



Kirori Mal College

(University of Delhi)

University of Delhi, Delhi-110007

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1. Personal Profile

Title: **Dr.** First Name: **ISHPAL** Last Name: **RAWAL**

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2. Educational Qualifications

Degree/ Certification	Institution	Year
Ph. D	Department of Physics and Astrophysics, University of Delhi, Delhi	2014
M. Phil	C.D. L. University, Sirsa, Haryana	2007
M. Sc.	Department of Physics, M.D. University, Rohtak	2005
B. Sc.	S.D. College, Panipat, KUK	2003

3. Career Profile & Administrative Assignments

Category	Role/ Designation	Department/ Committee	Date From - To	Remarks
CAREER PROFILE	ASSISTANT PROFESSOR	PHYSICS KIRORI MAL COLLEGE, DELHI	23.Jan.2014 - Till date	
ADMINISTRATIVE ASSIGNMENTS	CONVENER	STANDING COMMITTEE FOR MONITORING ADMISSIONS Kirori Mal College, University of Delhi, Delhi	01.Jul.2024 - Till date	

ADMINISTRATIVE ASSIGNMENTS	MEMBER	RESEARCH COUNCIL KIRORI MAL COLLEGE, DELHI	26.Jun.2023 - Till date	
ADMINISTRATIVE ASSIGNMENTS	MEMBER	PHYSICS Kirori Mal College, University of Delhi, Delhi	01.Jul.2023 - 30.Jun.2024	Member Physics Seminar Society
ADMINISTRATIVE ASSIGNMENTS	MEMBER	SPACE INFRASTRUCTURE COMMITTEE KIRORI MAL COLLEGE, DELHI	18.Jun.2023 - 30.Jun.2025	
ADMINISTRATIVE ASSIGNMENTS	MEMBER	PHYSICS Kirori Mal College, University of Delhi, Delhi	01.Jul.2023 - 30.Jun.2024	Educational trip Committee, Physics Department
CAREER PROFILE	MEMBER	STANDING COMMITTEE FOR MONITORING ADMISSIONS KIRORI MAL COLLEGE, DELHI	18.Jun.2023 - 30.May.2024	
ADMINISTRATIVE ASSIGNMENTS	MEMBER	PHYSICS Kirori Mal College, University of Delhi, Delhi	01.Jul.2023 - 30.Jun.2024	Library Committee
CAREER PROFILE	GUEST LECTURER	PHYSICS HINDU COLLEGE, DELHI	09.Jan.2013 - 26.Apr.2013	
ADMINISTRATIVE ASSIGNMENTS	MEMBER	TIME TABLE COMMITTEE Physics Department, Kirori Mal College, University of Delhi, Delhi	01.Jul.2024 - Till date	
CAREER PROFILE	OTHERS	PHYSICS CSIR-National Physical Laboratory, New Delhi	10.Nov.2007 - 11.Nov.2009	
ADMINISTRATIVE ASSIGNMENTS	MEMBER	OTHERS Physics Department, Kirori Mal College, University of Delhi, Delhi	01.Jul.2024 - Till date	Purchase committee
ADMINISTRATIVE ASSIGNMENTS	MEMBER	OTHERS Physics Department, Kirori Mal College, University of Delhi, Delhi	01.Jul.2024 - 01.Jul.2025	Physics Robotics club
ADMINISTRATIVE ASSIGNMENTS	CONVENER	OTHERS Physics Department, Kirori Mal College, University of Delhi, Delhi	01.Jul.2024 - 30.Jun.2025	Physics Astro Club
ADMINISTRATIVE ASSIGNMENTS	COORDINATOR	EXAMINATION COMMITTEE Kirori Mal College, Delhi	01.Jul.2024 - Till date	Co-Ordinator, University Practical Examination at Kirori Mal College, DU

4. Other Profiles

Other Profile Name/ Description

SUBJECTS TAUGHT

1. Statistical Mechanics	2. Waves and optics	3. Quantum mechanics and Atomic Physics
4. Electromagnetic theory	5. Thermal Physics	6. Thermal Physics and Statistical Mechanics
7. Elements of Modern Physics	8. Solid State Physics	9. Physics of Earth
10. SEC-Numerical Analysis	11. SEC-Applied Optics	12. SEC-Electrical circuit and Network Skills
13. SEC-Electronic Product Testing		

AREAS OF INTEREST/ SPECIALIZATION

1. Organic and inorganic Nanomaterials	2. Gas/Chemical Sensors.	3. Supercapacitors	4. Ultraviolet-Photodetectors
5. Cold Cathod Emitters (Field Emission)	6. Light Dependent Resistors	7. Nanoindentation	8. Dielectric Spectroscopy.
9. Electromagnetic Interference (EMI) shielding, etc.			

RESEARCH COLLABORATIONS

1. Department of Physics, M.D. University, Rohtak, Haryana
2. Department of Physics, J. C. Bose University of Science and Technology, YMCA, Faridabad, Haryana
3. Department of Applied Physics, Guru Jambheshwar University of Science and Technology, Hisar, Haryana

AWARDS AND DISTINCTIONS

1. **KMC Research Award 2023-24**
2. **Best Poster Award: The 2nd International conference on advanced materials, energy and environments (ICMEE' 13) at Kanto Gakuin University, Yokohama, Japan during 8-9 Aug., 2013.**
3. **Consolation Prize for Poster presentations: National Conference on Synthesis, Characterization and Applications of Advance Nanomaterials (NCSCAAN 2014), at Hindustan College Science and Technology, Mathura, U.P during 17th – 19th Jan. 2014.**
4. **Research Paper selected in top 25 and published in Journal of nanoparticle Research (Springer): Presented in XIth International Conference on Nanostructured materials (NANO2012) at Rodos, Greece during 26-31 Aug., 2012.**
5. **Fellowship: Senior Research Fellowship, Council of Scientific and Industrial Research (CSIR), 2012**
6. **National Eligibility Test (Physics), Council of Scientific and Industrial Research (CSIR), 2010**

