

CURRICULUM VITAE

Dr. Priyanka Chaudhary

C/O Prof. Bal Chandra Yadav

Nanomaterial and sensors laboratory (NMSL)

Department of Physics, School of Physical and

Decision Sciences, Babasaheb Bhimrao Ambedkar (A

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Research Gate: <https://www.researchgate.net/profile/Priyanka-Chaudhary-13>

EXPERIMENTAL SKILLS

- **Green route quantum dots:** The nontoxic using waste materials green and blue fluorescence quantum dots.
- **Chemical routes for preparation of quantum dots:** Kinetic growth method
- **Polymerization routes:** Frontal and solution process free radical method.
- **Material synthesis: Quantum dots (chemical and green routes), 2D nanosheets and 3D nanostructures binary and ternary, quantum-confined nanomaterials with highly conducting metal sulphide nanosheets, CNT, Carbon quantum dots, Carbon foam.**
- **Electrical characterizations:** Impedance analyzer (Wayne Kerr Precision Component Analyzer, 6440B), Keithley electrometer (6517 B), electrochemical studies, frequency based impedance analysis.

✍ **Hands on Experience**

- ❖ Scanning Electron Microscope (SEM)
- ❖ UV-Vis Spectrophotometer
- ❖ DLS Techniques
- ❖ XPS
- ❖ Transmission Electron Microscope

X-Ray Diffraction
Photoluminescence spectroscopy

✍ **Fabrication of device:**

- ❖ Spin coating
- ❖ Drop cast
- ❖ Chemical Vapor Deposition (CVD)
- ❖ Physical Vapor Deposition (PVD)
- ❖ Spray pyrolysis deposition
- ❖ Thermal evaporation

✍ **Sensing and energy applications**

- ❖ Humidity sensors
- ❖ Biosensors
- ❖ Flexible switching devices

Gas and VOC sensors
Wearable sensors
Photodetectors

✍ **Computational skills**

- ❖ Origin Lab

DFT Study,

EDUCATIONAL QUALIFICATION

- 2016- 2022** **Ph. D. in Applied Physics**
Nanomaterial and sensors laboratory (NMSL)
Institute: Babasaheb Bhimrao Ambedkar (A Central)
University, Lucknow-India, Uttar Pradesh
Vidya Vihar, Raibareli Rd, 226025
Thesis Title: Investigations on Nanometallopolymers and Quantum dots with their Humidity and Gas sensing applications.
Ph.D. Supervisor: [Prof. Bal Chandra Yadav](#)
- 2015-2016** **M.Phil. in Applied Physics (Gold medalist)**
Nanomaterial and sensors laboratory (NMSL)
Thesis Title: Investigation and characterization of copper (II) nitrate acryl amide and its application as humidity sensor
Institute: Babasaheb Bhimrao Ambedkar University, Lucknow India
Supervisor: [Prof. Bal Chandra Yadav](#)

SELECTED PUBLICATION

1. M. Gupta, [Priyanka Chaudhary](#), A. Singh, A. Verma, D. Yadav, B. C. Yadav, Development of MoO₃-CdO nanoparticles -based sensing device for the detection of harmful acetone levels in our skin and body via nail paint remover, *Sensors and actuators :B*, (2022), [10.1016/j.snb.2022.132102](#), *Q1(IF = 9.21)*
2. A. Verma , [Priyanka Chaudhary](#) , A. Singh, R. K. Tripathi , B. C. Yadav, ZnS Nanosheets in Polyaniline Matrix as Metallopolymer Nanohybrids for Flexible and Bio Friendly Photodetectors, *ACS Applied Nano Materials*, (2022) [10.1021/acsanm.1c04437](#), *Q1(IF = 5.62)*.
3. [Priyanka Chaudhary](#), D. K. Maurya, A. Pandey, A. Verma, R. K. Tripathi, S. Kumar, B. C. Yadav, Design and development of flexible humidity sensor for baby diaper alarm: Experimental and theoretical study, *Sensors & Actuators: B. Chemical* **350** (2022) [130818](#), *Q1(IF = 9.21)*.
4. [Priyanka Chaudhary](#) , A. Verma , A. Mishra , D. Yadav , K. Pal , B.C. Yadav , E. R. Kumar, K. B. Thapa, S. Mishra, D.K. Dwivedi, Preparation of carbon quantum dots using bike pollutant soot: Evaluation of structural, optical and moisture sensing properties, *Physica E: Low-dimensional Systems and Nanostructures* **139** (2022) [115174](#), *Q1(IF = 3.27)*.
5. [Priyanka Chaudhary](#), A. Singh, S. Sikarwar, B. Yadav, One-pot synthesis of phosphine free indium selenide (InSe) QDs and their structural characterization for LPG and humidity sensing, *JMSE*, (2022) [10.1007/s10854-022-08144-6](#), *Q2(IF = 2.91)*.
6. A. Verma , [Priyanka Chaudhary](#), R. K. Tripathi , B. C. Yadav, Flexible, environmentally acceptable and long durable energy-efficient novel WS₂- polyacrylamide MOFs for high-performance photodetectors, *Material Advances* (2022), *Q1(IF = NA)*.
7. [Priyanka Chaudhary](#), D. K. Maurya, S. Yadav, A. Pandey, R. K. Tripathi and B.C. Yadav, Ultrafast response humidity sensor based on roasted gram derived CQDs: Experimental and theoretical study, *Sensors & Actuators: B. Chemical* **329** (2021) [129116](#), *Q1(IF = 9.21)*
8. A.Verma [Priyanka Chaudhary](#), R. K. Tripathi, and B. C. Yadav, The functionalization of polyacrylamide with MoS₂ nanoflakes for use in transient photodetectors, *Sustainable Energy & Fuels :RSC*, [10.1039/d0se01877e](#) (2021), *Q1(IF = 6.31)*
9. A.Verma, [Priyanka Chaudhary](#), R. K. Tripathi, B.C. Yadav, Transient photodetection studies on 2D ZnO nanostructures prepared by simple organic-solvent assisted route, *Sensors & Actuators:A.Physical*, [112600 0924-4247](#) (2021), *Q1(IF = 3.40)*

