



Department of Freshman Engineering

Faculty Profile

Name	: Dr. Nalin Prashant Poddar
Designation	: Assistant Professor (Physics)
Qualification	: M.Sc., Ph.D.
Specialization	: Physics (Material Science)
Total Experience	: 03 years
JNTUH ID	: 9990-240910-223237
AICTE ID	:
E-Mail	: nalinppoddar@gmail.com prashant.p@sphoorthyengg.ac.in
Linked In	: https://www.linkedin.com/in/nalinprashant/
ORCID	: 0000-0003-0211-0425
Researcher ID	: E-7989-2019
Scopus ID	: 57193093254
Google Scholar	: https://scholar.google.co.in/citations?user=Z3-RIZYAAAAJ&hl=en&authuser=1



Work Experience:

- **Research Associate at Indian Institute of Technology, Hyderabad, India**
(January 2024 – July 2024)
- **Research Associate at Defence Metallurgical Research Laboratory (DMRL),
Defence Research and Development Organisation (DRDO) Hyderabad, India**
(January 2022 – January 2024)

Publications:

SCI/SCOPUS Journals

- Saroj Kumar Mishra, Ajit Kumar Sahoo, **Nalin Prashant Poddar**, J. Arout Chelvane, and J. Mohanty, “Investigation of magnetic domain interactions and switching mechanism in sputter deposited Fe-Co-Al thin film”, Journal of Magnetism and Magnetic Materials, 610 (2024), 172535.
<https://doi.org/10.1016/j.jmmm.2024.172535>
- **Nalin Prashant Poddar**, J. Arout Chelvane and M. Manivel Raja, “Investigations on the Structural and Magnetic Properties of Ni-FeGa Bimorphs for Magnetostrictive Applications”, Journal of Superconductivity and Novel Magnetism, 37 (2024), 1-5.
<https://doi.org/10.1007/s10948-024-06793-8>
- **Nalin Prashant Poddar**, J. Arout Chelvane, N. D. Vara Prasad and M. Manivel Raja, “Magnetic and Electrical Properties of Sputtered Ni Films”, Journal of Superconductivity and Novel Magnetism, 37 (2024), 1133-1140.
<https://doi.org/10.1007/s10948-024-06722-9>
- **Nalin Prashant Poddar**, J. Arout Chelvane and M. Manivel Raja, “Growth Rate and Substrate Temperature Dependent Magnetic and Magneto-microstructural Properties of Sputtered Fe-Co-Al Thin Films”, Journal of Magnetism and Magnetic Materials, 587 (2023), 171362.
<https://doi.org/10.1016/j.jmmm.2023.171362>
- **Nalin Prashant Poddar**, J. Arout Chelvane, N. D. Vara Prasad and M. Manivel Raja, “Thickness Dependent Magnetic Anisotropy Studies in Sputtered Fe-Co-Al Thin Films” Surfaces and Interfaces, 41 (2023) 103266.
<https://doi.org/10.1016/j.surfin.2023.103266>
- **Nalin Prashant Poddar**, S. K. Mukherjee, “Effect of Substrates and Post-Deposition Annealing on RF-Sputtered Al-doped ZnO (AZO) Thin Films”, Journal of Materials Science: Materials in Electronics, 30 (2019) 14269-14280.
<https://doi.org/10.1007/s10854-019-01796-x>
- **Nalin Prashant Poddar**, S. K. Mukherjee, “Investigations on Preferentially Oriented Al-doped ZnO Films Developed using RF Magnetron Sputtering”, Journal of Materials Science: Materials in Electronics, 30 (2019) 537-548.
<https://doi.org/10.1007/s10854-018-0320-6>
- **Nalin Prashant Poddar**, S. K. Mukherjee, Mukul Gupta, “Anatase Phase Evolution and its Stabilization in Ion Beam Sputtered TiO₂ Thin Films”, Thin Solid Films, 666 (2018) 113-120.
<https://doi.org/10.1016/j.tsf.2018.09.038>

Other Journals

- **Nalin Prashant Poddar**, S. K. Mukherjee, “Characterization of TiO₂ Thin Films Deposited by using DC Magnetron Sputtering”, Carbon – Sci. Tech. 8/2(2016)1-8, ISSN 0974 – 0546.

- Diksha Kumari, **Nalin Prashant Poddar**, S. K. Mukherjee, P. Saravanan, “Corrosion Behaviour of RF Sputtered Al-doped ZnO Thin Films”, CORCON 2019 Proceedings, MC33 (2019) 1-19.

Presentations in Conferences:

