

# CURRICULUM VITAE

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**Dr. RUPALI MISHRA**

Phone: 7459033915

Email ID: [rupalimishra29@gmail.com](mailto:rupalimishra29@gmail.com)

Address: South Civil Lines, Roorkee.



## CURRENT STATUS

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- Presently working as Assistant Professor at Methodist Girls P.G. college Roorkee, Haridwar.

## EDUCATIONAL QUALIFICATION

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- Ph. D on “Synthesis and Characterization of un-doped/doped ZnO based Binary and Ternary Semiconductor Nanostructures” in 2012.
- M. Sc in Physics with specialization in X-ray spectroscopy and crystallography from University of Allahabad, Allahabad, with 58% in 2003.
- B. Sc. in Physics and Mathematics from Faizabad University, Faizabad with 62% in 2001.
- Intermediate by U. P. Board with 66% in 1998.
- High School by U. P. Board with 56 % in 1996.

## TEACHING EXPERIENCE

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- One Year teaching experience at Govt. P.G. College, Joshimath as Guest Lecturer for undergraduate classes.
- One Year teaching experience at K.L.D.A.V. P.G. College, roorkee as Lecturer for postgraduate classes.

## SCIENTIFIC EXPERIENCE

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- Synthesis of II-VI semiconductor nanocrystals, like ZnO, ZnS, CdS by various chemicals routes like Hydrothermal, Solvothermal, Sol-gel, Thermal Decomposition, Solution Combustion, co-precipitation, ultrasonication.
- Capping and doping of nanocrystals by rare-earth and transition metal ion to tailor the optical property.
- Band-gap engineering of ZnO nanocrystals by controlling the size and alloying with Mg and Cd
- Determination of particle size, shape and distribution of nanocrystals by small angle X-ray and neutron scattering techniques.

- **Structural and Morphological Characterization of synthesized nanostructures by X-ray diffraction (XRD), Transmission Electron Microscopy(TEM)/Selected Area Electron Diffraction(SAED), Scanning Electron Microscopy(SEM)/(EDAX).**
- **Optical Characterization by UV-vis spectroscopy and Photoluminescence spectroscopy.**
- **Structural characterization of ZnO nanostructures Raman Spectroscopy, X-ray Photoelectron Spectroscopy (XPS), Fourier Transform Infrared Spectroscopy (FTIR).**
- **Photoconductivity study of ZnO nanostructures.**

## **PAPERS IN INTERNATION JOURNALS/CONFERENCES PROCEEDING**

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- Ashish K. Keshari, **Rupali Mishra**, Avinash C pandey – “Small Angle X-ray Scattering Study of Doped ZnO Nanocrystals Using Generalized Indirect Fourier Transform” published in *Advanced Science Letters, Volume 2, Number 1, March 2009, pp. 21-27(7)*
- **Rupali Mishra**, Manvendra Kumar, Avinash C. Pandey-“Formation of ZnO@Cd(OH)<sub>2</sub> nanoparticles by sol-gel method: An approach to modify surface chemistry for stable and enhanced green emission” published in *Journal of Luminescence 130 (2010) 365-373*
- Raghvendra S Yadav, **Rupali Mishra** and Avinash C Pandey- “Particle size distribution study by small-angle X-ray scattering technique and photoluminescence property of ZnO nanoparticles” published in *Journal of Experimental Nanoscience, Vol. 4, No. 2, June 2009, 139-146*
- Sharda Sundaram Sanjay, Manvendra Kumar, **Rupali Mishra**, Avinash C. Pandey - “Effects of amino-reagents on the morphology of nano-ZnO” published in *World Journal of Pharmaceutical Research, Vol 3, Issue 1, 350-358, ISSN 2277-7105.*
- Raghvendra S. Yadav , Priya Mishra, **Rupali Mishra**, Manvendra Kumar, Avinash C. Pandey-“Growth mechanism and optical property of CdS nanoparticles synthesized using amino-acid histidine as chelating agent under sonochemical process” published in *Ultrasonics Sonochemistry, Vol.17, 2010, 116-122.*
- Raghvendra S. Yadav, Priya Mishra, **Rupali Mishra**, Manvendra Kumar, Avinash C. Pandey- “Histidine functionalized biocompatible CdS quantum dots synthesized by sonochemical method” published in *Journal of Experimental Nanoscience, Vol. 5, No. 4, August 2010, 348-356.*

- Raghvendra S Yadav, **Rupali Mishra** and Avinash C Pandey –“ Mass scale production of ZnO orange nanophosphor by thermal decomposition of Zinc Acetate and its SAXS study” in *Proceeding of International conference on Recent Trends in nanoscience and nanotechnology, 7-9 Dec, 2006, Kolkata*
- **Rupali Mishra**, Avinash C. Pandey, Chitra Dar-“Surface modification of ZnO nanocrystals” published in *Proceeding of 54<sup>th</sup> DAE-Solid State Physics Symposium, Vadodara, 14-18 Dec 2009.*
- **Rupali Mishra**, Sharda S. Sanjay, Avinash C. Pandey, Chitra Dar-“Synthesis of Single Crystalline Hexagonal ZnO Nanocrystals by Thermal Decomposition of Octahedral Complex Compound of Zinc with Urea” published in *Proceeding of 54<sup>th</sup> DAE-Solid State Physics Symposium, Vadodara, 14-18 Dec 2009.*

## CONFERENCES ATTAINED AND PAPER PRESENTED

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- **Rupali Mishra**, Raghvendra S Yadav and Avinash C Pandey – “Synthesis and Photoluminescence Study of Eu<sup>2+</sup> Doped Zinc Sulphide Synthesized by Wet Chemical Method” presented at *International Conference on Luminescence and its Applications, Feb 13-16, 2008, New Delhi*
- **Rupali Mishra**, Avinash C Pandey- “Morphological and Photoluminescence Studies of ZnS:Mn nanostructures synthesized by a Solvothermal Process” presented at *International Conference on Nanoscience and Technology, Feb-2008, Chennai*
- **Rupali Mishra**, A. C. Pandey, Raghvendra S Yadav, A. K. Keshari, Prinsa Verma and Sarika Pandey- “SAXS study of ZnO and doped ZnO semiconductor nanocrystals” presented at *8<sup>th</sup> International Confererence on Nanostructured Materials, August 20-25, 2006*
- A. K. Keshari, A. C. Pandey, D Sharma, **Rupali Mishra**- “II-VI Semiconductor Nanocrystals and Small angle Scattering” presented at *International Conference on Nanoscience and Technology, March-2006, New Delhi*
- **Rupali Mishra**, Avinash C. Pandey, Chitra Dar- “Extraction of particle size distribution of II-VI semiconductor nanocrystals from small angle neutron scattering data using maximum entropy method” presented at *Conference on Neutron Scattering & Mesoscopic Systems, Goa, October 12-14, 2009*
- **Rupali Mishra**, Avinash C. Pandey, Chitra Dar- “Photoluminescence spectroscopy of rare-earth ion doped nanocrystalline ZnO synthesized by solution combustion method” presented at *Meghnad Saha Memorial Symposium on Emerging Trends in Laser & Spectroscopy and Applications, March 23-25, 2009, Allahabad*

- **Rupali Mishra**, Avinash C. Pandey, Chitra Dar- “Controlling the Surface Chemistry of ZnO nanocrystals synthesized by sol-gel method for Strong Green and UV Luminescence” presented at *International Conference on Transport and Optical Properties of Nanomaterials, Jan 5-8, 2009, Allahabad*
- **Rupali Mishra**, Avinash C. Pandey, Chitra Dar- “A Simple and High Yield Synthesis Method for Production of Hexagonal shaped ZnO nanocrystals and their morphological/defect evolution with temperature” presented at *11<sup>th</sup> International Conference of the International Academy of Physical Sciences, February 20-22, 2010, Allahabad.*
- **Rupali Mishra**, Avinash C. Pandey, Chitra Dar- “Controlling the Growth and Morphology of ZnO Nanostructures by Dopant Incorporation” presented at *INDIAS: 2010 Allahabad, India, 4<sup>th</sup> International Conference, September 19<sup>th</sup>-21<sup>th</sup>, 2010.*

## SCHOOL/WORKSHOP ATTENDED

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- *A Three-Day CEP Workshop on “SAXS for Nanotechnology, Characterization of Nano-Materials by Small Angle X-ray Scattering” held at Department of Chemical Engineering, IIT- Mumbai, India on 20-22 July 2005.*
- *One-day workshop on “Nanoscience and technology” (March 20, 2006), organized by DST Nanoscience and Technology Centre/Unit, Banaras Hindu University, Varanasi, India.*
- *School on “Neutron as Probes of Condensed Matter (NPCM-XIV) (October 5-10, 2009)” organized by UGC-DAE Consortium for Scientific Research, Mumbai Centre & Solid State Physics Division, BARC held at Bhabha Atomic Research Centre, Mumbai, India.*
- *School on “Science and Application of Luminescent Materials (SALM-2008)” organized by Luminescence Society of India & National Physical Laboratory, India held at NPL-India.*
- *One day workshop “International Workshop on Surface and Interface Modifications by Energetic Ion Beams” organized by Nanotechnology Application Centre, University of Allahabad, Allahabad and Inter University Accelerator Centre, New Delhi, India on March 18<sup>th</sup> 2009.*

## PROFICIENCY IN COMPUTERS

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- **Basic computer Knowledge ( MS Office, Internet)**
- **Programming Language**
- **One year diploma in Computer Operating and Programming Assistant**

## PERSONAL PROFILE

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<b>Father's name</b>	<b>: Mr. K. C. Mishra</b>
<b>Date of Birth</b>	<b>: 29<sup>th</sup> May 1980</b>
<b>Nationality</b>	<b>: Indian</b>
<b>Sex</b>	<b>: Female</b>
<b>Marital Status</b>	<b>: Married</b>
<b>Language Known</b>	<b>: Hindi, English</b>
<b>Hobbies</b>	<b>: Listening songs and watching Movies</b>

**Declaration:** I hereby declare that the above information's are correct to the best of my knowledge.

**(Rupali Mishra)**