10. **Priyanka Chaudhary**, D. K. Maurya , R. K. Tripathi , B.C. Yadav, N. D. Golubeva , E. I. Knerelman , I. E. Uflyand, G. I. Dzhardimalieva, Synthesis of Cu_{0.8}Zn_{0.2}Sb₂-polyacrylamide nanocomposite by frontal polymerization; highly sensitive for moisture and photodetector performance, *Materials Advances* ,**10.1039/d0ma00389a** (2020). **Q1(IF = NA)**
11. **Priyanka Chaudhary**, D. K. Maurya, S. Sikarwar, B.C.Yadav, G. I. .Dzhardimalieva, R. Prakash, Development of nanostructured nickel reinforced polyacrylamide via frontal polymerization for a reliable room temperature humidity sensor, *European Polymer Journal*. **112** (2019) **161–169**. **Q1(IF = 4.72)**
12. S. Yadav, **Priyanka Chaudhary**, K N Uttam, A. Varma, M. Vashistha, and B. C. Yadav, Facile synthesis of molybdenum disulfide (MoS₂) quantum dots and its application in humidity sensing , *Nanotech.*, **30**, **295501** (2019). **Q1(IF = 3.87)**
13. **Priyanka Chaudhary**, S. Sikarwar, B.C. Yadav, G.I. Dzhardimalieva, N. D. Golubeva, I. E. Uflyan, Synthesis and characterization of copper (II) nitrate polyacrylamide & its application as opto-electronic humidity sensor, *Sensors and Actuators A* **263** (2017) **415–422**, **Q1(IF = 3.40)**

PAPERS PRESENTED

- ❖ **Priyanka Chaudhary**, Leaf like structured copper (II) nitrate polyacrylamide; synthesis, characterization and application as humidity sensors. National Seminar on Nano Science and Nano Biotechnology, 25th – 26th February, 2017, DAVC, Kanpur.
- ❖ **Priyanka Chaudhary**, synthesis, characterization of Nickel (II) nitrate polyacrylamide and its application as opto – electronic humidity sensors, International Conference on Renewable Energy for Sustainable Environment: Challenges and Remedies, 20th – 21st March, 2017, SMVDU, Jammu.
- ❖ **Priyanka Chaudhary**, synthesis, characterization of Cu (II) nitrate polyacrylamide and its application as opto – electronic humidity sensors, 4th Lucknow Science Congress (LUSCON-2017), 3rd – 4th March, BBAU, Lucknow.
- ❖ **Priyanka Chaudhary**, Dheeraj Kumar Maurya, Sarita Yadav, Anwesh Pandey, Ravi Kant Tripathi and B.C. Yadav Ultrafast response humidity sensor based on roasted gram derived carbon quantum dots: Experimental and theoretical study, International Conference on Nanoscience and Nanotechnology (ICNN-2013), 24th – 26th September, 2017, BBAU, Lucknow.

ACHIEVEMENTS

- ❖ **Research Excellence Award**” in Physical and decision sciences on **26th January 2022**.
- ❖ **National Eligibility Test (CSIR-UGC- NET- June 2018)**
- ❖ **“Best Poster Presentation Award”** in National Seminar on Nano science and Nano Biotechnology, Feb. 25-26, 2017, **DAV College, Kanpur**.
- ❖ **“Best Poster Presentation Award”** in 4th Lucknow Science Congress (LUSCON-2017) 3rd & 4th March 2017.
- ❖ **“Best Poster Presentation Award”** in International Conference On Renewable Energy for Sustainable Environment: Challenges, March 20-21, 2017, **SMVDU, Jammu**.
- ❖ University **“Gold Medalist”** in M. Phil 2016.

REFEREES

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I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particular

Place: Lucknow

(Dr. Priyanka Chaudhary)