FIELD TRIPS ORGANIZED

1. Education Trip at CSIR-National Physical Laboratory, New Delhi on 28 September 2022 (30 student)
2. Education Trip at CSIR-National Physical Laboratory, New Delhi on 4 October 2023 (54 students).
3. Student excursion to attend the "International workshop on Advanced Materials Challenges and Standardization Needs for Net Zero Technologies (AMCSNZT-2023)" held on 9-10th, Oct. 2023 as a coordinator for Physics and chemistry students (65 students).
4. Education Trip at CSIR-National Physical Laboratory, New Delhi on 1 October 2024 (35 students).

MEMBERSHIPS IN ACADEMIC/ PROFESSIONAL BODIES

Reviewer of International Journals:

1. Silicon Journal (Springer).	2. Journal of Electromagnetic Waves and Applications (Taylor and Francis)	3. Materials Science in Semiconductor Processing (Elsevier)
4. Journal of Nanoparticle Research (Springer)	5. Materials today: Proceedings (Elsevier)	6. Journal of Alloys and Compounds (Elsevier)
7. Applied Physics Letter (American Institute of Physics, AIP)	8. Journal of Applied Physics (AIP)	9. Materials Today Communication (Elsevier)
10. ECS Journal of Solid-State Science and Technology (ECS).	11. Langmuir (American Chemical Society, ACS)	12. Open Physics (De-Gruyter Open Access)
13. Physica E: Low-dimensional Systems and Nanostructures (Elsevier)	14. Advanced Materials Interfaces (Wiley)	15. Materials Chemistry and Physics (Elsevier)
16. Advances in Research	17. Sensors and actuators A	18. Polytechnic Journal
19. Chemical Physics Impact	20. Diamond and Related Materials	21. Journal of Colloid and Interface Science
22. Progress in Polymer Coatings	23. Physica B: Condensed Matter	24. Next Research
25. Next Nanotechnology	26. Results in Chemistry	27.

5. Research Guidance

Year	Guide For	Title of the Dissertation/ Thesis	Scholar Name	Status
2025	Ph. D.	Study of Polypyrrole based Nanomaterials for Electrochemical Applications	Kapil Kumar	Pursuing

6. Research Projects

Year	Title of Project	Sponsorship Agency	Duration	Amount Sanctioned	Date of Sanction
2024	Fabrication of Heterojunction Devices based on Ternary Compounds of Zinc Oxide for Self-powered Ultraviolet Photodetectors	Kirori Mal College, Delhi University	1 year	20000	01.May.2024
2024	Design and Fabrication of Ultraviolet Photodetector Measurement Set-up	Maharishi Dayanand University, Rohtak	1 year	251000	05.Aug.2024
2024	Development of Highly Sensitive and full automated gas sensing system for Hazardous gases and chemical vapors	Maharishi Dayanand University, Rohtak	1 year	850000	05.Aug.2024

7. Publications

Category	Publication Name	Title	Name of Author	Reference Link/ DOI Link
JOURNAL PAPER (International)	Hydrogen environment-assisted temperature-dependent space charge-limited current conduction in n-ZnO/p-Si++ hetero-junction device	Journal of Materials Science: Materials in Electronics /Springer	Ishpal Rawal, V Kumar, V Kumar, P Gautam (First Author, Corresponding Author)	https://link.springer.com/article/10.1007/s10854-023-11664-024-11012-0
JOURNAL PAPER (International)	Tailoring of EMI Shielding Properties of Camphor Sulphonic Acid Mediated Polypyrrole Nanomaterials	Journal of Materials Science	Aarti Rajpal, Parveen K. Goyal, Ishpal Rawal, Anita Sharma, Vijay Kumar (Joint Author)	https://doi.org/10.1007/s11664-024-11012-0
JOURNAL PAPER (International)	Self-powered solar-blind UV photodetectors based on Zn: NiO/p-Si heterojunction devices	Applied Physics A /Springer	S Agrohiya, R Singh, S Dahiya, Ishpal Rawal, A Ohlan, R Punia, AS Maan (Corresponding Author)	https://link.springer.com/article/10.1007/s00339-023-127428
JOURNAL PAPER (International)	Dielectric characteristics of multiwall carbon nanotube-filled polyaniline	Materials Chemistry and Physics /Elsevier	R Pal, SL Goyal, Ishpal Rawal, V Gupta (Joint Author)	https://doi.org/10.1016/j.matchemphys.2023.127428

