



Faculty Details Proforma For College Web-site



Title	Dr	First Name	Nisha	Last Name	Bala	Photograph
Designation	Assistant Professor					
Address	Department of Physics, Daulat Ram College, 4, Patel Marg, Maurice Nagar, New Delhi, Delhi- 110007					
Phone No. Office						
Residence						
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Email - ID	nishabala@dr.du.ac.in , nishabala17@gmail.com					
Web Page						
Educational Qualification						
Degree	Institution				Year	
B.Sc.	University of Jammu				2007	
M.Sc. (Physics)	University of Jammu				2009	
B.Ed.	University of Jammu				2010	
M.Ed.	University of Jammu				2012	
Ph.D. (Physics)	University of Delhi				2023	
Career Profile						
Working as Assistant Professor in Department of Physics, on permanent basis at Daulat Ram College, University of Delhi, Delhi since 04 th October, 2022						
Administrative Assignments						
<ul style="list-style-type: none">• Member, Admission Committee (Grievance Committee), Daulat Ram College, October 2022-2023.• SEC College Coordinator (NEP) First Year, Daulat Ram College, since October 2022- June 2024.• SEC College Coordinator (NEP) Second Year, Daulat Ram College, since July 2024.• Member, Admission Core Committee, Daulat Ram College, October 2023-2024, 2024-2025.• In-charge, Physics Association, Daulat Ram College, June 2023-2024.• Social Media Handler, Physics Department, Daulat Ram College, June 2023-2024.• TPC member						
Areas of Interest / Specialization						
Synthesis, fabrication and characterization of semiconductor nanoparticles, thin films, bandgap engineering, Optical spectroscopy (UV-Visible spectroscopy, Raman spectroscopy), Electrical and magnetic (Vibrating Sample Magnetometer) properties, Cyclic Voltammetry, and Impedance spectroscopy. Solid State Physics, Electricity and Magnetism, Wave and Optics, Electronics, Digital Systems and Applications, Mathematical Physics.						

Subjects Taught
<ul style="list-style-type: none"> • Mathematical Physics-II, Semester III, 2022 • Mathematical Physics-II, Semester II, 2023-2024 • Waves & Oscillations, Semester I, 2022-2023, 2023-2024 • Communication System (DSE), Semester VI, 2023 • Analog Electronics (DSC), Semester IV, 2023-2024 • Programming using Python (SEC) 2022-2023, 2023-2024 • Analytics/Computing with Python (SEC) 2022-2023, 2023-2024 • Science and Society (VAC) 2022-2023, 2023-2024
Research Guidance:
Not applicable
Publications Profile
<ul style="list-style-type: none"> • Nisha Bala, H. K. Singh, Shikha Verma, and Shyama Rath, Magnetic-order induced effects in nanocrystalline NiO probed by Raman spectroscopy. Physical Review B 102, 024423 (2020). https://doi.org/10.1103/PhysRevB.102.024423 (Impact factor = 4.036) ISSN No. = 24699969 • Nisha Bala, Gaurav Gupta, Arijit Mitra, Shyama Rath, Annealing effects on the microstructure, stoichiometry, and ferromagnetic/ antiferromagnetic fraction in NiO nanoparticles. Materials Science and Engineering B 274 (2021) 115459. https://doi.org/10.1016/j.mseb.2021.115459. (Impact factor = 4.051) ISSN No. = 0921-5107. • Gaurav Gupta, Nisha Bala, Shyama Rath, Electrochemical performance of ZnMgO photoanodes prepared by a green synthesis route. MRS Communications 13, 1196-1202, (2023) https://doi.org/10.1557/s43579-023-00422-6 (Impact factor = 1.8) ISSN No. = 2159-6867. <p>Conference Proceedings publication</p> <ul style="list-style-type: none"> • Nisha Bala, Shyama Rath, Effect of oxygen annealing on the growth and magnetic behaviour of sol-gel synthesized NiO nanoparticles. Materials Today: Proceedings 28 (2020) 353-355. https://doi.org/10.1016/j.matpr.2020.02.605. • Nisha Bala, Shyama Rath, Effect of thermal annealing on the structural and optical properties of nickel oxide nanoparticles. AIP Conference Proceedings 2220, 020080 (2020). https://doi.org/10.1063/5.0001194. • Nisha Bala, Shyama Rath, Optical spectroscopic investigation of sol-gel synthesized nickel oxide nanoparticles. AIP Conference Proceedings 2265, 030077 (2020). https://doi.org/10.1063/5.0017102. <p>Conference Organization / Presentation (in the last three years)</p> <ul style="list-style-type: none"> • Oral presentation: International Conference on Advanced Materials and Nanotechnology (AMN-2020) on 20-22nd February 2020, Department of Physics and Materials Science and Engineering. Jaypee Institute of Information Technology, Noida. “Effect of oxygen annealing on the growth and magnetic behaviour of sol-gel synthesized NiO nanoparticles”. • Virtual National Webinar Series on Experimental & Computational Tools for Materials Research (ECTMR 2020) on 01- 08th June 2020, Discipline of Natural Sciences, PDPM Indian Institute of Information and Technology, Design and Manufacturing Jabalpur and Department of Physics, Central University of Rajasthan. • Virtual Workshop on Latex, Gandhi Institute of Technology and Management (GITAM) on 5-9th July 2021, Department of Mathematics School of Science, GITAM, Bengaluru, India. • Poster presentation: Virtual Conference: # IOPP poster conference Twitter Poster Conference on 15-16th July 2020. “Size-dependent vibrational and magnetic excitations of NiO nanoparticles probed by Raman spectroscopy.” • Poster presentation: International Conference on Materials for the Millennium – (MATCON 2021) on 15-19th March 2021, Department of Applied Chemistry at the Cochin University of Science and Technology. “Size and Stoichiometry

