


Faculty Profile: For University Website

DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING

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| Personal Information | <p>Dr. Lawrence Kumar Assistant Professor (level-12) Department of Metallurgical & Materials Engineering Mobile: 6205371758/9771630347 Email Id: lawrence.kumar@cuja.ac.in Address: Department of Metallurgical and Materials Engineering, Central University of Jharkhand Ranchi. Orcid Id: 0000-0001-8218-6782 Google Scholar: https://scholar.google.co.in/citations?user=DNzf5XkAAAAJ&hl=en</p> |  |
| Brief Profile | <p>Dr. Lawrence Kumar is an Assistant Professor in the Department of Metallurgical and Materials Engineering at Central University of Jharkhand, Ranchi, India. He joined Central University of Jharkhand in August 2011. He obtained his Master in Physics with specialization in Solid State Physics from Patna University, Master of Technology in Materials Science and Technology from School of Materials Science and Technology, Indian Institute of Technology-Banaras Hindu University (IIT-BHU-Varanasi) and PhD from Indian Institute of Technology Patna (IIT-Patna). He has qualified CSIR-UGC-NET, GATE and JEST in physics. To date, he has published 30 research articles in peer reviewed different SCI journals of international repute and seven book chapters in book published by international publishers. To date two PhD have been awarded under his sole supervision. To date, he has provided his guidance to 40 M.Tech dissertations. He is the reviewer of many international journals such as Journal of Alloys and Compounds, Ceramics International, Journal of American Ceramic Society, Arabian Journal of Chemistry, Materials Chemistry and Physics, Polymer Composites, Journal of Physics and Chemistry of Solids, Physica Scripta, Journal of Magnetism and Magnetic Materials etc.</p> | |
| Area of Research Interest | <p>Magnetic Ceramics, Dielectric Ceramics, Structure-property correlation in materials, Powder X-ray diffraction analysis by Rietveld method, Materials for energy and environmental application, Materials Characterization, Solar photovoltaic system.</p> | |
| Educational Qualification: | <ul style="list-style-type: none"> • PhD: IIT Patna. • M.Tech (Materials Science and Technology): IIT-BHU- Varanasi. • M.Sc (Physics with specialization in Solid State Physics): Patna University. | |
| Courses Taught: | <ul style="list-style-type: none"> • Phase Transformation • Mechanical Behavior of Materials • Physical Behaviour of Materials | |

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| | <ul style="list-style-type: none"> • Crystallography and Crystal Structure • Synthesis of Nanomaterials • Nanomagnetism • Quantum Mechanics • Diffraction Techniques • Modern Microscopy Techniques • Thermodynamics and Statistical Mechanics • Ceramics Engineering • Nanophotonics • Characterization Technique for Nanomaterials |
| Additional role/ responsibility: | <p>Coordinating member of departmental placement committee-2017. Co-convenor for organizing popular lectures in a month in CUJ-2013. Committee member to conduct the event KHELOTSAV in CUJ-2019 Member, Board of Studies of department since March 2015. Member, Departmental Academic Purchase Committee since August 2011 Member, Departmental Admission Committee since August 2011 Member, Departmental Research Committee since July 2014</p> |
| Articles Published | <p>Research publications in peer reviewed international journals</p> <ol style="list-style-type: none"> 1. Amod Kumar, Aliva Panigrahi, Mukesh Shekhar, Lawrence Kumar and Pawan Kumar (2024), <i>Effect of Eu and Mn co-doping on temperature dependent dielectric relaxation behavior and electric conduction mechanism of bismuth ferrite</i> . Journal of Electro Ceramics (2024)-Accepted. 2. Sanjeet Kumar Paswan, Pawan Kumar, Suman Kumari, Subhadeep Datta, Manoranjan Kar, J. P. Borah and Lawrence Kumar (2024), <i>Temperature dependent magnetic and electrical transport properties of lanthanum and samarium substituted nanocrystalline nickel ferrite and their hyperthermia applications</i>. Journal of Alloys and Compound. 973 (2024)172830. 3. Mukesh Shekhar, Amod Kumar, Sonu Rani, Lawrence Kumar and Pawan Kumar (2024), <i>A study on temperature dependent dielectric relaxation behaviour and conduction mechanism of La and Ti co-doped bismuth ferrite</i>. Appl. Phys. A. 130 (2024) 237. 4. Mukesh Shekhar, Lagen Pradhan, Lawrence Kumar and Pawan Kumar (2023), <i>Dielectric Relaxation Behavior and Conduction Mechanism of Ca and Ti Co-Doped Multiferroic Bismuth Ferrite</i>, Journal of Electronic Materials. 52 (2023) 6182-6202 5. Mukesh Shekhar, Sonu Rani, Rabichandra Pandey, Lawrence Kumar, Manoranjan Kar and Pawan Kumar (2023), <i>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</i>. Journal of Materials Science: Materials in |

