhi, India.
2. **CSIR Senior Research Fellowship (CSIR-SRF)**; w.e.f. December 2016; Awarded by CSIR, New Delhi, India

3. **Two years of teaching experience** in B.Sc. Part-I Laboratory, Department of Physics, University of Lucknow, Lucknow, India.
4. Awarded for **best poster presentation** at the International Pharmaceutical Conference 2015 by Baba Bhimrao Ambedkar University, Lucknow, India.
5. Awarded **International Travel Grant** by CSIR, New Delhi, India for attending the International Conference "European Advance Material Congree-2018, Stockholm, Sweden
6. Qualified **National Eligibility Test (NET-JRF)** conducted by **CSIR**, India in December 2012.
7. Awarded **Scholarship** by National Hindi Academy, Delhi, India.
8. Awarded **Scholarship** by National Sanskrit Academy, Delhi, India.
9. Awarded **Certificate of Excellence** for outstanding and consistent performance during summer school on Laboratory training and Management by the Department of Physics, University of Lucknow, India.
10. **Best Research Paper award** by the University of Lucknow in 2016, 2019, and 2020 under the BOOST scheme.
11. **Best Research Paper award** by University of Lucknow in 2021,2022 under the Uddepan scheme.
12. Qualified for an interview to receive a **project from CSIR-CSIO** Chandigarh in 2021.
13. Got selected for the single post of **Scientist through UPSC**, Delhi in the **Ministry of Jal Shakti** at CPWRB.
14. Got selected for the post of Assistant- Professor in Polytechnic Government Degree College through UPPSC- Prayagraj, Uttar Pradesh.

CONFERENCES / WORKSHOPS / SEMINARS / TRAINING PROGRAMMES

1. Participated and presented a **poster** on topic "Review of polymer Nano composites" in one day **International symposium on Advances in Biological & Material Sciences (ISABMS-2014)** organized by Humboldt academy Lucknow and University of Lucknow, India 15 July 2014
2. Participated in **International workshop on "Futuristic Materials: Characterization, Properties & Applications in Technology (FMCPT-2014)"** organized by Dept. of Applied Physics, Faculty of Engineering & Technology, M.J.P. Rohilkhand University Bareilly, India, 17- 22 July 2014
3. Participated in one day "**Training Programme** on Biodiversity & its Conservation", 13 July 2014, Organized by Biodiversity and Wildlife Conservation Lab, Department of Zoology, University of Lucknow, Lucknow-226007, India
4. Presented a **Poster** on "Synthesis and Characterization of MgO" in **International Pharmaceutical Conference-2015** organized by Baba Bhimrao Ambedkar University, Lucknow, India, 2-3 February 2015
5. Participated in "**Summer School on Laboratory Training and Management**" organized by the Department of Physics, University of Lucknow, India, 15 May- 15 June 2015
6. Participated in a **workshop** "Popularization of Astronomy" organized by the Department of Mathematics and Astronomy, University of Lucknow, India, 20- 23 May 2015
7. Participated in the **International Workshop "Energy and Materials: Synthesis and Applications"** organized by the Department of Physics, Banaras Hindu University, Varanasi, India, 1- 7 December 2015
8. Presented a **poster** on "Synthesis of MnO₂ nanoparticles via sol-gel process and its spectroscopic characterizations" in **ICNM-2015** organized by Hindustan College of Science and Technology, Agra-Delhi Highway, Farah (Mathura), U. P., India, -12 -14 December 2015
9. Presented a **poster** on "Synthesis and characterizations of Nanostructured magnesium oxide: as a humidity sensing application" at an **International conference (ICALTSM-2016)** organized by the Department of Physics, University of Lucknow, India, 16 -18 January 2016
10. Presented a **poster** on "Synthesis of PANI and its various spectroscopic and optical characterizations: as humidity sensing application" at the **6th International Conference on Perspective in Vibrational Spectroscopy (ICOPVS-2016)** organized by the Department of Physics, University of Lucknow, India, 5-8 November 2016
11. Presented a **Poster** on " Synthesis and characterizations of PANI and PANI/MgO nanocomposites" at the **International Conference on Materials Engineering (ICME 2017)** Indian Institute of Technology Kanpur (IIT Kanpur) June 2-4, 2017
12. Delivered **oral presentation** on "Fabrication of a cost-effective LPG sensor employing PANI/ Co₃O₄ (30%) and PANI / Co₃O₄ (40%) nanocomposites as sensing materials", in an **International conference on materials for energy applications** at S. S. Jain Subodh P.G. College, Jaipur, 6-8 December 2018

13. Presented **Poster** on “Development of an economical and potential LPG sensing materials employing PANI/CO₃O₄ (30%) and PANI/CO₃O₄ (40%) nanocomposites”, at an **International conference** (ISAFBMS-2019) by the Department of Physics, University of Lucknow, India, 28 February 2019.
14. Presented **Poster** on “Development of Polyaniline, Polyaniline/MgO(30%) and Polyaniline/MgO(40%) nanocomposites as LPG sensor operable at room temperature” at an **International conference on Advanced Materials** (ICAM 2019) by Mahatma Gandhi University, Kerala, India 9-11 August 2019.
15. Presented paper on “Synthesis, Characterizations and LPG Sensing Application of PANI and PANI/MgO” in a **National Seminar on Prospects of Science & Society in the Era of Artificial Intelligence** (NSPSSEAI-2020) by B.S.N.V.P.G. College (KKV), Lucknow in association with Vijana Bharti & The Institution of Engineers, India 3-4 March, 2020.
16. Delivered Oral Presentation at an **International Conference on Diverse Emerging Materials and Their Applications** (ICDEMA-2021) by the University of Lucknow, India 14-15 March 2021.
17. Presented a paper on **Significant Changes in the world of digital technology** during COVID-19 in the National seminar “**Transforming India**”, 17-18 December 2021, organized by Netaji Subhash Chandra Bose Government Girls P.G. College, Aliganj, Lucknow (U.P.), India.
18. Participated in a **4-week Orientation Programme (Obtained Grade A⁺)**, 15 Feb-16 Mar 2022, organized by Teaching Learning Centre, Ramanujan College, University of Delhi, India.
19. Participated in the short-term course on **NEP-2020: Quality Enhancement in Higher Education** by the University of Lucknow, India 24-30 March 2022.
20. Participated in the online **Faculty Induction Programme (Obtained Grade-A⁺)**, 01 November to 05 December 2022, Organized by UGC Human Resource Development Centre, Aligarh Muslim University, Aligarh, U.P. India.
21. Participated in the online Workshop on **NEP-2020 Implementation**, 22-23 November 2022 Organized by UGC Human Resource Development Centre, Aligarh Muslim University, Aligarh, U.P. India.
22. Presented a paper on **NEP-2020** in the National Seminar on “**Advancement and Strategies for Sustainable Development & Environment Protection**”, 17-18 Jan 2023, organized by Netaji Subhash Chandra Bose Government Girls P.G. College, Aliganj, Lucknow (U.P.), India.
23. Delivered **oral presentation** on “Gender Dysphoria: Causes and Solution” in National Seminar, 14 Feb 2023, organized by Navyug Kanya Mahavidyalaya, Lucknow, India.
24. Delivered an **oral presentation** on “An Analytical Study of Impact of NEP-2020 on Higher Education” in a two-day international Seminar, March 20-21, 2024, organized by Navyug Kanya Mahavidyalaya, Lucknow, India.

LIST OF PUBLICATIONS

1. **Neetu Singh**, Prabhat Kumar Singh, Anuradha Shukla, Satyendra Singh, Poonam Tandon, “*Synthesis and Characterization of Nanostructured Magnesium Oxide: Insight from Solid-State Density Functional Theory Calculations*”, **Journal of Inorganic and Organometallic Polymers and Materials**, Vol. 26, 1413-1420, 2016, Springer [**Impact Factor: 3.9**]
2. **Neetu Singh**, Prabhat Kumar Singh, Mridula Singh, Poonam Tandon, Saurabh Kumar Singh and Satyendra Singh, “*Fabrication and characterization of Polyaniline, Polyaniline/MgO(30%) and Polyaniline/MgO(40%) nanocomposites for their employment in LPG sensing at room temperature*”, **Journal of material science: materials in electronics**, Vol. 30, 4487-4498(2019), Springer [**Impact Factor: 2.8**]
3. **Neetu Singh**, Prabhat Kumar Singh, Mridula Singh, Debraj Gangopadhyay, Saurabh Kumar Singh, Poonam Tandon, “*Development of a potential LPG sensor based on a PANI-Co₃O₄ nanocomposite that functions at room temperature*”, **New Journal of Chemistry**, Vol. 43, 17340 (2019), Royal Society of Chemistry [**Impact Factor: 2.7**]
4. Prabhat Kumar Singh, **Neetu Singh**, Mridula Singh, Poonam Tandon, Saurabh Kumar Singh, “*Preparation of Nanostructured Co₃O₄ and Ru-Doped Co₃O₄ and Their Applicability in Liquefied Petroleum Gas Sensing*”, **Journal of materials engineering and performance**, Vol. 28, 7592-7601(2019), Springer [**Impact Factor: 2.2**]
5. Prabhat Kumar Singh, **Neetu Singh**, Mridula Singh, Saurabh Kumar Singh, Poonam Tandon, “*Development and characterizations of varying percentages of Ru doped ZnO (xRu:ZnO 1%≤x≤5%) as a potential material for LPG sensing at room temperature*”, **Applied Physics A**, Vol. 126, Springer [**Impact Factor: 2.5**]
6. Prabhat Kumar Singh, **Neetu Singh**, Mridula Singh, Saurabh Kumar Singh, Poonam Tandon, “*Fabrication of nanostructured MgO and Zn-doped MgO as an efficient LPG sensing materials operable at room temperature*”, **Applied Physics A (2021)**, Vol. 126, Springer [**Impact Factor: 2.5**]
7. Mridula Singh, **Neetu Singh**, Prabhat Kumar Singh, Saurabh Kumar Singh, Poonam Tandon, “*Development of polyaniline/ZnO-Ru nanocomposite as a potential LPG sensing material operable at room temperature*”,

