




CURRICULUM VITAE

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|---|--|---|
| Name: | Dr. Pawan Kumar |  |
| Designation: | Assistant Professor (Since October 2016) | |
| School: | Physical Sciences | |
| Department: | Physics | |
| Specialisation & Research Interests: | Condensed Matter Physics (Experiment and Theory): Materials Design through Confinement & Strain Engineering; Crystal and Magnetic Structure determination using Rietveld Analysis; Magnetic, Electronic, Optical and Mechanical Properties of Nanomaterials like Oxides, Perovskite and Multiferroics, Materials for Supercapacitor Applications, Density Functional Theory | |
| Email IDs (Official & Personal) | pawankumar@mgcub.ac.in , pawankumarmgcub@gmail.com | |
| Mobile No.: | +91-9546256116 | |
| Address: | Department of Physics, Mahatma Gandhi Central University , Chanakya Parisar, Zila School Campus, Motihari , East Champaran-845401, Bihar | |

2. ACADEMIC QUALIFICATION (in reverse Chronological order):

| Degree | Year | University / Board | Percentage |
|-------------------------|-------------|---|----------------|
| Ph.D. | 2016 | Indian Institute of Technology, Patna | Awarded |
| M.Sc. | 2011 | Department of Physics, Patna University | 78.25 |
| B.Sc. | 2009 | Patna Science College, Patna University | 75.5 |
| XIIth | 2006 | Jawahar Navodaya Vidyalaya, CBSE | 85.4 |
| Xth | 2004 | Jawahar Navodaya Vidyalaya, CBSE | 89.8 |

3. ANY OTHER QUALIFICATIONS:

- **CSIR/UGC-NET-JRF, Dec 2012, All India Rank in UGC JRF: 168**
- **GATE-Physics - 2011, All India Rank: 377**
- **JEST-Physics - 2011, All India Rank: 206**
- **Patent Applied: 01**

- **Research Publications: (57)**
 - International Journal Publications: **40**
 - Conference Proceedings: **11**
 - Book Chapters: **06**
 - Conference Presentations: **21**

- ❖ **Google Scholar Citations: 1567, h-index: 20, i10-index: 27**

4. RESEARCH SUPERVISION:

| | | |
|------------------------------------|----------------------|------------------------|
| Ph.D. | (Ongoing): 02 | (Completed): 01 |
| Master's Level Dissertation | (Ongoing): 03 | (Completed): 08 |

5. COURSES TAUGHT:

- Mathematical Physics (Theory and Lab)
- Solid State Physics (Theory and Lab)
- Semiconductor Physics (Theory and Lab)
- Electrical and Electronics Engineering (Theory and Lab)
- Digital System and Applications (Theory & Lab)
- Advanced Physical Tools and Techniques (Theory and Lab)
- Electronics (Theory and Lab)
- Physics of Advanced Materials
- Electromagnetic Theory
- Material Science – I
- Quantum Mechanics and Applications
- Experimental Methods in Physics
- General Lab **I, II & III** for M.Sc. (Physics)

6. AWARDS, FELLOWSHIPS & OTHER DISTINCTIONS:

- **India Top Cited Author Award 2018**, IOP Publishing, UK
- **Best Paper Award**, International Conference, **NANOCON 014**
- **Best Poster Award**, National Conference, **IOQO 014**
- **M. M. Physics Scholarship** for **M.Sc. Physics** for two years
- **3rd Rank** in **Patna University** (M.Sc. Physics Exam 2011)
- **Distinction** in **B.Sc. Physics Hons.**
- **School Topper** in class **X** and **XII**

7. PROFESSIONAL EXPERIENCE:

| Organisation/Institute/University | Position Held | Duration |
|--|---------------------|------------------------------|
| Mahatma Gandhi Central University | Assistant Professor | Since Oct 3, 2016 |
| NIT Jamshedpur | Ad-hoc Faculty | July 6, 2015 – Sept 30, 2016 |

8. ADMINISTRATIVE ASSIGNMENTS:

| Position Held | Duration | Nature of Work |
|--|-----------------------|---|
| Member Secretary , University Level Career Counselling and Placement Cell | Since August 09, 2024 | To guide the Students on Career Choices and facilitates their Job Placements. |
| Nodal Officer , Apprenticeship Cell, MGCU | Since March 05, 2024 | To implement National Apprenticeship Training Scheme |
| Member , Corporate Social Responsibility Cell, MGCU | Since May 28, 2024 | Corporate Social Responsibility of the university |
| Member , Wi-Fi and Internet Connectivity, MGCU | Since May 30, 2023 | To ensure the high speed Wifi and Internet at MGCU, Bihar. |
| Member , Anti-Ragging Squad, MGCU | Jan 2017 – March 2019 | Anti-Ragging Squad team |
| Associate Dean of Students Welfare , MGCU | Nov 2016 – March 2019 | Students' Affairs |
| Assistant Warden , NIT Jamshedpur | Oct 2015 – Sept 2016 | To look after the welfare of the students in the Hostel |

9. CONTRIBUTION TO CORPORATE LIFE OF THE UNIVERSITY:

- Member, Implementation Committee, *Samarth eGov Module*, MGCU, Bihar
- Member, Service Book Updation Committee, MGCU, Bihar
- Member, Departmental Research Committee (DRC), Department of Physics, MGCU
- Special Invitee to *Board of Studies (BoS)*, Department of Physics, MGCU, Bihar
- Member, Exhibition Committee, *First Convocation*, MGCU, Bihar
- Member, Costume Management Committee, *First Convocation*, MGCU, Bihar
- Member, Sports Committee, MGCU, Bihar
- Member, Flying Squad for mid-term and End-term examinations, MGCU, Bihar
- Member, PG admission committee, Departmental of Physics, MGCU, Bihar
- Member, Disciplinary Committee, Departmental of Physics, MGCU, Bihar
- In-charge, Mathematical Physics Laboratory, Departmental of Physics, MGCU, Bihar
- Member, NAAC Committee, Departmental of Physics, MGCU, Bihar
- Member Secretary, NIRF Committee, Departmental of Physics, MGCU, Bihar
- Member, SAP & DST-FIST Proposal Committee, Departmental of Physics, MGCU, Bihar
- Member, Academic Activity (s) Committee, Departmental of Physics, MGCU, Bihar
- Member Secretary, Library Committee, Departmental of Physics, MGCU, Bihar
- Member, Grievance Redressal Committee, Departmental of Physics, MGCU, Bihar
- Member, Internal Complaint Cell, Departmental of Physics, MGCU, Bihar
- Member, Internal Quality Cell, Departmental of Physics, MGCU, Bihar
- Member, Physics Club, Departmental of Physics, MGCU, Bihar
- Member, Skill Development Cell, Departmental of Physics, MGCU, Bihar
- Member, Training and Placement Cell, Departmental of Physics, MGCU, Bihar
- Member, Alumni Club, Departmental of Physics, MGCU, Bihar
- Member, Cultural Committee, Departmental of Physics, MGCU, Bihar
- Deputy Centre Superintendent, *Written Examination for Non-Teaching Positions at MGCU*, Bihar
- Deputy Centre Superintendent, *Written Examination for Admission to UG and PG Courses at MGCU*, Bihar

10. MEMBERSHIP OF SOCIETIES / PROFESSIONAL BODIES:

- **Magnetic Society of India** (Life Member)

11. RESEARCH PUBLICATIONS: (57)**A. PAPERS IN PEER REVIEWED INTERNATIONAL JOURNALS: (40)**

1. M. Shekhar, A. Kumar, S. Rani, L. Kumar and **P. Kumar***, A Study on Temperature Dependent Dielectric Relaxation Behaviour and Conduction Mechanism of La and Ti co-doped Bismuth Ferrite, **Applied Physics A** 130, 237 (2024). (*Impact Factor: 2.7*)
2. S. Rani, M. Shekhar, A. Dev, S. Prasad, M. Kar and **P. Kumar***, Temperature Dependent Dielectric Relaxation and Current Conduction Mechanism in Ba and Ti co-doped Bismuth Ferrite Ceramic, **Journal of Sol-Gel Science and Technology** (2024). (*Impact Factor: 2.5*)
3. S. K. Paswan, **P. Kumar**, S. Kumari, S. Datta, M. Kar, J. P. Borah and L. Kumar, Temperature dependent magnetic and electrical transport properties of lanthanum and samarium substituted nanocrystalline nickel ferrite and their hyperthermia applications, **Journal of Alloys and Compound** 973 (2024) 172830. (*Impact Factor: 6.2*)
4. S. Rani, M. Shekhar, A. Dev, S. Prasad, M. Kar and **P. Kumar***, Effect of Pr and Mn Co-Substitution on Structural and Optical Properties of Bismuth Ferrite, **ECS Journal of Solid State Science and Technology**, 13 (2024) 014001. (*Impact Factor: 2.2*)
5. A. Kumar, A. Panigrahi, M. Shekhar, L. Kumar and **P. Kumar***, Effect of Eu and Mn co-doping on temperature dependent dielectric relaxation behaviour and electric conduction mechanisms of bismuth ferrite, **Journal of Electroceramics** (2024). (*Impact Factor: 1.7*)
6. M. Shekhar, S. Rani, R. Pandey, L. Kumar, M. Kar and **P. Kumar***, Effect of Mn substitution-driven structural transition on magnetic and optical properties of multiferroic $\text{Bi}_{0.85}\text{La}_{0.15}\text{FeO}_3$ ceramics, **Journal of Materials Science: Materials in Electronics** 34 (2023) 1528. (*Impact Factor: 2.8*)
7. M. Shekhar, L. K. Pradhan, L. Kumar and **P. Kumar***, Dielectric Relaxation Behavior and Conduction Mechanism of Ca and Ti Co-Doped Multiferroic Bismuth Ferrite, **Journal of Electronic Materials** 52 (2023) 6182. (*Impact Factor: 2.1*)

