

Title	Prof.	First Name	Sudhir	Last Name	Kumar	Photograph
Designation		Prof of Eminence				
Department		Applied Physics				
Address (Campus) (Residence)		Applied Physics Department Faculty of Engineering and Technology M.J.P. Rohilkhand University, Bareilly - 243 006				
		H. No. 62, Phase I, Ashish Royal Park, Opp Executive Club Pilibhit, Bypass Road, Bareilly - 243 006				
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Web-Page		https://sites.google.com/mjpru.ac.in/prof-sudhir-kumar				
Educational Qualifications (Graduation Onwards)						
Course/Degree		Institution		Year	Details/Thesis Topic/Subjects	
D.Phil/PhD		Allahabad University, Allahabad		1992	Electronic Structure of High Temperature Superconductors	
Post Doctoral Fellow		University Des Saarland, Saarbrucken, Germany		1993	Photoemission spectroscopy of KMnO4	
Visiting Scientist		Physics Department, University of Roorkee, Roorkee		1999	Electronic and optical Properties of Thorium mononpictides	
Short term Visit Supported by DST, New Delhi		Material Research Society Meeting, Boston Convention Centre, USA		1999	Electronic Properties of Al1-xGaxN	
Short term Visit Supported by ICTP		International Centre of Theoretical Physics (ICTP) Trieste, Italy		1999	To attend workshop on strongly correlated system	
Short term Visit Supported by ICTP		Isfahan Institute of Technology (ITU), Iran		2005	Electronic and optical properties of InP: Pressure effect	

Short term Visit Supported by M.J.P. Rohilkhand University	MRS Meeting at National University Singapore Wien2K workshop at institute of High-Performance Computing, Institute, Singapore	2006	Electronic and optical properties of Be _{1-x} Zn _x Se
Visiting Scientist	Technical University Ilmenau Germany	2010	Electronic Structure of In _{1-x} Al _x N
Visiting Scientist	Otto Von Guericke University, Magdeburg, Germany	2013	Electronic and optical properties of Metal Oxides
To avail Scientific High Level Visiting Fellowship (SSHN),	University of Rennes, France	2024	Gas Sensing properties of h-NbN
Career Profile			
Organization / Institution	Designation	Duration	Role
M.J.P. Rohilkhand University, Bareilly-243 006	Lecturer/Senior Lecturer	1996-2005	Teaching/Research/admini strative
M.J.P. Rohilkhand University, Bareilly-243 006	Reader/Associate Professor	2005-2011	Teaching/Research/admini strative
M.J.P. Rohilkhand University, Bareilly-243 006	Professor	2011-2024	Teaching/Research/admini strative
M.J.P. Rohilkhand University, Bareilly-243 006	Director/ Research Co-ordinator	2020-2024	As Director of DoR, prime responsibility to establish DoR and make it function accordingly to research policy. (website: https://mjprudor.ac.in/)
Research Interests / Specialization			
Structural, Electronic and optical properties of Bulk material, Thermoelectric materials, Topological Insulators, 2D materials useful for H ₂ storage; 2D gas sensing materials; Li, Na and Ca rechargeable batteries, Nano Bio sensing materials using VASP, SEST, Quantum Espresso and other suitable theoretical Experimental tool			
Teaching Experience (Subjects/Courses Taught)			
Optics, thermodynamics, Solid State Physics, Nano Science and Technology			
Honors & Awards			
National fellowship; JRF/SRF/RA research Fellowship; DAAD (Germany, 1993 and 2010); INSA-DFG (Germany, 2013); SSHN (France, 2024)			
Publications /Academic Activities (Numbers Only)			

Books & Monographs (Single Author)	01	Research Papers Published in International Journals	61	Papers Presented in Seminars/ Conferences	43	Seminars/ Conferences Organized	2	Research Projects (Completed)	8
Books (Co-authored)		Research Papers Published in Other Journals	1	Seminar/ Conferences Attended	43	Workshops Organized	0	Research Projects (Ongoing)	1
Books (Edited)	02	Articles Published in Popular Fora, e.g., Websites, Blogs, Newspapers, Magazines etc.	01	Sessions Chaired in Seminars/ Conferences	10	Membership of Academic/ Professional Bodies	0	Foreign Countries Visited for Academic Assignments	8
Chapters in Edited Books	03			Resource Lectures Delivered	23				

Details of Publications /Academic Activities (2010 Onwards)