- **Nalin Prashant Poddar**, J. Arout Chelvane and M. Manivel Raja, “Investigations on the Structural and Magnetic properties of Ni/Fe-Ga Multilayers for Magnetostrictive Applications”, pp. 204. **International Conference on Magnetic Materials and Applications (ICMAGMA 2023)**, Hyderabad, India.
- **Nalin Prashant Poddar**, J. Arout Chelvane and M. Manivel Raja, “Growth Temperature Dependent Magnetic and Magnetic Microscopic Properties of Sputtered Fe-Co-Al Thin Films”, pp. 61. **International Conference on Functional Materials for Future Technology (IC-FMFT 2023)**, VIT, Vellore, India.
- **Nalin Prashant Poddar**, J. Arout Chelvane and M. Manivel Raja, “Thickness Dependent Magnetic Anisotropy Studies in Sputtered Co-Fe-Al Thin Films”, pp. 344, **7th International Conference on Nanoscience and Nanotechnology (ICONN-2023)**, SRM Institute of Science and Technology, Chennai, India.
- **Nalin Prashant Poddar**, Himalay Basumatary, J. Arout Chelvane and M. Manivel Raja, “Fabrication of Pt Thin Film High Temperature Sensors for Jet Engine”, **76th Annual Technical Meeting (ATM), The Indian Institute of Metals (IIM)**, Hyderabad, India. (2022)
- **Nalin Prashant Poddar** and S. K. Mukherjee, “Deposition and Characterization of ZnO and Al-doped ZnO Thin Films for Optoelectronic Applications”, pp. 106. **1st Research Scholars Colloquium 2019**, BIT Mesra, Ranchi, India.
- **Nalin Prashant Poddar** and S. K. Mukherjee, “Microstructural and Optical Studies on Nanocrystalline NiO Thin Films Deposited using RF Magnetron Sputtering”, P165-J13, pp. 141. **17th International Conference on Thin Films (ICTF 2017)**, CSIR-NPL, New Delhi, India.
- **Nalin Prashant Poddar**, Rajan Kr. Singh and S. K. Mukherjee, “Investigation on Preferentially Oriented Al-doped ZnO Thin Films Developed using RF Magnetron Sputtering”, pp. 99. **4th International Conference on Nanoscience and Nanotechnology (ICONN 2017)**, SRM University, Chennai, India.
- **Nalin Prashant Poddar** and S. K. Mukherjee, “Characterization of TiO₂ Thin Films Deposited by using DC Magnetron Sputtering”, pp. 28. **International Conference on Alternative Energy Sources (ICAES 2016)**, BIT Mesra, Ranchi, India.
- V. Bandyopadhyay, **N. P. Poddar**, N. Kishore and S. Mukherjee, “Evidence of Itinerant Ferromagnetism in Transition Metal Doped ZnO Nanostructures” in **National Workshop on Radiation NWR-2013**, Central University of Jharkhand, Ranchi, India.

Participation in Workshops / Conferences:

- **International Virtual Conference on Advances in Functional Materials (AFM 2020)** at KIIT Bhubaneswar, Odisha, India. [2020]
- One day webinar on **Challenge Involved in Simulating Complex Systems** at BIT Mesra, Ranchi, India. [2020]
- **National Science Day** events at BIT Mesra, Ranchi, India. [2020]
- Seminar on **Powder Rheology and Surface Area Characterization**, organised by **Anton Paar** at BIT Mesra, Ranchi, India. [2020]
- **One Day Workshop on Intellectual Property Rights** at BIT Mesra, Ranchi, India. [2019]
- **One Day Workshop on Intellectual Property Rights Managements** at BIT Mesra, Ranchi, India. [2019]
- **One Day Workshop on Lab safety - Pitfall and Remedies** at BIT Mesra, Ranchi, India. [2018]
- **3rd International Conference on Microelectronics Computing & Communication Systems (MCCS 2018)** at Advanced Regional Telecom Training Centre, BSNL, Ranchi, India. [2018]
- **ICTF 2017 Pre-Conference Workshop on Thin Films & Coating Technology: Science and Industry** at CSIR-NPL, New Delhi, India. [2017]
- **7th International Conference on Smart Materials Structures and Systems ISSS 2014** at Indian Institute of Science, Bengaluru, India. [2014]
- **ISSS 2014 Pre-Conference Workshop on Micro and Nano Fabrication** at Central Manufacturing Technology Institute, Bengaluru, India. [2014]
- **One Day Workshop on Solar Cell** at BIT Mesra, Ranchi, India. [2014]
- **Condensed Matter Days 2012** at BIT Mesra, Ranchi, India. [2012]

Courses and Training:

- **Advanced Functional Materials: Processing, Characterization & Product Realization** under **Continuing Education Programme (CEP) of DRDO** held at DMRL, Hyderabad, India. [2023]
- **Writing in the Sciences** - an online non-credit course authorised by **Stanford University** and offered through **Coursera**. [2023]
- **One Week (Online) Short Term Course on Advanced Energy Materials** organized by Department of Physics, DBRA-NIT, Jalandhar, India. [2020]
- **Short-Term Course on Vacuum Science and Thin-Film Technology (VSTFT-2020)** under the **Quality Improvement Programme (QIP)** conducted by the Department of Physics, IIT Guwahati, India. [2020]
- **Online Short Term Course on Material Characterization Techniques** organized by Institute Instrumentation Centre, DBRA-NIT, Jalandhar, India. [2020]

- **Science Academics 99th Refresher Course on Experimental Physics** at Department of Physics, BIT, Mesra, Ranchi, India. [2018]
- **INUP Hands-on Training Workshop on Nanofabrication Technologies** including training on **MOS Capacitor and Micro and Nano Characterization Techniques** at Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science, Bengaluru, India. [2015]
- **INUP Familiarization Workshop on Nanofabrication Technologies** at Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science, Bengaluru, India. [2015]
- **Summer Project (STIP2012)** at Indira Gandhi Centre for Atomic Research, Kalpakkam, Tamil Nadu, India. [2012]

Awards and Achievements:

- **Best Poster Presentation** award in International Conference on Magnetic Materials and Applications (ICMAGMA 2023), Hyderabad, India [2023].
- **Third Prize** (Poster) in 1st Research Scholars Colloquium 2019 at BIT, Mesra, Ranchi, India [2019].
- Awarded **Short Term Financial Assistantship** from **TEQIP III** by Birla Institute of Technology, Mesra, India (Apr. 2019 – Dec. 2019).
- Awarded **Institute Fellowship** for Ph.D. by Birla Institute of Technology, Mesra, India (Sept. 2013 – Aug. 2016).

Membership of Scientific Societies:

- **Magnetics Society of India (MSI)** – Life Member (LM 853)
- **Materials Research Society of India (MRSI)** – Life Member (LMB 3785)

Faculty development programs attended: