




DEPARTMENT OF PHYSICS

DYAL SINGH COLLEGE, UNIVERSITY OF DELHI

FACULTY DETAIL



Title	Dr.	First Name	Monu	Last Name	Mishra	Photograph
Designation		Assistant Professor				
Address		Department of Physics Dyal Singh College Lodhi Road, Pragati Vihar New Delhi 110003, India				
Phone No Office						
Residence Mobile		9811535634				
Email		monumishra.physics@dsc.du.ac.in				
Web-Page		https://sites.google.com/view/drmonumishra/home				
Educational Qualifications						
Degree		Institution			Year	
Post Doctorate		Jawaharlal Nehru University, New Delhi			2023	
Ph.D.		Academy of Scientific and Innovative Research (AcSIR) CSIR – National Physical Laboratory, New Delhi			2019	
M.Sc.		Jamia Millia Islamia, New Delhi			2012	
B.Sc. (Hons.)		Deshbandhu College, University of Delhi, New Delhi			2010	
Career Profile						
2023 -		Assistant Professor, Dyal Singh College, University of Delhi (DU).				
2020 – 2023:		DS Kothari Postdoctoral Fellow, Jawaharlal Nehru University (JNU).				
2019 – 2020:		Senior Project Scientist, Indian Institute of Technology Delhi (IIT Delhi).				
Administrative Assignments (From 1st July 2018 onwards)						
		Member of Admission Committee (2023)				
		Member of Physics Society, COSMOS (2023)				
		Member of Parent Teacher Association (2023)				
Areas of Interest / Specialization						
		Material Science, Condensed Matter Physics, Semiconductor Physics, Nanotechnology, Thin Films, Electronic Materials and Devices, Optoelectronics, Solar Cells, Surfaces and Interfaces etc.				
Subjects Taught						
		Mechanics, Elements of Modern Physics, Analytics with Python, Solid State Physics				
Research Guidance						
		Have mentored Bachelor, Master and PhD students.				
Publications Profile (From 1st July 2018 onwards)						
Book Chapters						
		<ul style="list-style-type: none"> Anand Kumar, Harpreet Singh, Sangeeta, Monu Mishra, Sarvesh Kumar, Parmod Kumar and Manish K. Kashyap, Chapter 15: Electrical and Dielectric Behavior in Oxide Semiconductors, Book: Defects Induced Magnetism in Oxide Semiconductors, ISBN: 9780323909075, Elsevier (2023). 				

