



## Faculty Details Proforma For College Web-site



Title	Dr	First Name	Nisha	Last Name	Bala	Photograph
<b>Designation</b>	Assistant Professor					
<b>Address</b>	Department of Physics, Daulat Ram College, 4, Patel Marg, Maurice Nagar, New Delhi, Delhi- 110007					
<b>Phone No. Office</b>						
<b>Residence</b>	9868313560					
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<b>Web Page</b>						
<b>Educational Qualification</b>						
<b>Degree</b>	<b>Institution</b>				<b>Year</b>	
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	
<b>Career Profile</b>						
Working as Assistant Professor in Department of Physics, on permanent basis at Daulat Ram College, University of Delhi, Delhi since 04 <sup>th</sup> October, 2022						
<b>Administrative Assignments</b>						
<ul style="list-style-type: none"><li>• Member, Admission Committee (Grievance Committee), Daulat Ram College, October 2022-2023.</li><li>• SEC College Coordinator (NEP), Daulat Ram College, since October 2022.</li><li>• Member, Admission Core Committee, Daulat Ram College, October 2023-2024.</li><li>• In-charge, Physics Association, Daulat Ram College, since June 2023.</li><li>• Social Media Handler, Physics Department, Daulat Ram College, since June 2023.</li></ul>						
<b>Areas of Interest / Specialization</b>						
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.						

<b>Subjects Taught</b>
<ul style="list-style-type: none"> <li>• Mathematical Physics-II, Semester III, 2022</li> <li>• Waves &amp; Oscillations, Semester I, 2022-2023</li> <li>• Communication System (DSE), Semester VI, 2023</li> <li>• Numerical Analysis (DSE) Semester III, 2023</li> </ul>
<b>Research Guidance:</b>
<b>Not applicable</b>
<b>Publications Profile</b>
<ul style="list-style-type: none"> <li>• <b>Nisha Bala</b>, H. K. Singh, Shikha Verma, and Shyama Rath, Magnetic-order induced effects in nanocrystalline NiO probed by Raman spectroscopy. <b>Physical Review B</b> <b>102</b>, <b>024423</b> (2020). <a href="https://doi.org/10.1103/PhysRevB.102.024423">https://doi.org/10.1103/PhysRevB.102.024423</a> (<b>Impact factor = 4.036</b>) ISSN No. = 24699969</li> <li>• <b>Nisha Bala</b>, Gaurav Gupta, Arijit Mitra, Shyama Rath, Annealing effects on the microstructure, stoichiometry, and ferromagnetic/ antiferromagnetic fraction in NiO nanoparticles. <b>Materials Science and Engineering B</b> 274 (2021) 115459. <a href="https://doi.org/10.1016/j.mseb.2021.115459">https://doi.org/10.1016/j.mseb.2021.115459</a>. (<b>Impact factor = 4.051</b>) ISSN No. = 0921-5107.</li> </ul> <p><b>Conference Proceedings publication</b></p> <ul style="list-style-type: none"> <li>• <b>Nisha Bala</b>, Shyama Rath, Effect of oxygen annealing on the growth and magnetic behaviour of sol-gel synthesized NiO nanoparticles. <b>Materials Today: Proceedings</b> 28 (2020) 353-355. <a href="https://doi.org/10.1016/j.matpr.2020.02.605">https://doi.org/10.1016/j.matpr.2020.02.605</a>.</li> <li>• <b>Nisha Bala</b>, Shyama Rath, Effect of thermal annealing on the structural and optical properties of nickel oxide nanoparticles. <b>AIP Conference Proceedings</b> 2220, 020080 (2020). <a href="https://doi.org/10.1063/5.0001194">https://doi.org/10.1063/5.0001194</a>.</li> <li>• <b>Nisha Bala</b>, Shyama Rath, Optical spectroscopic investigation of sol-gel synthesized nickel oxide nanoparticles. <b>AIP Conference Proceedings</b> 2265, 030077 (2020). <a href="https://doi.org/10.1063/5.0017102">https://doi.org/10.1063/5.0017102</a>.</li> </ul>
<b>Conference Organization / Presentation (in the last three years)</b>
<ul style="list-style-type: none"> <li>• Oral presentation: International Conference on Advanced Materials and Nanotechnology (AMN-2020) on 20-22<sup>nd</sup> 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”.</li> <li>• Virtual National Webinar Series on Experimental &amp; Computational Tools for Materials Research (ECTMR 2020) on 01- 08<sup>th</sup> 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.</li> <li>• Virtual Workshop on Latex, Gandhi Institute of Technology and Management (GITAM) on 5-9<sup>th</sup> July 2021, Department of Mathematics School of Science, GITAM, Bengaluru, India.</li> <li>• Poster presentation: Virtual Conference: # IOPP poster conference Twitter Poster Conference on 15-16<sup>th</sup> July 2020. “Size-dependent vibrational and magnetic excitations of NiO nanoparticles probed by Raman spectroscopy.”</li> <li>• Poster presentation: International Conference on Materials for the Millennium – (MATCON 2021) on 15-19<sup>th</sup> 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.</li> <li>• Poster Presentation: Virtual Conference: International Conference on Nanotechnology: Opportunities &amp; Challenges, on 28-30<sup>th</sup> November, 2022. Department of Applied Sciences &amp; Humanities, Faculty of Engineering &amp; Technology, Jamia Millia Islamia, New Delhi, India Annealing Effects on the Microstructure, Stoichiometry, and Ferromagnetic/Antiferromagnetic Fraction in NiO Nanoparticles. (<b>Best Poster Presentation Award</b>).</li> </ul>
<b>Research Projects (Major Grants/Research Collaboration)</b>
<b>Not applicable</b>
<b>Awards and Distinctions</b>

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 25<sup>th</sup> Feb, 2023 to 27<sup>th</sup> March, 2023