8. S. K. Pradhan, P. Kour, A. Kumar, R. Pandey, **P. Kumar**, M. Kar and A. N. Sinha, Effect of Ferroelectric Filler Nanoarchitectonics on the Electrical and Mechanical Properties of the Composite Thick Films of Polyvinylidene Fluoride and Lanthanum doped Lead Zirconate Titanate in 0-3 Connectivity, **Applied Physics A** 129 (2023) 805. (*Impact Factor: 2.7*)
9. S. K. Paswan, L.K. Pradhan, **P. Kumar**, S. Kumari, M. Kar and L. Kumar, Electrical transport properties of nanocrystalline and bulk nickel ferrite using complex impedance spectroscopy: a comparative study, **Physica Scripta** 97 (2022) 095812. (*Impact Factor: 2.9*)
10. L.K. Pradhan, J. Mallick, A. Shukla, M. K. Mangalam, **P. Kumar**, P. Kour and M. Kar, Reduction of depolarization field effect on ferroelectric switching process in semiconductor-relaxor ferroelectric composite, **Journal of Applied Physics** 131, (2022) 154102. (*Impact Factor: 2.8*)
11. S. Rani, M. Shekhar, **P. Kumar** and S. Prasad, Study on Quantitative Rietveld Analysis of XRD Patterns of Different Sizes of Nanocrystalline Bismuth Ferrite, **Applied Physics A** 128 (2022) 1046. (*Impact Factor: 2.7*)
12. P. Kour, S.K. Pradhan, R. Pandey, R. K. Singh, **P. Kumar** and M. Kar, Effect of Fe Concentration on Ferroelectric and Magnetic Properties of Lead Iron Niobate, **Journal of Electronic Materials** 49 (2020) 5631. (*Impact Factor: 2.1*)
13. S.K. Pradhan, A. Kumar, A.N. Sinha, P. Kour, R. Pandey, **P. Kumar** and M. Kar, Piezoelectric and mechanical properties of PVDF-PZT composite, **Ferroelectrics** 558 (2020) 59. (*Impact Factor: 0.7*)
14. L. Kumar, **P. Kumar**, V. Kuncser, S. Greculeasa, B. Sahoo and M. Kar, Strain induced magnetism and super-exchange interaction in Cr substituted nanocrystalline cobalt ferrite, **Materials Chemistry and Physics** 211 (2018) 54. (*Impact Factor: 4.6*)
15. R. Pandey, L.K. Pradhan, **P. Kumar** and M. Kar, Double Crystal Symmetries and Magnetic Orderings in co-substituted (Y and Mn) Bismuth Ferrite, **Ceramics International** 44 (15) (2018) 18609. (*Impact Factor: 5.2*)
16. R. Pandey, L.K. Pradhan, **P. Kumar** and M. Kar, Effect of Ti substitution in place of Fe on crystal symmetries and magnetic properties of $\text{Bi}_{0.85}\text{La}_{0.15}\text{FeO}_3$, **Journal of Physics and Chemistry of Solids** 119 (2018) 107. (*Impact Factor: 4.0*)