(a) Books / Monographs: NA

(b) Papers Published in Indexed/ Peer Reviewed Journals

<u>Year of Publication</u>	<u>Title</u>	<u>Journal</u>	<u>ISSN/ Indexing</u>	<u>Co-Author (s) (if any)</u>
2010	Ab-initio study of electronic and optical properties of InN in wurtzite and cubic phases	Optics Communications	283, 4655-4661	Tarun K. Maurya
2011	Electronic and optical properties of high-pressure stable phases of ZnS: Comparison of FPLAPW and PW-PP results.	Optics communication	284, 20	Swatantra K. Gupta, S. Auluck
2011	Band structure and optical properties of hexagonal In-rich In _x Al _{1-x} N alloys	J. Phys.: Condens. Matter	23, 475801	Suman Pandey, Swatantra K. Gupta, Tarun K. Maurya, P.Schely, G.Gobsch and R.Goldhahn
2014	Tran blaha modified Becke-johnson potential band structure including spin orbit interaction	Advances in optoelectronic Materials	2(1)	Suman Pandey and S. Auluck
2015	An ab-initio study of CuInSe ₂ based ordered defect compounds	Material chemistry and physics	DOI 10.1016/j.matchemphys.2015.06.001	Suman Panday and S. Auluck
2015	Thermodynamical and electronic properties of B _x Al _{1-x} N alloy: A first-principle Study	Journal of Physics and Chemistry of Solids	86, 101	Suman Joshi, B. Joshi and S. Auluck
2016	Theoretical insights into kesterite and stannite phases of Cu ₂ (Sn _{1-x} Gex)ZnSe ₄ based alloys: A prospective photovoltaic material	AIP ADVANCES	6, 125303	Durgesh Kumar Sharma and S. Auluck
2016	Stability, electronic and optical properties of wurtzite Cu ₂ CdxZn _{1-x} SnS ₄ alloys as photovoltaic materials: First principles insight	Physical Review B	94, 235206	Durgesh Kumar Sharma and S. Auluck
2017	Band Gap Tuning of ZnO _{1-3x} N _{2x} F _x alloys: A first-principles Study	Materials Today: Proceedings	4, 5700	Durgesh Kumar Sharma and S. Auluck
2018	Magnetism by embedding 3d transition metal atoms into germanene	Journal of Physics D: Applied Physics	51, 225006	Durgesh Kumar Sharma and Sushil Auluck
2018	Mono and bi layer germanene as prospective anode material for Li-ion batteries: A first-principles study	Computational Condensed Matter	16, e00314	Durgesh Kumar Sharma, A. Laref and Sushil Auluck
2018	Electronic structure, defect properties, and hydrogen storage capacity of 2H-WS ₂ : A first principles study	International Journal of Hydrogen Energy	43, 23126-23134	Durgesh Kumar Sharma and Sushil Auluck
2019	Theoretical characterization of C doped SiGe monolayer	Journal of Applied Physics	125, 145703	Durgesh Kumar Sharma and Sushil Auluck
2020	Enhancing gas adsorption properties of borophene by embedding transition Metals	Computational Condensed Matter	22, e00436	Manoj Singh, Durgesh Kumar Sharma and Sushil Auluck

2020	Influence of defect pairs in Ga-based ordered defect compounds: A hybrid density functional study	Canadian Journal of Physics	98, 770	Suman Joshi, Durgesh Kumar Sharma and Sushil Auluck
2020	Strain induced optoelectronic properties of two-dimensional MnPSe ₃ /WS ₂ heterostructure	Journal of Physics: Condensed Matter	32, 315501	Durgesh Kumar Sharma and Sushil Auluck
2020	Anomalous and Topological Hall effect in Cu doped Sb ₂ Te ₃ Topological Insulator	Applied Physics Letters	117, 092403	A Singh, V. K. Gangwar, Prashant Shahi, Debarati Pal, Rahul Singh, Shiv Kumar, S. Singh, S. K. Gupta, Jinguang Cheng and S. Chatterjee
2021	Observation of antiferromagnetic ordering from muon spin resonance study and the Kondo effect in a Dy-doped Bi ₂ Se ₃ topological insulator	Journal of Physics D: Applied Physics	54, 544302	Vinod Kumar Gangwar, S. Kumar, M. Singh, L. Ghosh, D. Pal, P. Shahi, Y. Uwatoko, E. Schwier, F. Shimada, Durgesh Kumar Sharma and Sandip Chatterjee
2022	In Situ Evolution of Secondary Metallic Phases in Off-Stoichiometric ZrNiSn for Enhanced Thermoelectric Performance	ACS Applied Materials & Interfaces	14, 17	K. K. Johari, Durgesh Kumar Sharma, A. K. Verma, R. Bhardwaj, N. S. Chauhan, M. N. Singh, S. Bathula and B. Gahtori
2022	Lattice Dynamics of Bi _{1.9} Dy _{0.1} Te ₃ Topological Insulator	Physics B: Condensed Matter	640, 414050	L. Ghosh, V. K. Gangwar, M. Singh, S. V. Kumar, S. Dixit, A. Verma, Durgesh Kumar Sharma, S. Saha, A. K. Ghosh and S. Chatterjee
2022	Role of sintering temperature on electronic and mechanical properties of thermoelectric material: A theoretical and experimental study of TiCoSb half-heusler alloy	Materials Chemistry and Physics 281	125854	A. K. Verma, K. K. Johari, Kriti Tyagi, Durgesh Kumar Sharma, P. Kumar, S. Bathula, S. R. Dhakate and B. Gahtori
2022	Ultrasensitive Boron-Nitrogen-Codoped CVD Graphene-Derived NO ₂ Gas Sensor	ACS Materials Au	2, 356	S. Srivastava, P. Pal, Durgesh Kumar Sharma, T. D. Senguttuvan and Bipin Kumar Gupta
2023	Realization of Band Convergence in p-Type TiCoSb Half-Heusler Alloys Significantly Enhances the Thermoelectric Performance	ACS Applied Materials & Interfaces	15, 942	A. K. Verma, K. K. Johari, P. Dubey, Durgesh Kumar Sharma, S. Dhakate, C. C. Rangnate, B. Lenoir and B. Gahtori

2023	The charge carrier density modulation in off-stoichiometric ZrNiSn leads to enhanced thermoelectric performance	Ceramics International	49, 26558	Kishor Kumar Johari, Ajay Kumar Verma, Naval Kishor Upadhyaya, Radhey Shyam, Durgesh Kumar Sharma and Bhasker Gahtori
2023	Progress in theoretical study of lead-free halide double perovskite Na ₂ AgSbX ₆ (X = F, Cl, Br, and I) thermoelectric materials	J. Mol. Model.	29, 195	Sunita Kumari, Pceyush Kumar Kamlesh, Lalit Kumari, Sarita Kumari, Rashmi Singh, Rajeev Gupta, Manendra S. Chauhan, Upasana Rani, Ajay Singh Verma
2024	Theoretical investigation of gas sensing properties of a monolayer gallene: First-principles insight	Materials Today Communications	40, 109268	Pawan Kumar, Siya Singh and Durgesh Kumar Sharma
2024	Exploring the Origin of Ultralong Gamma-Ray Bursts: Lessons from GRB 221009A	The Astrophysical Journal	971, 163	Amit Kumar Ror, Rahul Gupta, Amar Aryan, Shashi Bhushan Pandey, S. R. Oates, A. and J. Castro-Tirado
2024	Prompt and afterglow analysis of the Fermi-LAT detected GRB 230812B	arXiv preprint arXiv:	2409.13391	Amit K Ror, SB Pandey, A Aryan and AJ Castro-Tirado
2025	TiO ₂ -driven ZrO ₂ leads to the high thermoelectric performance of ZrNiSn half-Heusler alloy	Materials Research Bulletin	187, 113369	Shamma Jain, Ajay Kumar Verma, Kishor Kumar Johari Christophe Candolfi, Bertrand Lenoir and Bhasker Gahtori
2025	Theoretical insights into the h-NbN monolayer for selective and moisture-resistant gas sensing: An Ab Initio Study	Electronic Structure	7, 035003	Pawan Kumar and Brajesh Kumar
2025	First-principles investigation of stanene-based toxic gas sensors: Coupled electrical and optical sensitivities	Solid State Communications	404, 116079	Pawan Kumar, Hemant Kumar Singh and Brajesh Kumar
2025	Investigating Temporal Features in Swift GRB Afterglows: A Comparative Study of UVOT and XRT Data	Monthly Notices of the Royal Astronomical Society	1514	Amit K Ror, SB Pandey, SR Oates, Rahul Gupta, Amar Aryan and AJ Castro-Tirado
2025	Growth impedance analysis, and dielectric relaxation of all-inorganic lead-free cesium bismuth chloride (Cs ₃ Bi ₂ Cl ₉) single crystal for energy storage application	Journal of Mater Sci.: Materials in Electronics	36, 2146	Chandrakar Bharti, Meher Topeswar, Hitendra, Sharma Anil, Kumar, Kumar Pawan, Bhaskar H.P., K.Singh Vineet, K. Chaudhary Dhirendra and Patel Shiv P.

2026	Enhancing hydrogen storage performance through Lithium functionalization of 2D k-C6B4: An ab-initio study	Computational Condensed Matter	2352-2143	Lalit Kumari, Pawan Kumar and Brajesh Kumar
2026	Ultralong cycle life porous Zn ₂ P ₂ O ₇ @C microspheres anode enables 4C fast-charging for lithium-ion batteries	Journal of Energy Storage	2352-152X	Rajendra Kumar, Pawan Kumar and Vikas Gangwar
2026	Suitability of two-dimensional TaS ₂ anodes for Li, Na and Mg rechargeable batteries: A first-principles study	Computational Condensed Matter	2352-2143	Mohammad Nouman and Brajesh Kumar
2026	First-Principles Insights in Designing Two-Dimensional BY _{1-x} Z _x (Y, Z = P, As, and Sb, but Y ≠ Z) Alloys: A Potential Candidate for Thin-Film Optoelectronic Devices	The Journal of Physical Chemistry C	2466-2474	Sharma, Durgesh Kumar and Kumar, Pawan and Ahuja, Rajeev
2026	First-principles investigation of h-NbN monolayer for electrical and optical biosensing	Physica E: Low-dimensional Systems and Nanostructures	1386-9477	Pawan Kumar and Brajesh Kumar and Didier Sébilleau
2026	Anisotropic transport modulation in Bismuthene-based FETs: An ab-initio study	Solid State Communications	0038-1098	Pawan Kumar and Jayanti and Brajesh Kumar

See the latest publications through the link:
<https://scholar.google.com/citations?user=uJlsbmKAAAAJ&hl=en>

(c) Articles: NA

(d) Seminar/Conference Presentations

S. No.	Paper Title	Conference Title	Institute/Place	Date
1.	Electronic, and optical properties of InP: Pressure effects	International Symposium on Advanced Materials and Processing	IIT Kharagpur (India).	Dec. 6-8, 2004
2.	Condensed Matter Physics and Materials Science	DST-PAC Meeting	University of Pondichery	Feb. 9, 2004
3.	Electronic and Optical properties wz InN	National Symposium on Ultrasonic NSU-XV	Allahabad University, Allahabad, (India)	Nov. 1-3, 2006
4.	Optical properties of ordered BexZn1-xSe alloys	National Symposium on Ultrasonic NSU-XV	Allahabad University, Allahabad, (India)	Nov. 1-3, 2006
5.	Structural, electronic and optical properties of InxGa1-xAs alloys	International Conference on Condensed Matter Physics (ICCPMP-2007)	Jaipur (India)	Nov. 25-28, 2007
6.	The pressure induced structural phase transitions in ZnTe compounds	International Conference on Condensed Matter Physics (ICCPMP-2007)	Jaipur (India)	Nov. 25-28, 2007
7.	Calculated structural, electronic and optical properties of zincblende InP under hydrostatic pressure	International Conference on Condensed Matter Physics (ICCPMP-2007)	Jaipur (India)	Nov. 25-28, 2007
8.	Condensed Matter Physics and Materials Science	DST-PAC Meeting	Raman Research Institute, Bangalore	2008

9.	Structural properties of high-pressure stable phases of ZnTe	53rd DAE Symposium,	BARC, Mumbai	Dec. 16-20, 2008
10.	Effect of Ga addition to InP on its pressure coefficients and effective mass	53rd DAE Symposium	BARC, Mumbai	Dec. 16-20, 2008
11.	Electronic and optical properties of InN in wurtzite and cubic phases	2nd National Workshop on Advanced Optoelectronic Materials and Devices (AOMD-2008)	BHU	2008
12.	Condensed Matter Physics and Materials Science	DST-PAC Meeting	K. S. Rangasamy College, Tamilnadu	July 6, 2009
13.	Optical Properties of Semiconducting Alloys	Proceedings of Synthesis and Characterization of Smart Materials (SCSM-2009)	Bareilly College, Bareilly, India	September 12-14, 2009
14.	Comparative study of structural phase transition of ZnS by First-principles codes	Proceedings of the 54th DAE Solid State Physics Symposium (2009)	Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India	2009
15.	Pressure Coefficients of the ZnS _{1-x} Te _x Alloys	Proceedings of the 54th DAE Solid State Physics Symposium (2009)	Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India	2009
16.	High pressure Phase Diagram of ZnSe _x Te _{1-x} (x = 0.1, 0.2, 0.5, 0.8)	Proceedings of Simulation and characterization of Advanced Materials	M.J.P Rohilkhand University Bareilly	April 17-18, 2010
17.	Ab-initio study of structural electronic and optical properties of bulk CuAlS ₂ Chalcopyrite semiconductors	Proceedings of Simulation and characterization of Advanced Materials	M.J.P Rohilkhand University Bareilly	April 17-18, 2010
18.	Ab-initio study of variation in energy gap and pressure co-efficient of GaP	Proceedings of Simulation and characterization of Advanced Materials	M.J.P Rohilkhand University Bareilly	April 17-18, 2010
19.	Electronic and optical properties of Semiconducting Perovskite CsSnBr ₃	Proceedings of Simulation and characterization of Advanced Materials	M.J.P Rohilkhand University Bareilly	April 17-18, 2010
20.	Optical properties of CuX(Al, Ga, In)S ₂	Proceeding of the National Symposium on Advances in Materials Science and Technology	Gujarat University, Ahmadabad	Feb. 3-4, 2012
21.	Optical properties of CuIn ₅ Se ₈ and CuIn ₃ Se ₅ : An ab-initio study	Proceedings of the National Conference on Advanced in Material Science for Energy Applications (AMSEA-2014)	University of Petroleum and Energy studies, Dehradun, Uttarakhand	Jan. 9-10, 2014
22.	Electronic properties of Cu ₂ ZnSnS ₄ in kesterite and stannite phases: An ab-initio study	Proceedings of the National Conference on Advanced in Material Science for Energy Applications (AMSEA-2014)	University of Petroleum and Energy studies, Dehradun, Uttarakhand	Jan. 9-10, 2014
23.	Optical properties of CuGaSe ₂ -based ordered defect compounds,	Proceedings of the National Conference on materials and their energy applications (NCME-2014)	P.G. College, Jaipur-302 004, Rajasthan.	Dec. 22-24, 2014