JOURNAL PAPER (International)	Fabrication of ZnMn ₂ O ₄ spinel thin film devices for solar-blind ultraviolet photodetectors: Effect of Zn ²⁺ concentration	Journal of Materials Science: Materials in Electronics /Springer	S Agrohiya, S Dahiya, Ishpal Rawal, PK Goyal, A Ohlan, R Punia, AS Maan (Corresponding Author)	https://doi.org/10.1007/s10854-023-09883-w
JOURNAL PAPER (International)	Nickel doped zinc oxide thin films for visible blind ultraviolet photodetection applications	ECS Sensors Plus	S Agrohiya, S Dahiya, PK Goyal, Ishpal Rawal, A Ohlan, R Punia, AS Maan (Corresponding Author)	https://iopscience.iop.org/article/10.1149/2754-2726
JOURNAL PAPER (International)	Structural characteristics and opto-electrical properties of in-situ synthesized polyaniline films	Optical Materials/Springer	Anita Sharma, Parveen K. Goyal, Ishpal Rawal, Aarti Rajpal, Anita Khokhar, Vijay Kumar , Sajjan Dahiya (Joint Author)	https://doi.org/10.1016/j.optmat.2022.112712
JOURNAL PAPER (International)	Highly Sensitive Self-powered Solar-blind Ultraviolet Photodetectors based on n-Zn _{1-x} Fe _x O/p-Si Heterojunctions	Sensors and Actuators A: Physical/Elsevier	Ishpal Rawal, Parveen Kumar Goyal, Sajjan Dahiya (First Author, Corresponding Author)	https://doi.org/10.1016/j.sna.2024.115268
JOURNAL PAPER (International)	Multifunctional porous polyaniline/phosphorus-nitrogen co-doped graphene nanocomposite for efficient room temperature ammonia sensing and high-performance supercapacitor applications	Applied Surface Science	R Singh, S Agrohiya, I Rawal, A Ohlan, S Dahiya, R Punia, AS Maan (Joint Author)	https://doi.org/10.1016/j.apsusc.2024.160368

JOURNAL PAPER (International)	Polypyrrole nanofibers/phosphorus-doped graphene nanocomposite for efficient room temperature real-time monitoring of ammonia	Polymer Bulletin/Springer	Ravinder Singh, Sunil Agrohiya, Ishpal Rawal, Anil Ohlan, Sajjan Dahiya, R Punia, AS Maan (Joint Author)	https://doi.org/10.1007/s00289-024-05422-7
JOURNAL PAPER (International)	Tailoring of EMI shielding properties of polyaniline with MWCNTs embedment in X-band (8.2–12.4 GHz)	Journal of Physics and Chemistry of Solids/Elsevier	Rishi Pal, Sneh Lata Goyal, Ishpal Rawal, A. K. Gupta (Joint Author)	https://doi.org/10.1016/j.jpcs.2022.110867
JOURNAL PAPER (International)	Augmentation of room temperature gas sensing properties of PANI thin films by 100 keV Ar ⁺ ion irradiation	Applied Surface Science	Rishi Pal, Sneh Lata Goyal, Ishpal Rawal, Shashi Kala Gupta (Joint Author)	https://doi.org/10.1016/j.apsusc.2024.159739
JOURNAL PAPER (International)	Fabrication of p-ZnCo ₂ O ₄ /n-Si spinel heterojunction devices for self-powered ultraviolet photodetectors: Effect of Zn ²⁺ concentration	Journal of Alloys and Compounds	Sunil Agrohiya, Ravinder Singh, Sajjan Dahiya, Ishpal Rawal, Amit Kumar, Anil Ohlan, R. Punia, A.S. Maan (Joint Author, Corresponding Author)	https://doi.org/10.1016/j.jallcom.2023.171855
JOURNAL PAPER (International)	Porous polyaniline/flower-like hybrid phase MoS ₂ /phosphorus-doped graphene ternary nanocomposite for efficient room temperature ammonia sensors	Synthetic Metals/Elsevier	Ravinder Singh, Sunil Agrohiya, Ishpal Rawal, Anil Ohlan, Sajjan Dahiya, R Punia, AS Maan (Joint Author)	https://doi.org/10.1016/j.synthmet.2024.117676

JOURNAL PAPER (International)	Fabrication of n-TiO ₂ /p-Si Photo-Diodes for Self-Powered Fast Ultraviolet Photodetectors	Silicon/Springer	[8] Sunil Agrohiya, Vipin Kumar, Ishpal Rawal, Sajjan Dahiya, Parveen K. Goyal, Vinod Kumar, Rajesh Punia (Corresponding Author)	https://doi.org/10.1007/s12633-022-01913-2
JOURNAL PAPER (International)	Highly sensitive and selective room temperature ammonia sensor based on polyaniline thin film: In-situ dip-coating polymerization	Journal of Materials Science: Materials in Electronics /Springer	Anita Sharma, Ishpal Rawal, Aarti Rajpal, Anita Khokhar, Vijay Kumar, Parveen K. Goyal (Joint Author)	https://doi.org/10.1007/s10854-022-08338-y
JOURNAL PAPER (International)	High selectivity and sensitivity through nanoparticle sensors for cleanroom CO ₂ detection	Nanotechnology/IOP publications	Manjunatha Channegowda, Arpit Verma, Igra Arabia, Ujwal Shreenag Meda, Ishpal Rawal, Sarvesh Rustagi, Bal Chandra Yadav, Patrick SM Dunlop, Nikhil Bhalla, Vishal Chaudhary (Joint Author)	10.1088/1361-6528/ad3bf
JOURNAL PAPER (International)	PEDOT/flower-like 1 T-2H MoS ₂ /nitrogen-doped graphene ternary nanocomposite for efficient room temperature real-time monitoring of ammonia	Journal of Materials Science: Materials in Electronics	Ravinder Singh, Sunil Agrohiya, Ishpal Rawal, Anil Ohlan, Sajjan Dahiya, R Punia, AS Maan (Joint Author)	https://doi.org/10.1007/s10854-024-12695-1
JOURNAL PAPER (International)	Selective methanol sensors based on polyaniline/V ₂ O ₅ nanocomposites	Iranian Polymer Journal	[10] Rishi Pal, Sneha Lata Goyal, Ishpal Rawal (Joint Author)	https://doi.org/10.1007/s13726-022-01024-0