17. P. Kour, S.K. Pradhan, **P. Kumar**, S.K. Sinha and M. Kar, Effect of Nd Doping on Dielectric and Impedance Properties of PZT Nanoceramics, **Journal of Electronic Materials** 47 (5) (2018) 2861. (*Impact Factor: 2.1*)
18. R. Pandey, C. Panda, **P. Kumar** and M. Kar Phase diagram of Sm and Mn co-doped bismuth ferrite based on crystal structure and magnetic properties, **Journal of Sol-Gel Science and Technology** 85 (1) (2018) 166. (*Impact Factor: 2.5*)
19. S.K. Pradhan, A. Kumar, P. Kour, R. Pandey, **P. Kumar**, M. Kar and A.N. Sinha, Tuning of dielectric and impedance properties of PVDF by incorporation of Mg doped PZT, **Journal of Materials Science: Materials in Electronics** 29 (2018) 16842. (*Impact Factor: 2.8*)
20. L. Kumar, **P. Kumar**, M Zope and M. Kar, High Temperature magnetic behaviour of 10% Aluminium substituted Cobalt Ferrite, **Journal of Superconductivity and Novel Magnetism** 30 (6) (2017) 1629. (*Impact Factor: 1.8*)
21. P. Kour, S.K. Pradhan, **P. Kumar**, S.K. Sinha and M. Kar, Effect of Sr doping on electrical properties of lead zirconate titanate nanoceramics, **Ferroelectrics** 517 (1) (2017) 104. (*Impact Factor: 0.7*)
22. S.K. Pradhan, A. Kumar, A.N. Sinha, P. Kour, R. Pandey, **P. Kumar** and M. Kar, Study of ferroelectric properties on PVDF-PZT nanocomposite, **Ferroelectrics** 516 (1) (2017) 18. (*Impact Factor: 0.7*)
23. P. Kour, S.K. Pradhan, **P. Kumar**, S. K. Sinha and M. Kar, Enhanced ferroelectric and piezoelectric properties in La-modified PZT ceramics, **Applied Physics A**, 122 (2016) 591. (*Impact Factor: 2.7*)
24. C. Panda, **P. Kumar**, R. Kumar and M. Kar, Enhanced Magnetic Properties Near MPB in Ho and Mn Co-Substituted Nanocrystalline BiFeO₃, **Advanced Science Letters**, 22(4) (2016) 766.
25. P. Kour, **P. Kumar**, S.K. Sinha and M. Kar, Study of Dielectric and Impedance spectroscopy of La Substituted Nanocrystalline Pb(Zr_{0.52}Ti_{0.48})O₃ Ceramics, **Journal of Materials Science: Materials in Electronics**, 26 (2015) 1304. (*Impact Factor: 2.8*)

26. V. Kumar, S. Kumari, **P. Kumar**, M. Kar, L. Kumar, Structural Analysis by Rietveld Method and its Correlation with Optical Properties of Nanocrystalline Zinc Oxide, **Advanced Materials Letters**, 6(2) (2015) 139.
27. S. Kumari, V. Kumar, **P. Kumar**, M. Kar and L. Kumar, Structural and Magnetic Properties of Nanocrystalline Yttrium Substituted Cobalt Ferrite Synthesized by the Citrate Precursor Technique, **Advanced Powder Technology** 26(1) (2015) 213. (*Impact Factor: 5.2*)
28. **P. Kumar**, N. Shankhwar, A. Srinivasan and M. Kar, Oxygen Octahedra Distortion induced Structural and Magnetic Phase Transitions in $\text{Bi}_{1-x}\text{Ca}_x\text{Fe}_{1-x}\text{Mn}_x\text{O}_3$ Ceramics, **Journal of Applied Physics**, 117 (2015) 194103. (*Impact Factor: 2.8*)
29. **P. Kumar**, C. Panda and M. Kar, Effect of Rhombohedral to Orthorhombic Transition on Magnetic and Dielectric Properties of La and Ti co-substituted BiFeO_3 , **Smart Material and Structures**, 24 (2015) 045028. (*Impact Factor: 4.1*)
30. **P. Kumar** and M. Kar, Effect of Structural Phase Transition on Magnetic and Optical Properties of co-substituted Bismuth Ferrite, **Materials Science in Semiconductor Processing** 31 (2015) 262. (*Impact Factor: 4.1*)
31. **P. Kumar** and M. Kar, Tuning of Net Magnetic Moment in BiFeO_3 Multiferroics by Co-substitution of Nd and Mn, **Physica B: Condensed Matter** 448 (2014) 90. (*Impact Factor: 2.8*)
32. P. Kour, **P. Kumar**, S. K. Sinha and M. Kar, Electrical Properties of Calcium Modified PZT (52/48) Ceramics, **Solid State Communications** 190 (2014) 33. (*Impact Factor: 2.1*)
33. L. Kumar, **P. Kumar** and M. Kar, Low Temperature and High Magnetic Field Dependence Magnetic Properties of Nanocrystalline Cobalt Ferrite, **Journal of Superconductivity and Novel Magnetism** 27 (2014) 1677. (*Impact Factor: 1.8*)
34. L. Kumar, **P. Kumar** and M. Kar, Non-linear Behaviour of Coercivity to the Maximum Applied Field in La^{3+} substituted Nanocrystalline Cobalt Ferrite, **Physica B: Condensed Matter** 448 (2014) 38. (*Impact Factor: 2.8*)

35. **P. Kumar** and M. Kar, Effect of Structural Transition on Magnetic and Dielectric Properties of La and Mn co-substituted BiFeO₃ Ceramics, **Material Chemistry and Physics** 148 (2014) 968. (*Impact Factor: 4.6*)
36. **P. Kumar** and M. Kar, Effect of Structural Transition on Magnetic and Optical Properties of Ca and Ti co-substituted BiFeO₃ Ceramics, **Journal of Alloys and Compound** 584 (2014) 566. (*Impact Factor: 6.2*)
37. L. Kumar, **P. Kumar** and M. Kar, Effect of Non-Magnetic Substitution on the Structural and Magnetic Properties of Spinel Cobalt Ferrite (CoFe_{2-x}Al_xO₄) Ceramics, **Journal of Materials Science: Materials in Electronics** 24(8) (2013) 2706. (*Impact Factor: 2.8*)
38. L. Kumar, **P. Kumar** and M. Kar, Influence of Mn substitution on crystal structure and magnetocrystalline anisotropy of nanocrystalline Co_{1-x}Mn_xFe_{2-2x}Mn_{2x}O₄, **Applied Nanoscience** 3 (2013) 75. (*Impact Factor: 3.8*)
39. L. Kumar, **P. Kumar**, A. Narayan and M. Kar, Rietveld Analysis of XRD Patterns of Different Size Nanocrystalline Cobalt Ferrite, **International Nano Letters**, 3 (2013) 8. (*Impact Factor: 3.7*)
40. L. Kumar, **P. Kumar** and M. Kar, Cation Distribution by Rietveld Technique and Magnetocrystalline Anisotropy of Zn Substituted Nanocrystalline Cobalt Ferrite, **Journal of Alloys and Compound** 551 (2013) 72. (*Impact Factor: 6.2*)

B. PAPERS IN CONFERENCES PROCEEDINGS: (11)

1. P. K. Diwedi, P. Kour, R. K. Singh, N. Kumar, P. Kumar and M. Kar, Synthesis, physical properties and bio-compatibility studies on iron oxide based mandoor bhasma as nanomaterials for biomedical applications, **AIP Conf. Proc.** **2901 (2023)040037**.
2. P. K. Diwedi, R. K. Singh, P. Kour, N. Kumar, P. Kumar and M. Kar, Study of Structural, Optical, and Toxicity of Iron-based Nano Particle Kasis Bhasma, **Materials Today: Proceedings** **62 (2022) 4006**.
3. R. Pandey, C. Panda, **P. Kumar**, L.K. Pradhan, M. Kar, Role of grain and grain boundary on the electrical and thermal conductivity of Bi_{0.9}Y_{0.1}Fe_{0.9}Mn_{0.1}O₃ ceramics, **AIP Conf. Proc.** **1832 (2017)110031**.

4. P. Kour, S. K. Pradhan, **P. Kumar**, S. K. Sinha and M. Kar, Study of Ferroelectric and Piezoelectric Properties on Ca Doped PZT Ceramics, **Materials Today: Proceedings 4 (4) (2017) 5727.**
5. S. Kumar, S. Supriya, **P. Kumar** and M. Kar, Dielectric investigations on co-substituted bismuth ferrite ($\text{Bi}_{1-x}\text{La}_x\text{Fe}_{1-x}\text{Mn}_x\text{O}_3$), **AIP Conf. Proc. 1728 (2016) 020578.**
6. P. Kour, **P. Kumar**, M. Kar and S. K. Sinha, Enhanced ferroelectric and piezoelectric properties of Nd^{3+} doped PZT nanoceramics, **AIP Conf. Proc. 1728 (2016) 020490.**
7. **P. Kumar** and M. Kar, Double Crystal Symmetries in Morphotropic Phase Boundary of Substituted BiFeO_3 Ceramics, **AIP Conf. Proc. 1665 (2015) 050178.**
8. **P. Kumar** and M. Kar, Effect of excess bismuth on Synthesis of Bismuth Ferrite, **AIP Conf. Proc. 1536 (2013) 1041.**
9. **P. Kumar**, M. Kar, A. V. Sanchela, C. V. Tomy and A. D. Thakur, Nanostructured Zinc Oxide as a Prospective Room Temperature Thermoelectric Material, **AIP Conf. Proc. 1512 (2013) 364.**
10. P. Kour, **P. Kumar**, M. Kar and S. K. Sinha, Enhance of Ferroelectric Properties by Modifying Pb^{2+} site by Mg^{2+} in PZT (52/48) Ceramics, **AIP Conf. Proc. 1512 (2013) 1276.**
11. L. Kumar, **P. Kumar** and M. Kar, Comparative studies on Magnetocrystalline anisotropy constant of $\text{CoFe}_{1.5}\text{M}_{0.5}\text{O}_4$, $\text{M}=\text{Al}$ & Cr , **Physics Express 3 (2013) 21.**

C. BOOK CHAPTERS: 06

1. Magnetic Properties of Nanostructured Spinel Ferrite for Hyperthermia Applications: Current Status and Future Prospects, S. K. Paswan, S. Singh, M. Shekhar, **P. Kumar**, S. Kumari, M. Kar and L. Kumar, *Ferrite Materials and Technologies*, **Nova Science Publisher** (2023); pp 111-181.
2. Heavy metal water pollution: an overview about remediation, removal and recovery of metals from contaminated water, S. Singh, S. K. Paswan, **P. Kumar**, R. K. Singh and L. Kumar, *Metals in Water: Global Sources, Significance, and Treatment*

Advances in Environmental Pollution Research, **Elsevier** (2023); pp 263-284.

3. Nanomaterials based sensors for detecting key pathogens in food and water: developments from recent decades, S. Singh, S. K. Paswan, **P. Kumar**, R. K. Singh and L. Kumar, *Environmental Applications of Microbial Nanotechnology Emerging Trends in Environmental Remediation*, **Elsevier** (2022); pp 559-573.
4. Magnetically Separable Graphene Oxide-based Spinel Ferrite Nanocomposite for Water Remediation, S. K. Paswan, R. Kumar, **P. Kumar**, R. K. Singh, S. K. Shukla and L. Kumar, *Contamination of Water: Health Risk Assessment and Treatment Strategies*, **Academic Press (Elsevier)** (2021); pp 559-573.
5. Nanotechnology-based filtration membranes for removal of pollutants from drinking water, L. Kumar, S. K. Paswan, **P. Kumar**, R. K. Singh, R. Kumar and S. K. Shukla, *Sustainable Environmental Clean-up: Green Remediation*, **Elsevier** (2021); pp 231-251.
6. Spinel Ferrite Magnetic Nanoparticles: An Alternative for Wastewater Treatment, S. K. Paswan, **P. Kumar**, R. K. Singh, S. K. Shukla and L. Kumar, *Pollutants and Water Management: Resources, Strategies, and Scarcity*, **John Wiley & Sons** (2021); pp 273-305.

12. Patents/Copyrights /IPR (If Any)

Indian Patent (Applied), Application Number: **201631037965** dated **07-11-2016** filed on **24-03-2017**

13. INVITED TALKS:

- Resource person for the “*One Day International on Advanced Materials and Applications*” in online mode at M. H. Shinde Mahavidyalya, Tisangi, **July 01, 2023**
- Resource person for the workshop on “*Two Day Workshop on STEAM Education: Innovative Pedagogical Practices*” at DIET Gaya, 823001, **March 21, 2023**
- Resource person for the workshop on “*National Workshop on ITM based Innovative Pedagogies for 8th grade STEAM Education*” at DIET Patna, Bikram, 801104, **March 13-14, 2023**

- Resource person for the workshop on “*Revitalizing School Physics Education through Concept-oriented Teaching for PGTs in BIHAR (RESPECT BIHAR)*” at the Department of Physics, IIT Patna, Patna – 801103, **January 16-20, 2023.**
- Invited Lecture Series on Electronics (**Nov 17 – 19, 2016**) at Department of Physics, **Patna University**

14. PARTICIPATION & PRESENTATIONS IN SEMINARS/SYMPOSIA/WORKSHOPS/CONFERENCES: (37)

A. ORGANIZED (08)

- **Convener**, One-day National Seminar on "*India's Lunar Ambitions: The Role of Chandrayaan-3*" on 23rd August 2024 in commemoration of National Space Day 2024, Organized by Apprenticeship Cell, Mahatma Gandhi Central University Motihari, Bihar
- **Convener**, “*Apprenticeship Awareness Program*” for Engineering and Non-Engineering General Stream Graduates on 24th July 2024, Organized by Apprenticeship Cell, Mahatma Gandhi Central University Motihari, Bihar.
- **Convener**, Hands on Training on “*DFT Modelling of Materials for Different Applications*” on 15th March 2024, Organized by Department of Physics, Mahatma Gandhi Central University Motihari, Bihar.
- **Member of Organizing Committee**, National level E-Quiz Series on Understanding of Physics “1st E-Quiz on Quantum Mechanics and Laser Physics”, conducted on 28 October, 2021, Organized by Department of Physics, Mahatma Gandhi Central University Motihari, Bihar.
- **Member of Organizing Committee**, National level E-Quiz Series on Understanding of Physics “2nd E-Quiz on Classical Mechanics and Relativity” conducted on 18 December 2021 Organized by Department of Physics, Mahatma Gandhi Central University Motihari, Bihar.
- **Member of Organizing Committee**, Virtual Workshop on ‘Probing Materials using Spectroscopic Tools: Basics and Applications’, 28th February to 04th March 2022, Organized by Department of Physics, Mahatma Gandhi Central University Bihar.

- **Organizing Secretary**, One-week National workshop on "*Advanced Physical Tools and Techniques for Materials Characterization*", MGCU, Bihar, July 28 to August 03, 2020.
- **Member of Organizing Committee**, National Conference on "Physics and Chemistry of Advanced Materials (**NCPCAM-2019**)", MGCU, Bihar, Nov 22-23, 2019.

B. PARTICIPATION: (09)

1. National Workshop of Utsahi Physics Teachers (NWUPT)- 2023, **June 10- 15, 2023**.
2. Online Lecture on "Probing the magnetic properties of thin films of magnetic materials" by Dr. R. J. Choudhary, **September 12, 2020**.
3. Online Lecture on "Evolution of Quantum Theory" by Prof. Ajoy Ghatak, **September 11, 2020**.
4. Online Lecture on "Magnetic Interactions in Composite Materials" by Dr. Manoranjan Kar, IIT Patna, **September 10, 2020**.
5. Online Lecture on "Tin Selenide: A new Thermoelectric Material in Town" by Prof. Preeti A Bhoje, IIT Indore, **August 30, 2020**.
6. Online Lectures on "Roadmap for Central University: Equity and Inclusion in Higher Education", **August 22, 2020**.
7. Online Faculty Orientation Programme, **September 2020**, MGCU, Bihar
8. Online Lecture on "Progress in wide Bandgap and Ultrawide bandgap perovskite oxide for power electronics" by Prof. Bharat Jalan.
9. Acquaintance Program of IUAC on Accelerators & its Related Sciences and Applications, Patna University, Patna, **November 11, 2019**.

C. PRESENTATIONS: (21)

1. **P. Kumar** and M. Kar, National Conference on Physics and Chemistry of Advanced Materials, MGCU, Bihar, Motihari, **November 22-23, 2019**.
2. **P. Kumar** and M. Kar, PhD Thesis Presentation: Composition-Driven Structural and Magnetic Phase Transitions in Bismuth Ferrite, **DAE-SSPS-2015**, Amity University, Noida, **December 21-25, 2015**.

3. **P. Kumar**, A. K. Sinha, A. Sagdeo, M. N. Singh and M. Kar, Comparative study on oxygen octahedral tilting induced structural transition in co-substituted BiFeO₃ ceramics, 5th conference on Neutron Scattering (**CNS-2015**), BARC Mumbai (Maharashtra), **February 2-4, 2015**.
4. **P. Kumar**, Pre-conference School on Neutrons as probes of condensed matter, BARC Mumbai, **Jan 27-31, 2015**.
5. **P. Kumar**, Indo-Japan Workshop on Magnetism at Nanoscale -2015, NISER Bhubaneswar, **Jan 9-12, 2015**.
6. **P. Kumar** and M. Kar, Raman Spectroscopy and Direct Band Gap Studies on co-substituted Bismuth Ferrite, **IOQO-2014**, IIT Patna, **Nov 7-8, 2014**.
7. **P. Kumar**, R. Kumar and M. Kar, Enhanced Magnetic Properties near MPB in Ho and Mn co-substituted Nanocrystalline BiFeO₃, **NANOCON 2014**, Pune **October 14-15, 2014**.
8. **P. Kumar**, A School on Basics of Magnetism and Investigations of Magnetic Properties of Materials using Synchrotron Radiation, RRCAT Indore, **Mar 24-28, 2014**.
9. **P. Kumar**, DST-SERC School on "Advanced Functional Magnetic Materials", Goa University **Feb 03-21, 2014**.
10. **P. Kumar** and M. Kar, Weak Ferromagnetism in Nd and Mn co-doped BiFeO₃ Multiferroic, **MagMA-2013**. IIT Guwahati, **Dec 05-07, 2013**.
11. **P. Kumar** and M. Kar, Effect of Structural transition on Magnetic Properties of La and Mn co-substituted Bismuth Ferrite, **SPPS-2013**, ISM Dhanbad, **Nov 18-20, 2013**.
12. **P. Kumar** and M. Kar, Ferromagnetism in Bismuth Ferrite by co-doping in Bi and Fe sites, **CMDAYS-2013**, NIT Rourkela, Rourkela. **Aug 29-31, 2013**.
13. **P. Kumar**, A National Workshop on Condensed Matter Physics, NIT Rourkela, **Aug 29, 2013**
14. **P. Kumar**, R. Kumar and M. Kar, Enhanced Magnetic and Dielectric Properties of Ca²⁺ and Ti⁴⁺ co-doped Bismuth Ferrite, **EEMR-2013**. CSIR - Institute of Minerals and Materials Technology, Bhubaneswar, **Aug 12-13, 2013**.

15. **P. Kumar**, Patents and IPR Workshop, IIT Patna, **Mar 3, 2013**
16. L. Kumar, **P. Kumar** and M. Kar, Cations Distribution studies in Spinel Ferrites from XRD pattern by Rietveld Method, **ICWNCN-2012**. Delhi University. **March 14-16, 2012**.
17. **P. Kumar**, ICWNCN-2012 Workshop, Delhi University. **Mar 13, 2012**
18. L. Kumar, **P. Kumar** and M. Kar, Effect of Y^{3+} Substitution on the Structural and Magnetocrystalline Anisotropy of Nanocrystalline Cobalt Ferrite, **RTCST- 2012**, IIT Patna, March 3-4, 2012.
19. **P. Kumar**, National Instruments **LabVIEW** Basic Workshop on Data Acquisition, IIT Patna, **Mar 3, 2012**.
20. P. Kour, **P. Kumar**, M. Kar and S. K. Sinha, Enhancement of Dielectric Constant by Calcium Substitution in Nanocrystalline PZT Ceramics, **CMDAYS-2012**. BIT Meshra, **Aug 29-31, 2012**.
21. L. Kumar, **P. Kumar** and M. Kar, Influence of non-magnetic Substitution on the Cation Distribution, Crystal Structure and Magnetocrystalline Anisotropy of Nanocrystalline Spinel Cobalt Ferrite, **ICNANO-2011**, Delhi University, **Dec 18-21, 2011**.

15. ANY OTHER SIGNIFICANT INFORMATION:

1. **NEP 2020 Orientation and Sensitization Programme under MM-TTP of UGC** organized by UGC-MMTTC, National Institute of Educational Planning and Administration, New Delhi from 05-14, February 2024.
2. **External Practical Examiner**, Department of Physics, Patna Science College, Patna University, Patna, July 2022 and May 2023.
3. **External Practical Examiner**, PG Department of Physics, Patna University, Patna, Aug 2022, Jan 2023 and May 2023.
4. **External Practical Examiner**, Department of Physics, B. N. College, Patna University, Patna, May 2023.
5. **Two-week Refresher course in Physics at Teaching Learning Centre**, Ramanujan College, University of Delhi, October 31 – November 14, 2022
6. **Question Paper Setter**, End-Term examination of M.Sc. (Physics), Department of Physics, Patna University, October 2022.

7. **Ten Days of Services at Jharkhand Public Service Commission**, Ranchi, April 2022.
8. **Question Paper Setter**, End-Term examination of B. Tech. (Agril. Engg.), Dr. Rajendra Prasad Central Agricultural University, Pusa (Samastipur), March 2021.
9. **One Week Faculty Development Programme** on “*Safety and Hygiene in Online (Cyber) World*”, March 01 – March 08, 2021, Teaching Learning Centre, Ramanujan College, University of Delhi.
10. **One Week Faculty Development Programme** on “Academic Writing”, Feb 18 – Feb 24, 2021, Teaching Learning Centre, Ramanujan College, University of Delhi.
11. **One Week Capacity Building Programme** for Teachers and Research Scholars on “*Implementation of Blended Learning in Higher Education*”, MGCU, Bihar, Oct 8 – Oct 12, 2021.
12. **One Week Capacity Building Programme** for Teachers and Research Scholars on “*Implementation of Blended Learning in Higher Education, Bihar*”, MGCU, Bihar, Nov 22 – Nov 26, 2021.
13. **Refresher course in Physics** on “*Recent Advancement in Physical Sciences*” at the UGC-HRDC centre, Patna University, Jan 13 - Jan 25, 2020
14. **Fifteen Days of Services at Jharkhand Public Service Commission**, Ranchi October 2019.
15. **Orientation Course** at the UGC-HRDC Centre, Patna University, Nov 24 - Dec 21, 2018.

- **Google Scholar:** <https://scholar.google.co.in/citations?user=aJXkiskAAAAJ&hl=en>
- **Orchid:** <https://orcid.org/0000-0002-2030-3960>
- **ResearchGate:** https://www.researchgate.net/profile/Pawan_Kumar48
- **Vidwan:** <https://vidwan.inflibnet.ac.in/profile/286672>

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