SCI Journal Articles

- Harpreet Singh, Anand Kumar, Parvesh K. Deendyal, Shweta Dhakla, **Monu Mishra** and Manish K. Kashyap; Optimization of Nickel (II) Oxide thin films for hole transport material of perovskite solar cell. AIP Conference Proceedings (**Accepted**)
- **Monu Mishra**, Jitendra Sharan, Veena Koul, Om. P. Kharbanda, Ashish Kumar, Ashok Sharma, Timothy A. Hackett, Ram Sagar, Manish K. Kashyap and Govind Gupta; Surface functionalization of Gallium Nitride for biomedical implants applications. Applied Surface Science 612, 155858 (**2023**)
- **Monu Mishra**, Ajit Dash, Anuj Sharma, Manika Khanuja and Govind Gupta; CO sensing properties on nanostructured WSe₂/GaN and MoSe₂/GaN based gas sensors. Physica E: Low Dimensional Systems and Nanostructures 139, 115157 (**2022**)
- **Monu Mishra**, Swapnil Barthwal, Bhera Ram Tak and Rajendra Singh; Temperature driven perturbations in growth kinetics, structural & optical properties of NiO thin films. Physica Status Solidi A 218, 2100241 (**2021**)
- **Monu Mishra**, Varun Thakur, Pankaj Srivastava and Govind Gupta; Investigation of band offset at PEDOT: PSS/GaN interface. Applied Physics A 127, 274 (**2021**)
- **Monu Mishra** and Govind Gupta; Electronic properties and oxygen chemisorption at Al_xGa_{1-x}N surfaces. Material Chemistry and Physics 239, 122106 (**2020**)
- **Monu Mishra**, Naman Kumar Bhalla, Ajit Dash and Govind Gupta; Nanostructured GaN and AlGa_xN/GaN heterostructure for catalyst-free low-temperature CO sensing. Applied Surface Science 481, 379 (**2019**)
- **Monu Mishra**, Abhiram Gundimeda, Tushar Garg, Ajit Dash, Susanta Das, Vandana and Govind Gupta; ZnO/GaN heterojunction based self-powered photodetectors: Influence of interfacial states on UV sensing. Applied Surface Science 478, 1081 (**2019**)
- Abhiram Gundimeda, **Monu Mishra** and Govind Gupta; Influence of wet chemical etching on electronic structure and optical response of polar (0001) GaN films. Material Chemistry and Physics 230, 326 (**2019**)
- Neha Aggarwal, Shibin Krishna, Shubhendra Kumar Jain, **Monu Mishra**, K. K. Maurya, Sandeep Singh, Mandeep Kaur and Govind Gupta; Microstructural evolution of high quality AlN grown by PAMBE under different growth conditions. Material Science and Engineering: B 243, 71, (**2019**)
- Swati Soni, Neelu Chouhan, Rajesh Kumar Meena, Sudhish Kumar, Bhavana Dalela, **Monu Mishra**, Rajendra Singh Meena, Govind Gupta, Shalendra Kumar, Parvez Ahmad Alvi and Saurabh Dalela; Reduction of rocksalt phase in Ag-doped Ge₂Sb₂Te₅: A potential material for reversible near-infrared window. Physical Review Applied 10, 054070 (**2018**)
- Palwinder Singh, Abhinav Pratap Singh, Jeewan Sharma, Akshay Kumar, **Monu Mishra**, Govind Gupta and Anup Thakur; Electronic structures and room temperature ferromagnetism in Gd-doped cerium oxide nanoparticles for hydrogen generation via photocatalytic water splitting. Global Challenges 2, 1800090 (**2019**)
- Shubhendra Kumar Jain, **Monu Mishra**, Neha Aggarwal, Shibin Krishna, Bhasker Gahtori, Akhilesh Pandey and Govind Gupta; Influence of temperature and Al/N ratio on structural, chemical electronic properties of epitaxial AlN films grown via PAMBE. Applied Surface Science 455, 919 (**2018**)
- Shubra Lalwani, Ram Bhagat, **Monu Mishra**, Govind Gupta, Gurmeet Singh and Raj Kishore Sharma; Edge enriched cobalt ferrite nanorods for symmetric/asymmetric charge storage. Electrochimica Acta 283, 708 (**2018**)
- Rahul Kumar Chauhan, Pawan Kumar Kulriya, **Monu Mishra**, Fouran Singh, Govind Gupta and Mahesh Kumar; Highly selective and reversible NO₂ gas sensors using vertically aligned MoS₂ flake networks. Nanotechnology 29, 46 (**2018**)
- Swati Soni, V. S. Vats, Sudhish Kumar, Bhavana Dalela, **Monu Mishra**, Rajendra Singh Meena, Govind Gupta, Parvez Ahmed Alvi and Saurabh Dalela; Structural, optical and magnetic properties of Fe-doped CeO₂ samples probed using X-ray photoelectron spectroscopy. Journal of Materials Science: Materials in Electronics 29, 10141 (**2018**)
- Neha Sarin, **Monu Mishra**, Manju Arora, Govind Gupta and Vandana Luthra; Deciphering the role of oxygen vacancies on structural, electrical, and magnetic properties of Fe substituted Strontium Titanate. Physica Status Solidi B 255, 1700683 (**2018**)