24.	Compositional dependence thermodynamical and electronic properties of $B_xAl_{1-x}N$ alloys: An ab-initio study	Proceedings of the National Conference on materials and their energy applications (NCME-2014)	P.G. College, Jaipur-302 004, Rajasthan.	Dec. 22-24, 2014
25.	Cr incorporated CuGaS ₂ : Intermediate band Semiconductors with better absorption for solar energy	Proceedings of the National Conference on materials and their energy applications (NCME-2014)	P.G. College, Jaipur-302 004, Rajasthan.	Dec. 22-24, 2014
26.	Stability, Electronic and Optical Properties of $ZnO_{1-3x}N_{2x}F_x$	International Conference on Multi-functional Materials for Device Application (ICMDA-2016)	National Institute of Technology (NIT) Patna, India	Oct. 26-28, 2017
27.	Impact of N and F doping in ZnO: An ab-initio study	4th International E-Workshop/Conference on Computational Condensed Matter Physics and Materials Science	ABV-Indian Institute of Information Technology and Management, Gwalior, India	Nov. 18-20, 2016
28.	Earth abundant $Cu_2Cd_xZn_{1-x}SnS_4$ alloys: A prospective photovoltaic material	International Conference on Emerging Materials and Applications (ICEMA-2017)	Physics Department, University of Allahabad, Uttar Pradesh, India	Feb. 20-22, 2017
29.	$NaxSn$ alloys: a promising 2D anode material for Na-ion battery	International Conference on Emerging Materials and Applications (ICEMA-2017)	Physics Department, University of Allahabad, Uttar Pradesh, India	Feb. 20-22, 2017
30.	International conferences on HTS		Bangalore, India	Jan. 10-14, 1990
31.	Workshop on Computational Techniques for strongly Correlated Systems		ICTP, Trieste, Italy	June 28 - July 09, 1999
32.	Material Research Society Fall 1999 meeting		Boston, USA	Nov 29 - Dec. 03, 1999
33.	First conference of Asian Consortium for Computational Materials science		Bangalore.	Nov. 29 - Dec. 01, 2001
34.	International Symposium on Advanced Materials and Processing		IIT KGP	Dec. 6-8, 2004
35.	Electronic structure calculations and their applications in Materials science		Isfahan, Iran (organized by ICTP)	April 35 - May 06, 2005
36.	Summer School on Electronic structure Methods And Applications, and Workshop on computational Materials Theory		JNCASR, Bangalore, India	July 13-15 and May 06, 2006
37.	International Conference on Materials for Advanced Technologies		MRS Singapore	July 01-06, 2006
38.	14th WEIN2k Workshop, Institute of High-Performance Computing		Singapore	July 06-09, 2007
39.	International Conference on Condensed Matter Physics (ICCPMP-2007)		Jaipur India	Nov. 25-28, 2007
40.	International Workshop organized by C-DAC on HPC,		Goa.	Dec. 15-16, 2011
41.	Electronic Properties of Cu-based Multinary Semiconductors	Proceedings of the 2 nd International Conference Optoelectronic Materials and Thin films for Advanced Technology	Cochin University of Science and Technology, Kochi, India	Jan 03-05, 2013
42.	Optical Properties of ordered defect compounds for $CuIn_5Se_8$ and $CuIn_3Se_5$: An ab-initio study	Proceedings of the 2 nd International Conference Optoelectronic Materials and Thin films for Advanced Technology, Cochin University of Science and Technology	Kochi, India	Jan 03-05, 2013
43.	Enhanced Thermoelectric Performance of TiO_2 -	4 th International Conference on	Cochin University of Science and	Feb. 11-14, 2025