- Electronics 34 (2023) 1528.
6. Durgesh Kumar, Nilesh Kumar and **Lawrence Kumar** (2023), *Impact of operating temperature and solar concentration on the conversion efficiency of InGaP/InGaAs/Ge hybrid triple-junction solar cell*. Brazilian Journal of Physics. 53 (2023) 31.
 7. Sanjeet Paswan, Lagen Pradhan, Pawan Kumar, Suman Kumari, Manoranjan Kar and **Lawrence Kumar** (2022), *Electrical transport properties of nanocrystalline and bulk nickel ferrite using complex impedance spectroscopy: a comparative study*. Physica Scripta. 97 (2022) 095812
 8. Suman Kumari, Murli Manglam, **Lawrence Kumar**, Papori Seal, Jyoti Borah, Mukesh Zope and Manoranjan Kar (2022), *Magnetic properties and hyperthermia action of cobalt zinc ferrite fibers*. Journal of Sol-Gel Science and Technology. 101 (2022) 546-561.
 9. Suman Kumari, Murli Kumar Manglam, Anant Shukla, **Lawrence Kumar**, Papori Seal, J.P. Borah and Manoranjan Kar (2021). *Optimization of magnetic properties and hyperthermia study on soft magnetic nickel ferrite fiber*. Physica B: Physics of Condensed Matter. 621 (2021) 413280.
 10. Suman Kumari, Murli Kumar Manglam, Lagen Pradhan, **Lawrence Kumar**, J. P. Borah and Manoranjan Kar (2021). *Modification in crystal structure of copper ferrite fiber by annealing and its hyperthermia application*. Applied Physics A. 127 (2021) 273.
 11. Durgesh Kumar, Dharmendra Kumar Dheer, and **Lawrence Kumar** (2021). *Effect of different operating conditions on the conversion efficiency of triple-junction solar cell*. Materials Research Express. 8 (2021) 035902.
 12. Sanjeet Kumar Paswan, Suman Kumari, Manoranjan Kar, Astha Singh, Himanshu Pathak, J. P. Borah and **Lawrence Kumar** (2021). *Optimization of structure-property relationships in nickel ferrite nanoparticles annealed at different temperature*. Journal of Physics and Chemistry of Solids. 151 (2021) 109928.
 13. Durgesh Kumar, Pritish Mishra, A. Ranjan, D. K. Dheer, **Lawrence Kumar**, (2020). *A simplified simulation model of silicon photovoltaic modules for performance evaluation at different operating conditions*. Optik. 204 (2020) 164228.
 14. Suman Kumari, Lagen Pradhan, **Lawrence Kumar**, Murli Kumar Manglam and Manoranjan Kar (2019). *Effect of annealing temperature on morphology and magnetic properties of cobalt ferrites nanofibers*. Materials Research Express. 6 (2019) 1250a3.
 15. Sweetly Supriya, **Lawrence Kumar** and Manoranjan Kar (2019). *Optimization of Dielectric Properties of PVDF–CFO Nanocomposites*, Polymer Composite. 40 (2019) 1239-1250.
 16. **Lawrence Kumar**, Pawan Kumar, Victor Kuncser , Simona Greculeasa,

- Balram Sahoo and Manoranjan Kar (2018), *Strain induced magnetism and superexchange interaction in Cr substituted nanocrystalline cobalt ferrite*. Materials Chemistry and Physics. 211 (2018) 54-64.
17. **Lawrence Kumar**, Pawan Kumar, Mukesh Kumar Zope and Manoranjan Kar (2017), *High-Temperature Magnetic Behaviour of 10% Aluminium-Substituted Cobalt Ferrite*. Journal of Superconductivity and Novel Magnetism. 30:1629–1634.
 18. Suman Kumari, Vikash Kumar, Pawan Kumar, Manoranjan Kar and **Lawrence Kumar** (2015). *Structural and magnetic properties of nanocrystalline yttrium substituted cobalt ferrite synthesized by the citrate precursor technique*. Advanced Powder Technology. 26 (2015) 213–223.
 19. Vikash Kumar, Swati Kumari, Pawan Kumar, Manoranjan Kar and **Lawrence Kumar** (2015). *Structural analysis by Rietveld Method and its correlation with optical properties of nanocrystalline zinc oxide*. Advanced Materials Letters 6 (2015) 139-147.
 20. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar (2014). *Non-linear behavior of coercivity to the maximum applied magnetic field in La substituted nanocrystalline cobalt ferrite*. Physica B: Physics of Condensed Matter. 448 (2014) 38–42.
 21. **Lawrence Kumar**, Pawan Kumar, Sandeep Kumar Srivastava and Manoranjan Kar, (2014). *Low Temperature and High Magnetic Field Dependence and Magnetic Properties of Nanocrystalline Cobalt Ferrite*. Journal of Superconductivity and Novel Magnetism. 27 (2014) 1677–1681.
 22. **Lawrence Kumar** and Manoranjan Kar (2014). Effect of Ho^{3+} substitution on the cation distribution, crystal structure and magnetocrystalline anisotropy of nanocrystalline cobalt ferrite. Journal of Experimental Nanoscience. 9 (2014) 362-374.
 23. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar (2013). *Influence of Mn substitution on crystal structure and magnetocrystalline anisotropy of nanocrystalline $\text{Co}_{1-x}\text{Mn}_x\text{Fe}_{2-2x}\text{Mn}_{2x}\text{O}_4$* . Applied Nanoscience 3 (2013) 75-82.
 24. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar (2013). *Cation distribution by Rietveld technique and magnetocrystalline anisotropy of Zn substituted nanocrystalline cobalt ferrite*. Journal of Alloys and Compound. 551 (2013)72-81.
 25. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar (2013). *Effect of non-magnetic substitution on the structural and magnetic properties of spinel cobalt ferrite ceramics*. Journal of Materials Science: Materials in Electronics. 24 (2013) 2706-2715.
 26. **Lawrence Kumar**, Pawan Kumar, Amrendra Narayan and Manoranjan Kar.(2013). *Rietveld analysis of XRD patterns of different size of nanocrystalline cobalt ferrite*. International Nanoletters, 3(8) (2013) 1-12.

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| | <p>27. Lawrence Kumar and Manoranjan Kar (2012). <i>Effect of La³⁺ substitution on the structural and magnetocrystalline anisotropy of nanocrystalline cobalt ferrite (CoFe_{2-x}La_xO₄)</i>. <i>Ceramics International</i>. 38 (2012) 4771-4782.</p> <p>28. Lawrence Kumar and Manoranjan Kar (2011). <i>Influence of Al³⁺ ion concentration on the crystal structure and magnetic anisotropy of nanocrystalline spinel cobalt Ferrite</i>. <i>Journal of Magnetism and Magnetic Material</i>. 323 (2011) 2042-2048.</p> <p>29. Lawrence Kumar and Manoranjan Kar (2011). <i>Effect of annealing temperature and preparation condition on magnetic anisotropy in nanocrystalline cobalt Ferrite</i>. <i>IEEE Trans. Magn.</i> 47 (2011) 3645-3648.</p> <p>30. Lawrence Kumar, Pankaj Mohanty, T. Shripathi, Chandana Rath (2009). <i>Appearance of superparamagnetic phase below curie temperature in cobalt chromite</i>. <i>Nanoscience and Nanotechnology Letters</i>. 1 (2009) 199-203.</p> |
| Book Chapters | <ol style="list-style-type: none"> 1. Sanjeet Kumar Paswan, Shobha Singh, Mukesh Shekhar, Pawan Kumar, Suman Kumari, Manoranjan Kar, Lawrence Kumar (2023) <i>Magnetic properties of nanostructured spinel ferrite for hyperthermia applications: current status and future prospects</i>, in <i>Ferrite Materials and Technologies</i>, Editors: Ravi Panwar and Dharmendra Singh, Nova Science Publishers New York, ISBN: 9798891130869, page 111-181. 2. Durgesh Kumar, I. Ashok, S. Kumari, Dipanjali, Lawrence Kumar (2022). <i>Real time data acquisition system for photovoltaic module</i>, in <i>Smart Grids and Green Energy Systems</i>, Editors: A. Chitra, V. Indragandhi, W. Razia Sultana, John Wiley & Sons and Scrivener Publishing, ISBN-9781119872047, page 91-102. 3. Shobha Singh, Sanjeet Kumar Paswan, Pawan Kumar, Ram Kishore Singh, Lawrence Kumar (2022), <i>Nanomaterials based sensors for detecting key pathogens in food and water: developments from recent decades</i>, in <i>Environmental Applications of Microbial Nanotechnology: Emerging Trends in Environmental Remediation</i>, Editors: Pardeep Singh, Mansi Bakshi, Mika Sillanpaa, Vijay Kumar, C. M. Hussian Elsevier, ISBN: 9780323917445, page 65-85. 4. Shobha Singh, Sanjeet Kumar Paswan, Pawan Kumar, Ram Kishore Singh, Lawrence Kumar (2022) <i>Heavy metal water pollution: an overview about remediation, removal and recovery of metals from contaminated water</i>, in <i>Metals in Water: Global Sources, Significance, and Treatment</i>, Editors: Sushil Kumar Shukla, Sunil Kumar, Sugosh Madhav, Pradeep Kumar Mishra, Elsevier, ISBN: 9780323959193, page 263-284. 5. Sanjeet Kumar Paswan, R. Kumar, P. Kumar, R. K.Singh, A .Kumar, S. K. Shukla, Lawrence Kumar (2021), <i>Magnetically separable graphene oxide</i> |

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| | <p><i>based spinel ferrite nanocomposites for water remediation</i>, in Contamination of Water: Health Risk Assessment and Treatment Strategies, Editors: Arif Ahamad, S. E. Siddiqui and Pardeep Singh, Elsevier, ISBN: 9780128240588, page 559-569.</p> <p>6. Sanjeet Kumar Paswan, Pawan Kumar, Ram Kishore Singh, Sushil Kumar Shukla, Lawrence Kumar, <i>Spinel Ferrite Magnetic Nanoparticles: An Alternative for wastewater treatment</i> in Pollutants and Water Management: Resources, Strategies and Scarcity, Editors: Pardeep Singh, Rishikesh Singh, Vipin Kumar Singh, Rahul Bhadouria, John Wiley & Sons, ISBN: 9781119693673, page 273.</p> <p>7. Lawrence Kumar, Sanjeet Kumar Paswan, Pawan Kumar, Ram Kishore Singh, Rajnish Kumar, Sushil Kumar Shukla, <i>Nanotechnology based filtration membranes for removal of pollutants from drinking water</i>, in Sustainable Environmental Clean-up Editors: Virendra Kumar Mishra, Ajay Kumar, Elsevier, ISBN: 9780128238288, page 231-251.</p> |
| <p>Seminar/ Workshop/ Conference Participation:</p> | <p>Papers in Refereed Conference</p> <ol style="list-style-type: none"> 1. Rietveld refinement of X-ray diffraction pattern of spinel structured lithium manganese oxide annealed at different temperature: Ujjwal Kumar, Sanjeet Kumar Paswan, Pawan Kumar and Lawrence Kumar, <i>5th International Conference on Processing and Characterization of Materials, NIT Rourkela, India December 08-10, 2023 (ICPCM-2023)</i> 2. Temperature dependent magnetic properties of samarium substituted Nanocrystalline nickel ferrite for bio-medical applications. Sanjeet Kumar Paswan and Lawrence Kumar, <i>International conference on Smart Materials for Sustainable Technology Goa, India, February 22-25, 2020 (ICSMST-2020)</i> 3. Size induced Rietveld structure refinement of nickel ferrite nanoparticles and its correlation with optical properties. Sanjeet Kumar Paswan and Lawrence Kumar, <i>International Conference on Electron Microscopy and Allied Analytic Techniques, Himachal Pradesh University, Shimla, India, June 7-9, 2019 (ICEMAAT-2019)</i> 4. Frequency dependent dielectric properties of nanocrystalline nickel ferrite. Sanjeet Kumar Paswan and Lawrence Kumar, <i>International Conference on Green and Efficient Energy Technology and Materials, Central University of Jharkhand, Ranchi, India March 6-8, 2019</i> 5. Modeling and Parameter extraction of Photovoltaic module using MATLAB/Simulink under different environmental condition. Durgesh Kumar, Pritish Mishra, Ashutosh Ranjan and Lawrence Kumar, <i>International conference on Efficient Solar power generation and energy harvesting, Amity University, Noida, India, February 12-14, 2019.</i> 6. Hardware Design of low cost autonomous data logger for PV system monitoring using Arduino MATLAB interfacing. Durgesh Kumar and Lawrence Kumar, <i>International Conference on Green and Efficient Energy</i> |

- Technology and Materials, Central University of Jharkhand, Ranchi, India, March 6-8, 2019*
7. Investigation of structural, dielectric and electrochemical properties of spinel structured lithium manganese oxide. Abhishek Mudi, Benjamin Raj, Sanjeet Kumar Paswan and **Lawrence Kumar**, *International Conference on Green and Efficient Energy Technology and Materials, Central University of Jharkhand, Ranchi, India, March 6-8, 2019*
 8. Structural dielectric and electrochemical properties of perovskite structured lanthanum manganese oxide. Ashwani Kumar Choudhary, Benjamin Raj, Sanjeet Kumar Paswan and **Lawrence Kumar**, *International Conference on Green and Efficient Energy Technology and Materials, Central University of Jharkhand, Ranchi, India, March 6-8, 2019*
 9. I-V characterization of polycrystalline PV module based on MATLAB Arduino interfacing. Durgesh Kumar and **Lawrence Kumar**, *International Conference on Nanoscience and Engineering Application, Hyderabad, India October 4-6, 2018.*
 10. High temperature magnetic properties of cobalt ferrite nanoparticles using arrott plot technique. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar, *International Conference on Magnetic Materials and Applications, Vellore Institute of Technology University Vellore, India (VIT Vellore). December 02-04, 2015 (ICMAGMA-2015).*
 11. Structural and Magnetic properties of rare earth substituted nanocrystalline cobalt ferrite. **Lawrence Kumar**, Swati Kumari, Vikash Kumar, Pawan Kumar and Manoranjan Kar, *International Conference on Electron Microscopy & XXXV Annual Meeting of Electron Microscope Society of India, University of Delhi, India, July 9-11, 2014, Page No: 434 (EMSI-2014).*
 12. Non-linear Behaviour of coercivity to the maximum Applied Field in La³⁺ substituted Nanocrystalline cobalt ferrite. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar, *International Conference on Magnetic Materials and Applications (MagMA-2013), IIT Guwahati, 05-07 December, 2013.*
 13. Coercivity Response to the Maximum Applied Field in Nanocrystalline cobalt ferrite. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar, *International Conference on Structural and Physical properties of Solids (SPPS-2013), ISM-Dhanbad, November 18th -20th, 2013.*
 14. Comparative studies on magnetocrystalline anisotropy constant of CoFe_{1.5}M_{0.5}O₄, M=Al&Cr. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar, *Condensed Matter Days-2012 (CMDAYS-2012), BIT Mesra, August 29th-31st, 2012. Proceedings of CMDAYS-2012 conference published in Physics Express, Vol-3, 2013, pp.1-6.*
 15. Cations Distribution studies in Spinel Ferrites from XRD pattern by Rietveld Method. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar. *ICWNCN-2012. Delhi University. March 13-16, 2012.*
 16. Influence of non-magnetic substitution on the structural and magnetic properties of nanocrystalline spinel cobalt ferrite. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar, *International Conference on Nanomaterials and Nanotechnology, University of Delhi, 18 December-21 December, 2011,*

