

Curriculum Vitae

Full Name	Dr. Om Prakash			
Designation	Assistant Professor			
Department	Applied Sciences & Humanities			
Campus	HNB Garhwal, Central University, Srinagar Uttarakhand-246174			
Mobile	+91-9501242909			
E-mail	ompnphy@gmail.com			
Education Qualification		• Bachelor of Science (B.Sc. Non-Medical), PCM. Himachal Pradesh University. • Master of Science (M.Sc.) Physics, (Nano Science & Technology), Guru Nanak Dev University, Amritsar, Punjab, India • Doctor of Philosophy, (Ph.D.), Solar Photovoltaics, Guru Nanak Dev University, Amritsar, Punjab, India. • Qualified “Graduate Aptitude Test in Engineering” (GATE), in Physics, 2016, 2019, Organized by the Indian Institute of Science, Bangalore (IISc), and Indian Institute of Technology (IIT), Madras, Chennai India.		
Teaching Expertise		7 years +	Research Expertise	10 Years +
Areas of Interest: ❖ Material Science, Thin Film for Organic Photovoltaics, Electrode Material for Energy Storage Devices. Specialization: Device Fabrication Based Expertise: ❖ Dye-Sensitized Solar Cells (DSCs), Perovskite Solar Cells.				

- Expertise in synthesizing of Nano thin films of metal oxides and 2D materials using spin coating, e-beam deposition, Physical vapor deposition, Langmuir Blodgett techniques, chemical vapor deposition (CVD) and their composites with carbon-based materials such as CNT, using hydrothermal, and chemical route method for the applications of energy storage and power conversions devices.

Material Science Based Expertise:

- Solar Photovoltaics, Organic Solar Cells
- Energy conversions and storage devices
- Metal Oxide Semiconductors, 2D materials
- Thin Film Deposition (Inorganic/ Organic Materials)

Administrative Expertise:

- Co-ordinator, B.Tech. 1st Year, 2025-26.
- Member of the Departmental Purchase Committee.
- Member of B.Tech. 1st Year Classes Committee.
- Member of the B. Tech. Admission Committee, CUCET, H.N.B. Garhwal Central University, Srinagar Uttarakhand.
- Member of the Institute Innovation Council (IIC), Wall of Fame, H.N.B. Garhwal Central University, Srinagar Uttarakhand.
- Member of the Science Festival, 2023, H.N.B. Garhwal Central University, Srinagar (Garhwal).
- Member of School Board, School of Engineering and Technology

Conferences/Workshops:

1. Paper entitled "Study of Dielectric & Ferroelectric Behaviour in Mn Modified BaTiO₃" has been presented in DAE-SSPS (2025), held at IIT Roorkee, Uttarakhand, India, during 19th – 23rd December, 2025.
2. Participation in the Two-day **National Workshop on**, Ion Beam in Energy Materials (IBEM-2024) during August 6-7, 2024, organized by Inter-University Accelerator Centre, New Delhi.
3. One-day **International Workshop on Translating Glass Science into Technology** Akal University, Talwandi Sabo, Punjab, India, (July 25, 2022).

4. Participated in Global Initiatives of Academic Network (GIAN) course “**Characterizing nanomaterials through X-ray photoemission spectroscopy**” from 9th Dec 2022 to 13th Dec. 2022, organized by Punjab University Chandigarh, Punjab, India.
5. Organizing Member of, **General Physics Lecture Series**, organized by department of Physics H. N. B. G. U. Central University, Garhwal, Srinagar, Uttarakhand, India.
6. Organizing Member of, **Mini-Workshop, on Getting Involved with Physics** organized by department of Physics H. N. B. G. U. Central University, Garhwal, Srinagar, Uttarakhand, India.
7. CERTIFICATE OF REVIEWING in INTERNATIONAL CONFERENCE OF MULTIDISCIPLINARY ASPECTS OF MATERIALS IN ENGINEERING – 2021, Organised by UNIVERSITY INSTITUTE OF ENGINEERING & TECHNOLOGY, PANJAB UNIVERSITY, CHANDIGARH.
8. Paper entitled “Growth of Few Layered Molybdenum Disulphide.” has been presented in DAE-SSPS (2018), held at Guru Jambheshwar University of Science & Technology, Hisar, Haryana, India, during 18th – 22th December 2018.
9. Paper entitled “Tungsten Disulfide Nanoparticles Anchored on Reduced Graphene Oxide for Dye-Sensitized Solar Cell Applications.” has been presented in DAE-SSPS (2017), held at Bhabha Atomic Research Center, Mumbai, India, during 26th – 30th December 2017.
10. Pre-conference workshop on “Thin Film Solar Cells”, held at CSIR-National Physical Laboratory, New Delhi, India, on 13th November 2017.
11. The paper entitled “Synthesis and characterization of MoS₂ few-layered films.” was presented at the International Conference on Thin Films (ICTF 2017)”, held at CSIR-National Physical Laboratory, New Delhi, India, from 13th – 17th November 2017.
12. The paper entitled “Optimization of scattering enhancement by varying the morphology of photoanode in dye-sensitized solar cells.” was presented at the International Photovoltaic Solar Energy Conference (IPSEC) SOLAR ASIA-2015”, held at the Department of Physics, Savitribai Phule Pune University, Pune, India, during 30th July – 1st August 2015.