	Embedded ZrNiSn Half-Heusler Compounds	Optoelectronic and Nanomaterials for Advanced Technology (ICONMAT 2025)	Technology, Kochi, Kerala, India	
(e) Resource Lectures Delivered				
Invited By		Name of University/Institute	Date/Time	
Prof. Bal K. Agrawal		Allahabad University	1992	
Prof. G. Thummmes		Hamburg, Universität (Germany)	1993	
Prof. S. Hufner		Universität des Saarland (Germany)	1993	
Prof. H. Akbarzadeh		Ishfahan University of Technology (Iran)	2005	
SCSM- 2009		Bareilly College, Bareilly (Invited Talk)	2009	
SCAM- 2010		M. J. P. Rohilkhand University, Bareilly (Invited Talk)	2010	
Prof. Dr. G. Gobsch		Technische Universität, Ilmenau (Germany)	2010	
Prof. Dr. F. Bechstedt		Friedrich-Schiller-Universität, Jena (Germany)	2010	
Prof. Dr. F. Reinert		Julius Maximilian Universität, Würzburg (Germany)	2010	
Prof. Dr. G. Gobsch		Technische Universität, Ilmenau (Germany)	2010	
Prof. O. N. Srivastava		Varanasi Hindu University (Invited Talk)	March 23, 2010	
Prof. A. C. Sharma		The M. S. University, Baroda, Vadodara (Invited Talk)	-	
Prof. Goldhahn		Otto Von Guericke University, Magdeburg	2013	
Prof. Dr. F. Reinert		Julius Maximilian Universität, Würzburg (Germany)	2013	
Prof. O. N. Srivastava		Varanasi Hindu University (Workshop/Seminar)	March 11-17, 2014	
Prof. Sabu Thomas		Mahatma Gandhi University, Kottayam	Dec. 11-13, 2015	
Prof. G. Singh		University of Delhi, Delhi	March 01-04, 2016	
Prof. A. Srivastava		Atal Bihari Vajpai-IIIT, Gwalior	Nov. 17-20, 2016	
Prof. Didier Sebilleau		Interaction meeting with the senior member of the research group, University of Rennes, France	Oct. 22, 2024	

(f) Seminars/Conferences/Workshops Organized:

S. No.	Title	Date
1.	National conference on Materials and Devices 2002, (MD-2002)	March 09-10, 2002
2.	National Conference of Simulation and Characterization of Advanced Materials, (SICHAM-2010)	April 17-18, 2010
3.	National Conference on Science and Engineering of Materials, (NCSE-2014)	April 18-19, 2014

(g) Public Service / University Service / Consulting Activity

Uttarakhand Public service Commission and U.P. Higher education commission

(h) Memberships of Academic/Professional Bodies: NA**Projects (With Title, Year, Grants, Funding Agency and Collaborations)****I. Detail of the project completed and ongoing:**

S. No.	Title	Year	Grants (lacs)	Funding Agency
1	Electronic structure of Solid	1997	0.12	UGC
2	Electronic Structure of Cooperate HTS	1997-2000	05	AICTE
3	Ab-initio study of electronic and optical properties of selected II-VI and III-V semiconductors and its alloys: Pressure Effects	2003-2006	4.5	DST
4	Electronic, optical and structural properties of high-pressure stable phases of selected III-V and II-VI compounds	2005-2008	5.87	UGC
5	Electronic and optical properties of chalcopyrite compounds: An ab-initio study	2009-2012	14.2	DST
6	Optical properties of N-based semiconductors and its alloys	2010-2013	22.44	DRDO
7	Electronic and optical properties of transparent conducting oxides (TCO) and it alloys: An Ab-initio Study	2014-2017	34.13	SERB
8	Enhancing gas adsorption properties of borophene by embedding transition metal atom	2014-2017	02	TEQIP-III
9	Electron-Phonon Coupling Effects on Thermoelectric Performance of High Entropy Alloys Based on Heusler Compounds: First-principles Insight	2024-2027 (ongoing)	30.08	ANRF

