

## FACULTY PROFILE

**Name:** Dr. J. K. Rajput  
**Designation:** Assistant Professor  
**E\_Mail:** [jeeviter@srmist.edu.in](mailto:jeeviter@srmist.edu.in)  
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**Scopus Author Id:** 20434584800



➤ **Work Experience:** 05 Years

➤ **Professional Qualification:**

Degree	Institute/University	Specialization	Year of Passing
Ph.D.	Gurukul Kangri University, Haridwar, U.K.	Physics (Material Science)	2018
M.A.	MJPRU, Bareilly U.P.	Political Science	2020
M.Sc.	Gurukul Kangri University, Haridwar, U.K.	Physics (Electronics)	2014
B.Sc.	MJPRU, Bareilly U.P.	Physics, Mathematics	2012

➤ **Research Interest:**

- Metal Oxide Nanomaterial
- Sensing Devices, Gas sensors, Humidity Sensor, Photodetectors, wearable/portable devices.
- Optoelectronic Device, Nanogenerators.
- Photocatalytic Measurement.
- Computational Modelling, DFT

➤ **Publications (Journals & Conferences):**

- [1] **J.K. Rajput**, L.P. Purohit, Comparative Study of Synthesis of CdO-ZnO Nanocomposite Thin Films by Different Methods: A Review, **Nanoscience & Technology** 3 (2016) 1-5, ISSN 2374-8141.
- [2] T.K. Pathak, **J.K. Rajput**, V. Kumar, L.P. Purohit, H.C. Swart, R.E. Kroon, Transparent conducting ZnO-CdO mixed oxide thin films grown by the sol-gel method, **J. Colloid Interface Science** 487 (2017) 378-387, ISSN: 0021-9797.
- [3] **J.K. Rajput**, T.K. Pathak, V. Kumar, L.P. Purohit, Influence of sol concentration on CdO nanostructure with Gas Sensing Application, **Applied Surface Science** 409 (2017) 8–16, ISSN: 0169-4332.
- [4] **J.K. Rajput**, T.K. Pathak, V. Kumar, M. Kumar, L.P. Purohit, Annealing temperature dependent investigations on nano-cauliflower like structure of CdO thin film grown by sol–gel method, **Surfaces and Interfaces** 6 (2017) 11–17, ISSN: 2468-0230.
- [5] **J.K. Rajput**, T.K. Pathak, V. Kumar, H.C. Swart, L.P. Purohit, Tailoring and Optimization of Optical Properties of CdO Thin Films for gas sensing Applications, **Physica B: Condensed Matter**, 535 (2018) 314-318, ISSN: 0921-4526.
- [6] **J.K. Rajput**, T.K. Pathak, V. Kumar, H.C. Swart, L.P. Purohit, CdO:ZnO nanocomposite thin films for oxygen gas sensing at low temperature, **Material Science and Engineering B** 228 (2018), 241-248, ISSN: 0921-5107.
- [7] **J.K. Rajput**, L. P. Purohit, Liquid Petroleum Gas Sensing Application of ZnO/CdO:ZnO Nanocomposites at Low Temperature, **AIP Conference Proceedings** 1942 (2018) 080035, ISSN: 1551-7616.
- [8] Vijay S. Rana, **J.K. Rajput**, Trilok K. Pathak, L.P. Purohit, Multilayer MgZnO/ZnO thin films for UV photodetectors, **Journal of Alloys and Compounds** 764 (2018) 724-729, ISSN: 0925-8388
- [9] G.K. Upadhyay, **J.K. Rajput**, T.K. Pathak, V. Kumar, L.P. Purohit, Synthesis of ZnO: TiO<sub>2</sub> nanocomposites for photocatalyst application in visible light, **Vacuum** 160 (2019), 154-163, 0042-207X.

- [10] VS Rana, **J.K. Rajput**, TK Pathak, LP Purohit, Cu sputtered Cu/ZnO Schottky diodes on fluorine doped tin oxide substrate for optoelectronic applications, **Thin Solid Films** 679 (2019) 79-85, ISSN: 0040-6090
- [11] Gaurav K Upadhyay, J.K Rajput, Trilok K. Pathak, HC Swart, LP Purohit, Photoactive CdO:TiO<sub>2</sub> nanocomposites for dyes degradation under visible light *Materials Chemistry and Physics* 253 (2020) 12319.
- [12] **J.K. Rajput**, TK Pathak, HC Swart, LP Purohit, Synthesis of CdO Nanoflowers by Sol-Gel Method on Different Substrates with Photodetection Application, **Physica Status Solidi (a)** (2019), 216(20) 19009. ISSN 1862-6319
- [13] **J.K. Rajput**, TK Pathak, L.P. Purohit, Impact of Sputtering Power on Properties of CdO:ZnO Thin Films Synthesized by Composite Method for Oxygen Gas Sensing Application, **Journal of Electronic Materials**, 48 (2019) 6640–6646. ISSN 0361-5235
- [14] **J.K. Rajput**, Trilok K. Pathak, Vinod Kumar, H. C. Swart and L. P. Purohit, Controlled sol–gel synthesis of oxygen sensing CdO : ZnO hexagonal particles for different annealing temperatures, *RSC Advances* 9 (2019) 31316–31324, ISSN 2046-2069
- [15] Vijay S. Rana, **J.K. Rajput**, Trilok K. Pathak, L.P. Purohit Influence of N<sub>2</sub> flow rate on UV photodetection properties of sputtered p-ZnO/n-Si heterojunctions, *Colloids and Surfaces A* 586 (2020) 124103, ISSN; 0927-7765
- [16] G.K. Upadhyay, **J.K. Rajput**, TK Pathak, PK Pal, LP Purohit, Tailoring and optimization of hybrid ZnO: TiO<sub>2</sub>: CdO nanomaterials for advance oxidation process under visible light, *Applied Surface Science* 509 (2020) 145326.
- [17] Gayatri Joshi, **J.K Rajput**, LP Purohit, Improved stability of gas sensor by inclusion of Sb in nanostructured SnO<sub>2</sub> thin films grown on sodalime, *Journal of Alloys and Compounds*, 830(2020) 154659.
- [18] Gaurav K. Upadhyay, **J.K. Rajput**, Trilok K. Pathak, H.C. Swart, L.P. Purohit Photoactive CdO:TiO<sub>2</sub> nanocomposites for dyes degradation under visible light, *Materials Chemistry and Physics* 253 (2020) 123191, ISSN: 0254-0584.
- [19] G Joshi, **JK Rajput**, LP Purohit, SnO<sub>2</sub>–Co<sub>3</sub>O<sub>4</sub> pores composites for CO<sub>2</sub> gas sensing at low operating temperature, *Microporous and Mesoporous Materials* 326 (2021), 111343. ISSN 1387-1811
- [20] VS Rana, **JK Rajput**, TK Pathak, PK Pal, LP Purohit, Impact of RF Sputtering Power on AZO Thin Films for Flexible Electro-Optical Applications, *Crystal Research and Technology* 56 (2021), 2000144, 1521-4079
- [21] VS Rana, **JK Rajput**, TK Pathak, LP Purohit, Porous-shaped n-CdZnO/p-Si heterojunctions for UV photodetectors, *Applied Physics A* 127 (2021), 1-7.
- [22] **JK Rajput**, TK Pathak, D Kumar, HC Swart, LP Purohit, Effect of annealing temperature on the spectroscopic and photoluminescence properties of CdO-ZnO nanocomposites, *Journal of Modern Optics* 67 (2021), 1410-1415, ISSN: 1362-3044

➤ **Research Article Reviewed, (Journals)**

- Journal of Physics and Chemistry of Solids.
- International Journal of Nanoparticles and Nanotechnology.
- Materials Letters: X
- Polytechnic Journal
- SN Applied Sciences
- Results in Optics

➤ **Patent published and granted:**

Awaited

➤ **Books and Books Chapters:**

Awaited

➤ **Research Project:**

Awaited

## ➤ Awards and Achievements

- CSIR-Research Associate (Chem-24) in 2018.
- CSIR-NET-JRF (Physical Science) AIR-114 in Jun-2017.
- GATE (PH) in 2015.
- SERB ITS Travel Grant.

## ➤ Workshops/Conferences/Seminars/FDPs

### Work Presented-10

1. Comparative Study of Synthesis of CdO-ZnO Thin Films, Jeevitesh K. Rajput and L. P. Purohit, Science & Technology For Indigenous Development In India, GKV, Haridwar, September 28-30, 2015.
2. Tailoring and Optimization of Optical Properties of CdO Thin Films for Gas Sensing Applications, Jeevitesh K. Rajput, Vijay S. Rana and L. P. Purohit, Science and Technology for National Development, GKV, Haridwar , November 20-22, 2016.
3. Fabrication of CdO thin films by Spin Coating Technique for Optoelectronic Applications, Jeevitesh K. Rajput, and L. P. Purohit, International Conference On Renewable Energy for Sustainable Environment: Challenges and Remedies, Shri Mata Vaishno Devi University Kakrayal, Katra, India, March 20-21 2017.
4. Optoelectronic and Gas Sensing Properties of CdO On Different Substrates, Jeevitesh K. Rajput, Vijay S. Rana and L. P. Purohit, 11th USSTC, Ucost Dheradun, March 2-4, 2017.
5. Morphological, Spectroscopic and Conduction Properties of CdO Nanostructures for Sensing Applications, Jeevitesh K. Rajput and L. P. Purohit, ICNSMH-2017, MJPRU Bareilly, October 21-23, 2016
6. Synthesis and Characterization of CdO:ZnO nanostructure for Gas Sensing, Jeevitesh K. Rajput and L. P. Purohit, ICNN-2017, BBAU Lucknow, September 22-24,2017
7. Liquid Petroleum Gas Sensing Application of ZnO/CdO:ZnO Nanocomposites at Low Temperature, Jeevitesh K. Rajput, T.K. Pathak, V. Kumar, H.C. Swart and L. P. Purohit, **62nd DAE Solid State Physics Symposium**, December 26-30, 2017

### FDPs-3

1. FDP-Curricular Development in Light of NEP-2020, Aug 8-19,2022
2. UGC-SPONSORED FDP/STP, NEP 2020: Amrit Mahotsav /Atmanirbhar Bharat, 16-21 Jan -2023.
3. FIP-Guru Dakshata, UGC-HRDC, 11/09/2023-20/10/2023.

### Invited Talk-3

1. An introductory lecture on material Science, Jeevitesh K. Rajput, Science Festival, Department of Physics, GKV, Haridwar, April 11-12, 2017.
2. Career in Physics and Sciences, Online, Uttarakhand Science Education & Research Centre (USERC)
3. The Key Factor for Manuscript Writing, The S D College Muzaffarnagar UP

### Organized-1

1. SDNx Satellite Communication and Space Technology Workshop, 5-6 March 2019

## ➤ Work experience: 05 Years

### Teaching at UG/PG Level: (05 Years)

- Assistant Professor, Physics, SRM Institute of Science and Technology, Delhi- NCR Campus, Modinagar, Ghaziabad. **(Feb-2024 to till date)**
- CSIR-RA (Teaching Assignment), Babasaheb Bhimrao Ambedkar University Lucknow (Sep-2019 to Aug-2022)
- Assistant Professor, Physics, Swami Vivekanand College of Education Roorkee, UK **(Apl -2018 to Aug 2019)**

### Research Experience (03 Yrs.)

- Six months Dissertation, M.Sc., 2014 project “Structural And Optical Study of N-Doped ZnO by Sol-Gel Method”
- Sep-2019 to Aug-2022, **Post doc** (CSIR-RA), “Exploring the oxygen sensing capability of synthesized

nanocomposites via experimental and computational approach.”

Department of Applied Physics, BBAU Lucknow UP.

➤ **Academic Responsibilities:**

- IQAC Co-ordinator,
- Website and Media,
- College Prospectus,
- Outcome based education, Psychomotor skills.

➤ **Professional Memberships:**

1. Life Membership ISCA Haridwar Chapter.