Journal of material science: materials in electronics (2021), Vol. 32, pages 6110–6122, Springer [**Impact Factor: 2.8**]

8. Prabhat Kumar Singh, **Neetu Singh**, Mridula Singh, Satyendra Singh, Poonam Tandon, “*Synthesis of ZnO nanostructures via sol-gel method and their nanostructural and optical characterization*”, **Proceedings of ICOPVS 2016**, ISBN: 978-93-5267-364-3
9. **Neetu Singh**, Prabhat Kumar Singh, Sadhna Singh, Mridula Singh, Poonam Tandon, Saurabh Kumar Singh, “*Development and characterizations of an effective LPG sensor using Polyaniline/Zn-MgO nanocomposite operable at room temperature*”, **Proceeding of ISAFBM-2019**, ISBN: 978-93-5351-824-0
10. Prabhat Kumar Singh, **Neetu Singh**, Amana Shamim, Mridula Singh, Poonam Tandon, Saurabh Kumar Singh, “*Fabrication and characterizations of a potential LPG sensing material employing PANI/Co-ZnO nanocomposite*”, **Proceeding of ISAFBM-2019**, ISBN: 978-93-5351-824-0
11. Prabhat Kumar Singh, **Neetu Singh**, Mridula Singh, Saurabh Kumar Singh, Poonam Tandon, “Co-doped ZnO nanostructures for liquefied petroleum gas sensing at room temperature”, **Journal of Material Science: materials in electronics, 2023**, doi.org/10.1007/s10854-023-10344-7 [**Impact Factor: 2.8**]
12. Neha Agarwal, Vijendra Singh Solanki, Brijesh Pare, **Neetu Singh**, and Sreekantha B. Jonnalagadda. "Current trends in nanocatalysis for green chemistry and its applications mini-review." **Current Opinion in Green and Sustainable Chemistry (2023): 100788** [**Impact Factor: 9.3**]
13. **Neetu Singh**, Prabhat Kumar Singh, Ajay Kumar Saini and Shalini Singh, “Metal Oxide Nanomaterials and Their Diverse Applications in Pharmaceuticals and Other Domains of Nanotechnology” Chapter 12, **Pharmaceuticals: Boon or Bane (2023)**, DOI: 10.52305/GPMC4427, ISBN: 979-8-88697-487-4 (Nova International Scientific Publisher).
14. **Neetu Singh**, Prabhat Kumar Singh, Mridula Singh, Saurabh Kumar Singh, Neha Agarwal, Poonam Tandon, “Fabrication of an Efficient LPG sensing nanomaterial based on PANI/MgO-Ru nanocomposite functional at room temperature” **Applied Physics A (2023)**, Vol. 129, Springer [**Impact Factor: 2.5**].
15. Neha Agarwal, Amrita Srivastava, Vijendra Singh Solanki, **Neetu Singh**, Rajeev Singh Yadav, “Emerging trends in the use of microbial isolates for the treatment of dye-containing wastewater” in Elsevier book, DOI: 10.1016/B978-0-443-13561-3.00010-7 (2024).
16. Neha Agarwal, Vijendra Singh Solanki, Sreekantha B. Jonnalagadda, Keshav Lalit Ameta, **Neetu Singh**, Anupama Singh, Vimal Bind, “Green Solutions for Degradation of Pollutants, 2024 (Bentham International Publisher), DOI-10.2174/9789815238969124010004.

PROJECT

"Development of materials for room temperature gas sensing" funded by Govt. of Uttar Pradesh under the "Centre of Excellence" scheme

MENTORSHIP

- Supervised two students of M. Sc. Physics (Integral University) to accomplish their research dissertation.

MEMBERSHIP/ COMMITTEE

- Organizing Committee Member in ISABMS-2014 (International Symposium on Advances in Biological & Material Sciences)
- Organizing Committee Member in ICOPVS-2016 (International Conference on Perspectives in Vibrational Spectroscopy)
- Organizing Committee Member in ISAFBM-2019 (International Symposium on Advances in Functional & Biological Materials)
- **Reviewer** in the Journal of Porous Materials (**SPRINGER**)
- **Reviewer** in the Journal of Ionics (**SPRINGER**)
- **Member and Reviewer** of Material Research Society of India (**MSRI**)

COMMITTEE AT COLLEGE LEVEL

- **Coordinator** of Online Education/ Learning Management System Cell/ Website Upgradation and Computer Work Committee
- **Coordinator** of SAMARTH Portal
- **Member** of AISHE portal
- **Member** in IQAC committee
- **Member** in Campus Development Committee
- **Member** in Digi Shakti Committee
- **Member** in Road safety program committee
- **Member** in Proctorial Board Committee of Science faculty

EXTRA-CURRICULAR ACTIVITIES

- Won Prizes in Dance
- Participated and won award in various Sports/other Activities

Date: 13-09-2024

Place: Lucknow, India



Neetu Singh