II. List of Research Collaborators:

S. No.	Name of Organization/Lab etc. with full address	Duration	Name of the Collaborators	Outcome (Reference link of published work etc.)
1	Prof Sushil Auluck a) Physics Department and Institute Computer Centre, Indian Institute of Technology, Roorkee 267 447, India b) Department of Physics, Indian Institute of Technology, Kanpur-208 016, India c) Physics Department, Indian Institute of Technology Delhi, Hauz Khas, New Delhi 110016, India	1999-2008 2008- 2011 2011-2020	Prof Sushil Auluck	https://www.sciencedirect.com/science/article/abs/pii/S0038110107004170 https://www.sciencedirect.com/science/article/abs/pii/S0030401810009016 https://www.sciencedirect.com/science/article/abs/pii/S0022369715001602
2	Dr Bhasker Gahtori Principal Scientist Development of Thermoelectric Materials CSIR-National Physical Laboratory New Delhi -	2022	Dr Bhasker Gahtori	https://scholar.google.com/citations?view_op=view_citation&hl=en&user=uJlsbmKAAAJ&sortby=pubdate&citation_for_view=uJlsbmKAAAJ:q2DxgONcQ68C
3	Ajay Singh Verma a) Division of Research & Innovation, School of Applied and Life Sciences, Uttaranchal University, Dehradun, Uttarakhand, 284007, India b) University Centre for Research & Development, Department of Physics, Chandigarh University, Mohali, Punjab, 140413, India	2023		https://link.springer.com/article/10.1007/s00894-023-05599-0
4	Dr Shiv Pujan Patel Physics Department Delhi University Delhi	2025	Dr Shiv Pujan Patel	https://scholar.google.com/citations?view_op=view_citation&hl=en&user=uJlsbmKAAAJ&sortby=pubdate&citation_for_view=uJlsbmKAAAJ:CrdmdnJxex8C

5	Dr Bipin Kumar Gupta Senior Principal Scientist Development of Thermoelectric Materials CSIR-National Physical Laboratory New Delhi -	2023	Dr Bipin Kumar Gupta	https://scholar.google.com/citations?view_op=view_citation&hl=en&user=uJlsbmKAAAJ&sortby=pubdate&citation_for_view=uJlsbmKAAAJ:QC1gR0-g_BgC
6	Mr Rajendra Kumar Department of Energy Science and Engineering, Indian Institute of Technology Bombay, Powai, Mumbai, 400076, India	2026	Mr Rajendra Kumar	https://www.sciencedirect.com/science/article/abs/pii/S2352152X26002343
7	Prof. Rajeev Ahuja Department of Physics, Indian Institute of Technology Ropar, Rupnagar 140 001, Punjab, India	2026	Prof. Rajeev Ahuja	https://scholar.google.com/citations?view_op=view_citation&hl=en&user=uJlsbmKAAAJ&sortby=pubdate&citation_for_view=uJlsbmKAAAJ:hnLuywnv79wC
8	Dr Bipin Joshi Department of Science and Technology, New Delhi 110 016, India	2016	Dr. Bipin Joshi	https://pubs.aip.org/aip/adv/article/6/12/125303/993228
9	Prof. Sandip Chatterjee ^{b)} Department of Physics, Indian Institute of Technology (Banaras Hindu University), Varanasi 221005, India	2020	Prof. Sandip Chatterjee	https://pubs.aip.org/aip/apl/article-abstract/117/9/092403/39565/Anomalous-and-topological-Hall-effect-in-Cu-doped?redirectedFrom=fulltext
10	Dr. Shashi Bhushan Panday Aryabhata Research Institute of Observational Sciences (ARIES), Manora Peak, Nainital, 263002, India	2026	Dr. Shashi Bhushan Panday	https://academic.oup.com/mnras/article/543/3/2404/8250636?guestAccessKey=