JOURNAL PAPER (International)	Self-driven solar-blind ultraviolet photodetectors based on p-Zn _{1-x} Sb _x O/n-Si _{1-x} (x= 0.03, 0.05) heterojunction diodes	Journal of Materials Science: Materials in Electronics /Springer	Vipin Kumar, Ishpal Rawal, Vinod Kumar (Corresponding Author)	https://doi.org/10.1007/s10854-021-07362-8
JOURNAL PAPER (International)	Fabrication of n-ZnO/p-Si ⁺⁺ Hetero-junction Devices for Hydrogen Detection: Effect of Annealing Temperature	Silicon/Springer	Vipin Kumar, Ishpal Rawal, Vinod Kumar (Corresponding Author)	https://doi.org/10.1007/s12633-021-01508-3
JOURNAL PAPER (International)	Planck's Constant from Stefan's Radiation Law: A study of gray radiations of Tungsten Filament Bulb	European Journal of Physics	Ishpal (First Author, Corresponding Author)	10.1088/1361-6404/adafee
JOURNAL PAPER (International)	Study of conduction mechanism in p-Zn _{1-x} Sb _x O/n-Si _{1-x} (x = 0.00, 0.03, 0.05) hetero-junction devices	Journal of Materials Science: Materials in Electronics /Springer	Ishpal Rawal, Vipin Kumar, Vinod Kumar, Prikshit Gautam, Vijay Kumar Sharma (First Author, Corresponding Author)	https://doi.org/10.1007/s10854-021-06809-2
JOURNAL PAPER (International)	Planck's constant determination from Ferry's black-body radiation: a straightforward method	Physics Education, IOP	Ishpal Rawal (Sole Author)	10.1088/1361-6552/adca7e
JOURNAL PAPER (International)	Study of Variable Range Hopping Conduction Mechanism in Nanocrystalline carbon thin Films deposited by modified anodic jet carbon arc technique: Application to light-dependent resistors	Journal of Materials Science: Materials in Electronics /Springer	[14] Ravi Kant Tripathi, O. S. Panwar, Ishpal Rawal, C. K. Dixit, Arpit Verma, Priyanka Chaudhary, A. K. Srivastava and B. C. Yadav (Joint Author)	https://doi.org/10.1007/s10854-020-05020-z
JOURNAL PAPER (International)	Efficient energy storage performance of electrochemical supercapacitors based on polyaniline/graphene nanocomposite electrodes	Journal of Physics and Chemistry of Solids/Elsevier	Rishi Pal, Sneha Lata Goyal, Ishpal Rawal, Anil Kumar Gupta, Ruchi (Joint Author)	https://doi.org/10.1016/j.jpcs.2021.110057

JOURNAL PAPER (International)	Mott's variable range hopping conduction mechanism in polypyrrole/molybdenum disulphide-reduced graphene oxide nanocomposites	Journal of Materials Science: Materials in Electronics, Springer Nature	Aarti Rajpal, Ishpal Rawal, Anita Sharma, Sajjan Dahiya, Vijay Kumar & Parveen K. Goyal (Corresponding Author)	https://doi.org/10.1007/s10854-025-14954-1
JOURNAL PAPER (International)	Polypyrrole/Molybdenum Disulfide/Reduced Graphene Oxide Ternary Nanocomposites: A Potential Material for EMI Shielding Applications	Journal of Inorganic and Organometallic Polymers and Materials, Springer Nature	Aarti Rajpal, Ishpal Rawal, Anita Sharma, Sajjan Dahiya, Vijay Kumar & Parveen Kumar Goyal (Corresponding Author)	https://doi.org/10.1007/s10904-025-03941-y
JOURNAL PAPER (International)	Lightweight graphene encapsulated with polyaniline for excellent electromagnetic shielding performance in X-band (8.2–12.4 GHz)	Materials Science and Engineering B/Elsevier	Rishi Pal, Sneha Lata Goyal, Ishpal Rawal, Asha (Joint Author)	https://doi.org/10.1016/j.mseb.2021.115227
JOURNAL PAPER (International)	Effect of Ammonia Based Deprotonation on the Variable Range Hopping Conduction in Polypyrrole Nanotubes	Solid State Sciences	Ishpal Rawal, Parveen K. Goyal (First Author, Corresponding Author)	https://doi.org/10.1016/j.solidstatesciences.2019.105
JOURNAL PAPER (International)	Transition of charge transport phenomena from 3D to 1D hopping at low temperatures in polyaniline/graphene composites	Journal of Applied Physics/AIP Publishing	R. Pal, SL Goyal, Ishpal Rawal (Joint Author)	https://doi.org/10.1063/5.0020745
JOURNAL PAPER (International)	High-performance solid state supercapacitors based on intrinsically conducting polyaniline/MWCNTs composite electrodes	Journal of Polymer Research/Springer	Rishi Pal, Sneha Lata Goyal, Ishpal Rawal (Joint Author)	https://doi.org/10.1007/s10965-020-02144-y
JOURNAL PAPER (International)	Efficient room temperature methanol sensors based on polyaniline/graphene micro/nanocomposites	Iranian Polymer Journal/Springer	Rishi Pal, Sneha Lata Goyal, Ishpal Rawal, Smriti Sharma (Joint Author)	https://doi.org/10.1007/s13726-020-00822-8