Publications:

Journals

1. Experimental and first-principle insight into Structural, optical and electrical properties and photocatalytic water purification application of $\text{Zn}_{1-x}\text{Mg}_x\text{O}$, Jasvir Singh, Gurdev Preet Singh, Ravish Kumar Jain, Sahil Gasso, **Om Prakash**, K. J. Singh, Ravi Chand Singh, **Inorganic Chemistry Communications**, 162, (2024), 112238. (I.F. = 5.4).
2. Experimental and DFT+ U Investigations of the $\text{Cu}_{1-x}\text{Cd}_x\text{O}$ Nanoparticles Synthesized for Photocatalytic Degradation of Organic Pollutants: Environmental Application, Gurdev Preet Singh, Jasvir Singh, Khalid Mujasam Batoo, Ahmed Ahmed Ibrahim, Om Prakash, Amritpal Singh Nindrayog, KJ Singh, **Water, Air, & Soil Pollution**, 235, (2024), 117. (I.F. = 2.9).
3. Solution processable transition metal oxide ultra-thin films as alternative electron transport and hole blocking layers in dye sensitized solar cells. **Om Prakash**, Vibha Saxena, R. K. Bedi, A.K. Debnath, Aman Mahajan, **Journal of Photochemistry and Photobiology A: Chemistry**, 418, (2021), 113385. (I.F. = 4.3).
4. Low temperature processable ultra-thin WO_3 Langmuir-Blodgett film as excellent hole blocking layer for enhanced performance in dye-sensitized solar cell. **Om Prakash**, Vibha Saxena, Sipra Choudhury, Tanvi, Ajay Singh, A.K. Debnath, A. Mahajan, K.P. Muthe, D.K. Aswal, **Electrochimica Acta**, 318, (2019), 405-412. (I.F. 7.336).
5. Improved performance of dye-sensitized solar cell via fine-tuning of ultrathin compact TiO_2 layer. Tanvi, Vibha Saxena, Ajay Singh, **Om Prakash**, A. Mahajan, A.K. Debnath, K.P. Muthe, S.C. Gadkari, **Solar Energy Materials and Solar Cells**, 170, (2017), 127–136. (I.F. 7.305).

Book Chapters:

1. Application of Inorganic and Organic Materials as Ozone Gas Sensors, **Om Prakash**, Jasvir Singh, Ramandeep Kaur, and Rajan Saini, Ozone Gas Sensing Technologies Innovations and Challenges, (2026), 205-228. <https://doi.org/10.1016/B978-0-443-33839-7.00001-X>.

Proceedings:

1. Growth of Few Layered Molybdenum Disulphide, **Om Prakash**, Aman Mahajan, R. K. Bedi and Vibha Saxena, AIP Conf. Proc. 2115, (2019), 030616.
2. Tungsten Disulfide Nanoparticles Anchored on Reduced Graphene Oxide for Dye Sensitized Solar Cell Applications, Sanjeev Kumar, **Om Prakash**, Aman Mahajan, and Vibha Saxena,

AIP Conf. Proc. 1942, (2018), 050101.

Membership:

- ❖ Life Time Membership of Indian Science Congress Association.
- ❖ Life Time Membership of Vijnana Bharati (VIBHA), India

Project and Grants Submitted/Sanctioned: (01) As Co -PI

Project Title: Corrosion Mitigation of metal by using Ionic Liquids in Acidic Medium.

Total Grants: 2,10,000/-

Ph.D./M.Sc./UG Students Guided

- ❖ Guided 03, Master of Sciences (M.Sc.) students in their dissertations and 02 Graduate students.

Research Collaboration/Teamwork

- ❖ Guru Nanak Dev University, Amritsar, India
- ❖ Bhabha Atomic Research Centre (BARC) Mumbai, Trombay, India

Hands on Expertise of Scientific Instrument:

Synthesis and operating method:

Spin Coater
Chemical Vapour Deposition (CVD)
Physical Vapour Deposition (PVD)
Electron Beam Systems (e-beam)
Hydrothermal method
Glove Box

Characterization Techniques:

UV Visible spectroscopy, X-rays Diffractometer, Raman spectroscopy, Field emission scanning electron microscopy (FESEM), HR-TEM (JEOL JEM 2100), Photoluminescence spectrophotometer, AUTOLAB Galvanostat/Potentiostat System, UV-Ozone Cleaner, Solar Simulator, Keithley Source Meter.

Google Scholar link:

<https://scholar.google.co.in/citations?user=VcNCeQoAAAAJ>

Vidwan Link:

<https://vidwan.inflibnet.ac.in/profile/520367>

ORCID Link:

<https://orcid.org/0000-0002-4474-8702>

Web of Science Link:

<https://www.webofscience.com/wos/author/record/AAH-7211-2021>