11	Prof. S. Hufner Fachbereich Physik, Universit/it des Saarlandes, D-66041 Saarbrficken, Germany	1993	Prof. S. Hufner	https://dlwqtxts1xzle7.cloudfront.net/61595135/bf0131740520191223-10303-1uauc91-libre.pdf?1577170954=&response-content-disposition=inline;+filename=The_electronic_structure_of_KMnO4_invest.pdf&Expires=1781000667&Signature=Knrlz44e7vJx50RQ4w~rOXuUA-CfQ83OJgmOgTqZZO5J6toGtUGcDx8oZ2Mrg7uLlyj0Q2lSI1-q375iZLH45mfdo9T~sUPTUf8bNUZueCPSrEeIA6JXySvtsnLi w2Za9pW3WORX2SZNsLiisjtI5dtuPc0f8-53LPPT9mV6zbt5rKVE7Hf7T-V24ujC7tBBV6MOgWdG76gjUa-3YzKwNlz96gm-Xs4C5ihcWrqaX4clkLhWESUcmgMAkiYFc9j8POWluhxrKK8KO8k3j-zCVJmLOnh9QQpKZsl~fY0kW8OndYUzcSi5mQu2q1ec7q3f50kS0cCh4Gd6RQVKezjzdg_&Key-Pair-Id=APKAJLOHF5G GSLRBV4ZA
12	Prof F. Reinert Experimental Physics 7 University of Würzburg Am Hubland 97074 Würzburg Germany	1993	Prof F. Reinert	https://dlwqtxts1xzle7.cloudfront.net/61595135/bf0131740520191223-10303-1uauc91-libre.pdf?1577170954=&response-content-disposition=inline;+filename=The_electronic_structure_of_KMnO4_invest.pdf&Expires=1781000667&Signature=Knrlz44e7vJx50RQ4w~rOXuUA-CfQ83OJgmOgTqZZO5J6toGtUGcDx8oZ2Mrg7uLlyj0Q2lSI1-q375iZLH45mfdo9T~sUPTUf8bNUZueCPSrEeIA6JXySvtsnLi w2Za9pW3WORX2SZNsLiisjtI5dtuPc0f8-53LPPT9mV6zbt5rKVE7Hf7T-V24ujC7tBBV6MOgWdG76gjUa-3YzKwNlz96gm-Xs4C5ihcWrqaX4clkLhWESUcmgMAkiYFc9j8POWluhxrKK8KO8k3j-zCVJmLOnh9QQpKZsl~fY0kW8OndYUzcSi5mQu2q1ec7q3f50kS0cCh4Gd6RQVKezjzdg_&Key-Pair-Id=APKAJLOHF5G GSLRBV4ZA

				q375iZLH45mfdo9T~sUPTUf8bNUZueCPSrEeIA6JXySvtsnLiw2Za9pW3WORX2SZNsLiisjtI5dtuPc0f8-53LPPT9mV6zbt5rKVE7Hf7T-V24ujC7tBBV6MOgWdG76gjUa-3YzKwNlz96gm-Xs4C5ihcWrqaX4cIkLhWESUcmgMAkiYFc9j8POWluhxrKK8KO8k3j-zCVJmLOnh9QQpKZsl~fY0kW8OndYUzcSi5mQu2q1ec7q3f50kS0cCh4Gd6RQVKezjzdg_&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA
13	Prof G. Gobsch Institut für Physik, Technische Universität Ilmenau, PF 100565, D-98684 Ilmenau, Germany	2010	Prof G. Gobsch	https://iopscience.iop.org/article/10.1088/0953-8984/23/47/475801/meta
14	Prof R. Goldhahn Institut für Experimentelle Physik, Otto-von-Guericke-Universität Magdeburg, PF 4120, D-39016 Magdeburg, Germany	2013	Prof R. Goldhahn	https://iopscience.iop.org/article/10.1088/0953-8984/23/47/475801/meta
15	Prof. Bernardo R. A. Neves Laboratório de Nanoscopia - Physics Dept. Universidade Federal de Minas Gerais Belo Horizonte - Brazil	2026	Prof. Bernardo R. A. Neves	Discussion is going on for Collaboration https://www.researchgate.net/profile/Bernardo-Neves Working not yet publication
16	Prof. Oleg Tereshchenko Rzhzanov Institute of Semiconductor Physics, SB RAS, Novosibirsk, Russian Federation. National Research Tomsk State University, Tomsk, Russian Federation.	2026	Prof. Oleg Tereshchenko	https://www.researchgate.net/profile/Oleg-Tereshchenko Discussion is going on for Collaboration Working not yet publication

18	Prof Amel Laref Department of Physics and Astronomy, College of Science, King Saud University, Riyadh, 11451, Saudi Arabia	2018	Prof Amel Laref	https://www.sciencedirect.com/science/article/abs/pii/S2352214318301382
19	Prof. Didier Sébilleau Department of Nano-sciences and Materials, Institute of Physics of Rennes, University of Rennes 1, France	2024	Prof. Didier Sébilleau	https://www.sciencedirect.com/science/article/abs/pii/S1386947726000482

Administrative Positions/Assignments Held

1. Director, Directorate of Research, M.J.P. Rohilkhand University, Bareilly
2. Research Compendium 2015-21, Editor: Dr. Sudhir Kumar, Applied Physics Department, M. J. P. Rohilkhand University, Bareilly; Online link-
<https://mjpru.ac.in/rms/Uploads/website/Compendium/2025-21/mobile/index.html>

Academic Foreign Visits

08

Any Other Details

Contribution for Website Reported by Copy Right Office, Government of India:

Applicant: M. J. P. Rohilkhand University, Bareilly - 243 006, India.

Title: Research Management System (RMS).

Author(s): K. P. Singh (Vice Chancellor), Sudhir Kumar (Director), Brijesh Kumar (Associate Director) and Prashansa, Krishton Tech Private Limited, Lucknow.

Registration No.: L-143876/2024.

Signature of Faculty Member
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