JOURNAL PAPER (International)	Efficient UV photodetectors based on Ni-doped ZnS nanoparticles prepared by facial chemical reduction method	Physica B: Condense Matter	Vipin Kumar, Ishpal Rawal, Vinod Kumar, Parveen K. Goyal (Corresponding Author)	https://doi.org/10.1016/j.physb.2019.411690
JOURNAL PAPER (International)	MnO ₂ -Magnetic Core-Shell Structured Polyaniline Dependent Enhanced EMI Shielding Effectiveness: A Study of VRH Conduction	ChemistrySelect/Wiley	Rishi Pal, Sneh Lata Goyal, Vinay Gupta, Ishpal Rawal (Joint Author)	https://doi.org/10.1002/slct.201901199
JOURNAL PAPER (International)	Quantum efficient fast UV photodetectors based on nanocrystalline Zn _{1-x} PxO (x=0.00, 0.03, 0.07) thin films deposited by pulsed laser deposition technique	Materials Science in Semiconductor Processing/Elsevier	Karmvir Singh, Ishpal Rawal, Neeru Sharma, Prikshit Gautam, Rakesh Dhar (Corresponding Author)	https://doi.org/10.1016/j.mssp.2019.02.004
JOURNAL PAPER (International)	Diluted magnetic semiconducting properties of nanocrystalline Zn _{0.98} X _{0.02} O (X=Fe, Ga, Ni) thin films deposited by PLD technique for spintronic applications	Journal of Magnetism and Magnetic Materials/Elsevier	Karmvir Singha, Ishpal Rawal, Prikshit Gautam, Neeru Sharma, Rakesh Dhar (Corresponding Author)	https://doi.org/10.1016/j.jmmm.2018.08.024
JOURNAL PAPER (International)	Determination of valence and conduction band offsets in Zn _{0.98} Fe _{0.02} O/ZnO hetero-junction thin films grown in oxygen environment by pulsed laser deposition technique: A study of efficient UV photodetectors	Journal of Alloys and Compounds/Elsevier	Karmvir Singh, Neelam Berwal, Ishpal Rawal, Sajjan Dahiya, Rajesh Punia, Rakesh Dhar (Joint Author)	https://doi.org/10.1016/j.jallcom.2018.07.303
JOURNAL PAPER (International)	Study on nanocrystalline silicon thin films grown by the filtered cathodic vacuum arc technique using boron doped solid silicon for fast photo detectors	Journal of the Taiwan Institute of Chemical Engineers /Elsevier	Ravi Kant Tripathi, OS Panwar, Ishpal Rawal, BP Singh, BC Yadav (Joint Author)	https://doi.org/10.1016/j.jtice.2018.01.051

JOURNAL PAPER (International)	Surface Structure-Dependent Low Turn-On Electron Field Emission from Polypyrrole/Tin Oxide Hybrid Cathodes	ACS Omega/ACS	Ishpal Rawal, Lalit Kumar, Ravi Kant Tripathi, and Omvir Singh Panwar (First Author, Corresponding Author)	https://pubs.acs.org/doi/10.1021/acsomega.7b01274
JOURNAL PAPER (International)	X-ray photoelectron spectroscopy investigations of band offsets in Ga _{0.02} Zn _{0.98} O/ZnO heterojunction for UV photodetectors	Journal of Applied Physics/AIP Publishing	Karmvir Singh, Ishpal Rawal, Rajesh Punia, and Rakesh Dhar (Corresponding Author)	https://doi.org/10.1063/1.4990757
JOURNAL PAPER (International)	Organic-inorganic hybrid nanomaterials for advanced light dependent resistors	Materials Chemistry and Physics /Elsevier	Ishpal Rawal, Neeraj Dwivedi, Ravi Kant Tripathi, O.S. Panwar, Hitendra K. Malik (First Author, Corresponding Author)	https://doi.org/10.1016/j.matchemphys.2017.09.026
JOURNAL PAPER (International)	Anomalous Electron Transport in Metal/Carbon Multijunction Devices by Engineering of the Carbon Thickness and Selecting Metal Layer	Journal of Applied Physics/AIP Publishing	Neeraj Dwivedi, Chetna Dhand, Ishpal Rawal, Sushil Kumar, Hitendra K. Malik (Joint Author)	https://doi.org/10.1063/1.4985171
JOURNAL PAPER (International)	Flexible Room Temperature Ammonia Sensor based on Polyaniline film	Sensors and Actuators B: Chemical	Lalit Kumar, Ishpal Rawal, Amarjeet Kaur and S. Annapoorni (Joint Author)	https://doi.org/10.1016/j.snb.2016.08.173
JOURNAL PAPER (International)	Organic-inorganic hybrid cathodes: Facile synthesis of polypyrrole/zinc oxide nanofibers for low turn-on electron field emitters	RSC Advances	Ishpal Rawal, J. David Carey, O.S. Panwar, Ravi Kant Tripathi (First Author, Corresponding Author)	https://doi.org/10.1039/C6RA03449G

JOURNAL PAPER (International)	Easy synthesis of organic–inorganic hybrid nanomaterials: study of DC conduction mechanism for light dependent resistors	RSC Advances	Ishpal Rawal, Ravi K Tripathi, OS Panwar (First Author, Corresponding Author)	https://doi.org/10.1039/C5RA27774D
JOURNAL PAPER (International)	Facial synthesis of hexagonal metal oxide nanoparticles for low temperature ammonia gas sensing applications	RSC Advances	Ishpal Rawal (Sole Author, Corresponding Author)	https://doi.org/10.1039/C4RA12747A
JOURNAL PAPER (International)	Low frequency and temperature dependent dielectric spectroscopic studies of polypyrrole nanoparticles	Philosophical Magazine	Ishpal Rawal, Amarjeet Kaur (First Author)	https://doi.org/10.1080/14786435.2015.1031847
JOURNAL PAPER (International)	Effect of helium gas pressure on dc conduction mechanism and EMI shielding properties of nanocrystalline carbon thin films	Material Chemistry and Physics	Ishpal Rawal, O.S. Panwar, R.K. Tripathi, A.P. Singh, S.K. Dhawan, A.K. Srivastava (First Author, Corresponding Author)	https://doi.org/10.1016/j.matchemphys.2015.03.024
JOURNAL PAPER (International)	Structural and nanomechanical properties of nanocrystalline carbon thin films for photodetection	Journal of Vacuum Science and Technology A/ AIP	Ishpal Rawal, O. S. Panwar, R. K. Tripathi, A. K. Srivastava, Mahesh Kumar, Sreekumar Chockalingam (First Author)	https://doi.org/10.1116/1.4913866
JOURNAL PAPER (International)	Structural, nanomechanical and variable range hopping conduction behavior of nanocrystalline carbon thin films deposited by the ambient environment assisted filtered cathodic jet carbon arc technique	Journal of Alloys and Compounds/Elsevier	O. S. Panwar, Ishpal Rawal, R. K. Tripathi, A. K. Srivastava, Mahesh Kumar (Joint Author)	https://doi.org/10.1016/j.jallcom.2014.11.203

JOURNAL PAPER (International)	Structural, field emission and ammonia gas sensing properties of multiwalled carbon nanotube-graphene like hybrid films deposited by microwave plasma enhanced chemical vapor deposition technique	Science of Advanced Materials	Atul Bisht, S. Chockalingam, O. S. Panwar, A. K. Kesarwani, Ishpal Rawal, B. P. Singh, V. N. Singh (Joint Author)	https://doi.org/10.1166/sam.2015.2100
JOURNAL PAPER (International)	Vibration spectroscopy for the investigation of ammonia gas sensing mechanism in polypyrrole nanostructures	Vibrational Spectroscopy/Elsevier	Ishpal Rawal, Kiran Sehrawat, Amarjeet Kaur (First Author)	https://doi.org/10.1016/j.vibspec.2014.07.012
JOURNAL PAPER (International)	Effect of anionic surfactant concentration on the variable range hopping conduction in polypyrrole nanoparticles	Journal of Applied Physics	Ishpal Rawal, Amarjeet Kaur (First Author)	https://doi.org/10.1063/1.4863179
JOURNAL PAPER (International)	Investigations on phosphorous doped hydrogenated amorphous silicon carbide thin films deposited by filtered cathodic vacuum arc technique for photo detecting application	RSC Advances	R. K. Tripathi, O. S. Panwar, A. K. Kesarwani, Ishpal Rawal, B. P. Singh, M. K. Dalai and S. Chockalingam (Joint Author)	https://doi.org/10.1039/C4RA08343A
JOURNAL PAPER (International)	Influence of consumed power on deposition of nano-structured diamond-like carbon thin films and its spectroscopic and nano-mechanical investigations	Applied Surface Science	Neeraj Dwivedi, S. Kumar, Ishpal Rawal, H. Malik (Joint Author)	https://doi.org/10.1016/j.apsusc.2014.02.023
JOURNAL PAPER (International)	Fabrication and Characterization of Grided Pt/SiO ₂ /Si MOS Structure for Hydrogen and Hydrogen Sulphide Sensing	Material Chemistry and Physics	Vinod Kumar, Sunny, Ishpal Rawal, V.N. Mishra, R. Dwivedi, R.R. Das (Joint Author)	https://doi.org/10.1016/j.matchemphys.2014.03.047

JOURNAL PAPER (International)	Structural, nanomechanical, field emission and ammonia gas sensing properties of nitrogenated amorphous carbon films deposited by filtered anodic jet carbon arc technique	Talanta	R. K. Tripathi, O. S. Panwar, A. K. Srivastava, Ishpal Rawal, Sreekumar Chockalingam (Joint Author)	https://doi.org/10.1016/j.talanta.2014.03.005
JOURNAL PAPER (International)	Synthesis of mesoporous polypyrrole nanotubes/ nanoparticles for ammonia gas sensing application	Sensors and Actuators A: Physical	Ishpal Rawal and A. Kaur (First Author)	https://doi.org/10.1016/j.sna.2013.08.023
JOURNAL PAPER (International)	Spectroscopic and electrical sensing mechanism in Oxidant mediated polypyrrole nanofibers/nanoparticles for ammonia gas	Journal of Nanoparticle Research	Ishpal and A. Kaur (First Author)	https://doi.org/10.1007/s11051-013-1637-y
JOURNAL PAPER (International)	Spectroscopic investigation of ammonia gas sensing mechanism in polypyrrole nanotubes/nanorods	Journal of Applied Physics	Ishpal and A. Kaur (First Author)	https://doi.org/10.1063/1.4793994
JOURNAL PAPER (International)	Structural, nanomechanical and field emission properties of amorphous carbon films having embedded nanocrystallites deposited by filtered anodic jet carbon arc technique	Journal of Nanoscience	R. K. Tripathi, O. S. Panwar, A. K. Srivastava, Ishpal, M.Kumar and S. Chockalingam (Joint Author)	https://doi.org/10.1155/2013/401710
JOURNAL PAPER (International)	Synthesis of Reliable Food Grade packaging Materials	International Journal of Printing, Packaging and Allied Sciences	R. Dhar, Ishpal, P. Kumar, Deepika, D. Mohan (Joint Author)	https://www.researchgate.net/publication/262936660
JOURNAL PAPER (International)	Investigation of radio frequency plasma for the growth of diamond like carbon films	Physics of Plasma	Ishpal, S. Kumar, N. Dwivedi, C.M.S. Rauthan (First Author)	https://doi.org/10.1063/1.3694855

JOURNAL PAPER (International)	Tuning of EMI shielding properties of polypyrrole nanoparticles with surfactant concentration	Synthetic Metals/Elsevier	A. Kaur, Ishpal, S. K. Dhawan (Joint Author)	https://doi.org/10.1016/j.synthmet.2012.05.012
JOURNAL PAPER (International)	Effect of substrate bias in hydrogenated amorphous carbon films having embedded nanocrystallites deposited by cathodic jet carbon arc technique	Diamond and Related Materials	O.S. Panwar, Ishpal, R.K. Tripathi (Joint Author)	https://doi.org/10.1016/j.diamond.2012.02.010
JOURNAL PAPER (International)	Effect of substrate bias in nitrogen incorporated amorphous carbon films with embedded nanoparticles deposited by filtered cathodic jet carbon arc technique	Material Chemistry and Physics	O.S. Panwar, S. Kumar, Ishpal, A.K. Srivastava, A. Chouksey, R.K. Tripathi, A. Basu (Joint Author)	https://doi.org/10.1016/j.matchemphys.2011.11.083
JOURNAL PAPER (International)	Effect of ambient gaseous environment on the properties of amorphous carbon thin films	Material Chemistry and Physics	Ishpal, O.S. Panwar, M. Kumar, S. Kumar (First Author)	https://doi.org/10.1016/j.matchemphys.2010.10.016
JOURNAL PAPER (International)	Effect of substrate bias in amorphous carbon films having embedded nanocrystallites	Surface and Coatings Technology/Elsevier	Ishpal, O.S. Panwar, A.K. Srivastava, S. Kumar, R.K. Tripathi, M. Kumar, S. Singh (First Author)	https://doi.org/10.1016/j.surfcoat.2011.07.001
JOURNAL PAPER (International)	Studies of nanostructured copper/hydrogenated amorphous carbon multilayer films	Journal of Alloys and Compounds	N. Dwivedi, S. Kumar, Ishpal, S. Dayal, Govind, C.M.S. Rauthan, O.S. Panwar (First Author)	https://doi.org/10.1016/j.jallcom.2010.10.016
JOURNAL PAPER (International)	X-ray photoelectron spectroscopic study of nitrogen incorporated amorphous carbon films embedded with nanoparticles	Applied Surface Science	Ishpal, O.S. Panwar, M. Kumar, S. Kumar (First Author)	https://doi.org/10.1016/j.apsusc.2010.05.075

JOURNAL PAPER (International)	Properties of boron and phosphorous incorporated tetrahedral amorphous carbon films grown using filtered cathodic vacuum arc process	Applied Surface Science	O.S. Panwar, M. A. Khan, B.S. Satyanarayana, S. Kumar, Ishpal (Joint Author)	https://doi.org/10.1016/j.apsusc.2010.02.035
JOURNAL PAPER (International)	Effect of high substrate bias and hydrogen and nitrogen incorporation on spectroscopic ellipsometric and atomic force microscopic studies of tetrahedral amorphous carbon films	Surface & Coatings Technology	O.S. Panwar, M. A. Khan, S. Kumar, A. Basu, B.R. Mehta, S. Kumar, Ishpal (Joint Author)	https://doi.org/10.1016/j.surfcoat.2010.08.119
JOURNAL PAPER (International)	Effect of high substrate bias and hydrogen and nitrogen incorporation on density of states and field emission threshold in tetrahedral amorphous carbon films	Journal of Vacuum Science and Technology B/ AIP	O.S. Panwar, M. A. Khan, B.S. Satyanarayana, R. Bhattacharyya, B.R. Mehta, S. Kumar, Ishpal (Joint Author)	https://doi.org/10.1116/1.3359586
CONFERENCE PAPER/ PROCEEDINGS (International)	Room Temperature Ammonia (NH ₃) Gas Sensor based on Molybdenum Disulfide and Reduced Graphene Oxide (MoS ₂ /rGO) Heterojunction.	Journal of Physics: Conference Series	R. Singh, S. Agrohiya, S. Dahiya, Ishpal Rawal, A. Ohlan, R. Punia, AS Maan (Joint Author)	doi:10.1088/1742-6596/2663/1/012022
CONFERENCE PAPER/ PROCEEDINGS (International)	Synthesis, Characterization and Study of EMI Shielding Properties of Polypyrrole/rGO Nanocomposites	Recent Advances in Functional Materials, Springer Nature	Aarti Rajpal, Parveen K Goyal, Ishpal Rawal, Anita Sharma, Sajjan Dahiya, Vijay Kumar (Joint Author)	https://link.springer.com/chapter/10.1007/978-981-9
CONFERENCE PAPER/ PROCEEDINGS (International)	Easy Synthesis of Nanostructures of ZnO and ZnS for Efficient UV Photodetectors	Micro-Electronics and Telecommunication Engineering/Springer	V Kumar, Ishpal Rawal, V Kumar (Joint Author, Corresponding Author)	https://link.springer.com/chapter/10.1007/978-981-1

CONFERENCE PAPER/ PROCEEDINGS (International)	Growth and Characterization of Nitrogen Incorporated Amorphous Carbon Films Having Embedded Nanocrystallites	Physics of Semiconductor Devices/Springer International Publishing Switzerland	R. K. Tripathi, O. S. Panwar, Ishpal, Sreekumar Chockalingam (Joint Author)	https://link.springer.com/chapter/10.1007/978-3-319
CONFERENCE PAPER/ PROCEEDINGS (International)	Study on filtered and unfiltered deposition of amorphous carbon nanocrystalline thin films,	Proceedings of the seventeenth international conference on thin films: abstracts	Ravi Kant Tripathi, BC Yadav, OS Panwar, Ishpal Rawal, AK Srivastava (Joint Author)	https://inis.iaea.org/search/search.aspx?orig_q=RN
CONFERENCE PAPER/ PROCEEDINGS (International)	Hydrogenated amorphous carbon films having embedded nanoparticles deposited by cathodic jet carbon arc technique	Proc. SPIE	O. S. Panwar, Ishpal, R.K. Tripathi, A.K. Srivastva, S. Kumar (Joint Author)	https://spie.org/Publications/Proceedings/Paper/10.1
RESEARCH PAPERS (International)	Low-temperature charge transport in multiwalled carbon nanotube/polyaniline hybrids	Materials Science and Engineering: B, Elsevier	Rishi Pal; Sneh Lata Goyal; Ishpal Rawal; Shashi Kala Gupta; Vivek Gupta (Joint Author)	https://doi.org/10.1016/j.mseb.2025.118953