- Neeraj Goel, Rahul Kumar Chauhan, **Monu Mishra**, Govind Gupta and Mahesh Kumar; Determination of band alignment at two-dimensional MoS₂/Si van der Waals heterojunction. Journal of Applied Physics 123, 225301 (2018)
- Reena Goyal, Avinash Kumar Srivastava, **Monu Mishra**, Govind Gupta, Rajveer Jha and VPS Awana; X-ray photoelectron spectroscopy, magneto-transport and magnetization study of Nb₂Pd₅S₅ superconductor. Journal of Superconductivity and Novel Magnetism 31, 943 (2018)
- Rahul Kumar, Neeraj Goel, **Monu Mishra**, Govind Gupta, Mattia Fanetti, Matjaz Valant and Mahesh Kumar; Growth of MoS₂-MoO₃ hybrid micro-flowers via controlled vapor transport process for efficient gas sensing at room temperature. Advanced Materials and Interfaces 3, 1800071 (2018)
- Vijay K. Singh, Saurabh Kumar, Sumit Kumar Pandey, Saurabh Srivastava, **Monu Mishra**, Govind Gupta, Bansi D. Malhotra, R. S. Tiwari and Anchal Srivastava; Fabrication of sensitive bioelectrode based on atomically thin CVD grown graphene for cancer biomarker detection. Biosensors and Bioelectronics 105, 173 (2018)
- Prashant Tyagi, Ch Ramesh, Sunil Singh Kushwaha, **Monu Mishra**, Govind Gupta, B. S. Yadav and M. Senthil Kumar; Dependence of Al incorporation on growth temperature during laser molecular beam epitaxy of Al_xGa_{1-x}N epitaxial layers on sapphire (0001). Journal of Alloys and Compounds 739, 122 (2018)
- Pradeep Sambyal, Gazala Ruhi, **Monu Mishra**, Govind Gupta and Sundeep K Dhawan; Conducting polymer/biomaterial composite coatings for corrosion Protection. Materials and Corrosion 69, 402 (2018)
- **Monu Mishra**, Abhiram Gundimeda, Shubin Krishna, Neha Aggarwal, Lalit Goswami, Bhasker Gahtori, Biplab Bhattacharya, Sudhir Husale and Govind Gupta; Surface engineered nanostructure based efficient nonpolar GaN ultraviolet photodetectors, ACS Omega, 3, 2304 (2018)
- Neha Sarin, **Monu Mishra**, Govind Gupta, Ivan P Parkin and Vandna Luthra; Elucidating iron doping induced n-to p-characteristics of Strontium titanate based ethanol sensors. Current Applied Physics 18, 246 (2018)
- Anshuman Sahai, Navendu Goswami, **Monu Mishra** and Govind Gupta; Structural, vibrational and electronic properties of CuO nanoparticles synthesized via exploding wire technique. Ceramics International 44, 2478 (2018)
- Abhiram Gundimeda, **Monu Mishra**, Razi Ahmad, Ritu Srivastava, Umesh Dwivedi and Govind Gupta; Influence of active layer thickness on electrical properties of P3HT/n-Si based hybrid heterostructure. Indian Journal of Pure and Applied Physics 56, 468 (2018)
- Jitendra Sharan, Veena Koul, Amit K. Dinda, Om P. Kharbanda, Shantanu V. Lale, Ritu Duggal, **Monu Mishra**, Govind Gupta and Manoj P. Singh; Bio-functionalization of grade V titanium alloy with human type I human collagen for enhancing and promoting human periodontal fibroblast cell adhesion – an in-vitro study. Colloids and Surfaces B: Biointerfaces 161, 1 (2018)

Conference Organization/ Presentations (From 1st July 2018 onwards)

- 2022:** ECS Symposium on Sensors for Society, New Delhi, India.
- 2021:** IEEE: International Conference on Emerging Electronics, IIT Delhi, India.
- 2020:** DAE Solid State Physics Symposium, IIT Jodhpur, India.
- 2019:** Walter Schottky Institute, TU Munich, Munich, Germany (Invited Talk).
- 2019:** Okinawa Institute of Science and Technology, Okinawa, Japan (Invited Talk).
- 2018:** AVS 65th Symposium, Long Beach California, USA.
- 2018:** ESONN Meeting, University of Grenoble, Grenoble France

Research Projects (Major Grants/Research Collaboration) (From 1st July 2018 onwards)

NA

Awards and Distinctions (From 1 st July 2018 onwards)
<p>2023: Invited Talk, Advanced Materials and their Applications Workshop, UPES, Dehradun, Uttarakhand, India.</p> <p>2022: Best Oral Presentation Award, ECS Symposium on Sensors for Society, New Delhi, India.</p> <p>2021: Best PhD Thesis Award - 2019 (Physical Sciences), by AcSIR (among 36 institutes), India.</p> <p>2020: Research Opportunity Week Fellowship, Technical University of Munich, Germany.</p> <p>2020: Dr. DS Kothari Postdoctoral Fellowship, by UGC (Ministry of Education), India.</p> <p>2019: Young Scientist, at 69th Lindau Nobel Laureate Meetings, Lindau, Germany.</p> <p>2018: Graduate Research Award - 2018, by American Vacuum Society (AVS), California, USA.</p> <p>2018: Applied Surface Science Divisional Award, by American Vacuum Society (AVS), California, USA.</p> <p>2018: ESONN Fellowship, by Indo-French Centre for Promotion of Advanced Research, New Delhi, India.</p> <p>2018: Frans Habraken Best Paper Award, Journal: Applied Surface Science, Elsevier, The Netherlands.</p>
Association With Professional Bodies
<p>Lindau Nobel Laureate Meetings: Germany</p> <p>Indo-French Centre for Promotion of Science and Research: France/India.</p> <p>American Vacuum Society: USA</p> <p>Material Research Society: USA</p>
Other Activities like MOOCs/ Patents etc. (From 1 st July 2018 onwards)
NA

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Mishra

Signature of Faculty Member