Effects on the Bandgap and Magnetic Properties of NiO Nanoparticles.

- Poster Presentation: Virtual Conference: International Conference on Nanotechnology: Opportunities & Challenges, on 28-30th November, 2022. Department of Applied Sciences & Humanities, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi, India Annealing Effects on the Microstructure, Stoichiometry, and Ferromagnetic/Antiferromagnetic Fraction in NiO Nanoparticles. (**Best Poster Presentation Award**).

Research Projects (Major Grants/Research Collaboration)

Not applicable

Awards and Distinctions

Not applicable

Association with Professional Bodies

Not applicable

Other Activities

Full Time Research Experience

- Junior Research Fellow (JRF), University of Delhi, 09 September 2016 to 12 December 2018.
- Senior Research Fellow (SRF), University of Delhi, 13 December 2018 to 08 September 2021.

Details of refresher/orientation course/research methodology/workshop/syllabus up-gradation/ teaching – learning-evaluation/technology programmes/Faculty Development Programme:

- Attended Faculty Induction Programme organized by Guru Angad Dev Teaching Learning Centre, New Delhi. A Centre of Ministry of Education under (PMMMNMTT) from 25th Feb, 2023 to 27th March, 2023.
- Organized One Week National Faculty Development Program (FDP) on Basic Skills in Experimental Physics in Collaboration with Daulat Ram College (Department of Physics) and Guru Angad Dev Teaching Learning Centre, New Delhi. A Centre of Ministry of Education under (PMMMNMTT) from 17th July, 2023 to 23rd July, 2023.
- Participated as a Resource person in the In-House Skill Development Program on Enhancing Learning Through ICT Tools, has organized by the Department of Physics, Daulat Ram College, University of Delhi on 23rd and 24th August 2023.
- Participated as a Resource person in the In-House Skill Development Program on Enhancing Learning Through ICT Tools, has organized by the Department of Physics, Daulat Ram College, University of Delhi on 13th and 14th September 2024.
- Working as a Coordinator on Two Days Workshop (Under the Aegis of IQAC) Learning Physics & Electronics Through Simulations & Demonstrations has organized by the Department of Physics, Daulat Ram College, University of Delhi on 16th and 17th November 2024.