8. Books

Category	Book Name	Title	Name of Author	ISSN/ ISBN Number
BOOK (International)	Organic–Inorganic Nanohybrids for Sensing and Optoelectronics Applications	Deepak Kumar, Ashish Kumar Rajayan, Ishpal Rawal, Rishi Pal (Joint Author)	9781003352372/CRC press	9781003352372

9. Faculty Achievements

Year	Category of Achievement	Role	National/ International etc.	Name	Date From-To
2023	FACULTY INDUCTION PROGRAM ATTENDED	PARTICIPANT	National	Online Faculty Induction/Orientation Program	21.Dec.2022 - 19.Jan.2023
2023	FACULTY DEVELOPMENT PROGRAM ATTENDED	PARTICIPANT	National	Intellectual property rights	23.Jan.2023 - 29.Jan.2023
2022	REFRESHER COURSE ATTENDED	PARTICIPANT	National	Managing Online Classes and Co-Creating Moocs 21.0	07.Dec.2022 - 21.Dec.2022

2022	FACULTY DEVELOPMENT PROGRAM ATTENDED	PARTICIPANT	National	Python: Essentials, Programming and Analytics	27.Oct.2022 - 03.Nov.2022
2021	FACULTY INDUCTION PROGRAM ATTENDED	PARTICIPANT	National	Online Faculty Induction-Orientation Program	11.Feb.2021 - 13.Mar.2021
2021	REFRESHER COURSE ATTENDED	PARTICIPANT	National	Online Refresher Course in Physics	27.Oct.2021 - 10.Nov.2021
2021	FACULTY DEVELOPMENT PROGRAM ATTENDED	PARTICIPANT	National	Programming in Python	06.Dec.2021 - 10.Dec.2021
2021	FACULTY DEVELOPMENT PROGRAM ATTENDED	PARTICIPANT	National	Academic Writing	12.Mar.2021 - 18.Mar.2021
2021	REFRESHER COURSE ATTENDED	PARTICIPANT	National	Managing Online Classes and Co-Creating Moocs 4.0	11.Mar.2021 - 26.Mar.2021
2020	FACULTY DEVELOPMENT PROGRAM ATTENDED	PARTICIPANT	National	Moving Towards New Normal Through Effective Online Teaching	01.Dec.2020 - 07.Dec.2020
2020	ONLINE CERTIFICATE COURSE/ TRAINING PROGRAMS ATTENDED	PARTICIPANT	National	Synthesis and Characterization of Nanomaterials (SCNM-2020)	02.Nov.2020 - 07.Nov.2020
2022	ONLINE CERTIFICATE COURSE/ TRAINING PROGRAMS ATTENDED	PARTICIPANT	National	Vedic Mathematics -I	19.Oct.2022 - 19.Oct.2022
2015	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	National	National Seminar on Recent Trends in Physics and Chemistry (NSRTPC-15)	25.Mar.2015 - 25.Mar.2015
2014	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	National	National Conference on Synthesis, Characterization and Applications of Advance Nanomaterials (NCSCAAN 2014)	17.Jan.2014 - 19.Jan.2014
2013	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	Understanding of ammonia gas sensing mechanism in polypyrrole nanofibers, Presented in "The 2nd International conference on advanced materials, energy and environments (ICMEE' 13)	08.Aug.2013 - 09.Aug.2013
2013	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	Growth of polypyrrole nanospheres for EMI shielding applications, Presented in "The 2nd International conference on advanced materials, energy and environments (ICMEE' 13)	08.Aug.2013 - 09.Aug.2013
2012	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	XIth International Conference on Nanostructured materials (NANO2012)	26.Aug.2012 - 31.Aug.2012

2012	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	International conference of nanoscience and nanotechnology (NanoSciTech-2012)	16.Feb.2012 - 18.Feb.2012
2011	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	International Conference on Nanomaterials and Nanotechnology (ICNANO-11)	19.Dec.2011 - 21.Dec.2011
2010	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	International Conference on Frontiers of Polymers and Advanced Materials (Macro-2010)	15.Dec.2010 - 17.Dec.2010
2010	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	Indraprastha International Conclave on Nano Science & Technology (NanoConclave-10)	16.Nov.2010 - 17.Nov.2010
2009	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	National	National conference on Recent Advances in Surface Engineering (RASE-09)	26.Feb.2009 - 27.Feb.2009
2012	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	Indo-German Workshop on Advanced Materials for Future Energy Requirements (WAMFER-2012)	29.Nov.2012 - 01.Dec.2012
2012	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	University	Workshop on Experiments and Research Applications with National Instruments Labview,	02.Feb.2012 - 03.Feb.2012
2023	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	International workshop on Advanced Materials Challenges and Standardization Needs for Net Zero Technologies (AMCSNZT-2023)"	09.Oct.2023 - 10.Oct.2023
2024	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	PAPER PRESENTER	National	Two Days National Conference on " Functional Materials and Sensors"	16.Feb.2024 - 17.Feb.2024

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