- (ICNANO-2011).
17. Influence of Mn substitution on crystal structure and magnetocrystalline anisotropy of nanocrystalline cobalt ferrite. **Lawrence Kumar**, Pawan Kumar and Manoranjan Kar, *International Conference on Nanomaterials and Nanotechnology, University of Delhi, 18 December-21 December, 2011, (ICNANO-2011)*.
 18. Structural and Magnetic Properties of Nanocrystalline La-substituted Cobalt Ferrite. **Lawrence Kumar** and Manoranjan Kar, *International Conference on Materials for Advanced Technologies, Suntec, Singapore, 26 June-1 July, 2011, Page No. 147 (ICMAT-2011)*.
 19. Effect of Annealing Temperature on Magnetic Anisotropy in Nanocrystalline Cobalt Ferrite. **Lawrence Kumar** and Manoranjan Kar, *International Magnetic Conference, Taipei, Taiwan, April 25-29, 2011 (INTERMAG-2011)*.
 20. Influence of La³⁺ Ion Concentration on the Magnetic Anisotropy of Nanocrystalline Spinel Cobalt Ferrite. **Lawrence Kumar** and Manoranjan Kar, *National Seminar on Nanomaterials and Their Applications, Indian School of Mines Dhanbad, India, February 10-11, 2011, Page No.17 (NANOMAT-2011)*.
 21. Magnetic Anisotropy in Nanocrystalline Chromium Substituted Cobalt Ferrite. **Lawrence Kumar** and Manoranjan Kar, *Current Trends in Condensed Matter Physics, National Institute of Science Education and Research Bhubaneswar, India, December 15-19, 2010, Page No.74 (CTCMP-2010)*.
 22. Magnetic Anisotropy of Nanocrystalline Aluminium Substituted Cobalt Ferrite. **Lawrence Kumar** and Manoranjan Kar, *International Conference on Magnetic Materials, Saha Institute of Nuclear Physics Kolkata, India, October 25-29, 2010, Page No.306 (ICMM-2010)*.

Workshop participation

1. Participated in 3-days workshop on “Academic and Administrative Audit” organized by IQAC Central University of Jharkhand Ranchi, December 11-13, 2023.
2. Participated in one week national workshop on “Advanced Physical Tools and Techniques for Materials Characterization” (APTTMC-2020): Department of Physics, Mahatma Gandhi Central University Motihari, 28th July to 3rd August 2020.
3. Participation in two days INUP familiarization workshop on Nanofabrication Technologies at IIT Patna on 8th to 9th October 2015.
4. Participation in Electron Microscopy Workshop: University of Chicago’s Center in Delhi, New Delhi, India, July 7, 2014.
5. Participation in Workshop on Electron Microscopy in Material Science: University of Delhi, New Delhi, India, July 8, 2014.

Faculty Development Programme (FDP) participation

1. Successfully completed 8 week NPTEL course on “ An introduction to Materials: Nature and Properties (Part-1: Structure of Materials) which is equivalent to one week FDP, NPTEL-AICTE, July-September 2021

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| | <ol style="list-style-type: none"> 2. Successfully completed 8 week NPTEL course on “Scanning Electron/ion/probe microscopy in materials characterization” which is equivalent to one week FDP, NPTEL-AICTE, February-April 2021. 3. Participated in FDP on “Trends in Chemical Sciences: Challenges and opportunities in the coming decade” organized by Department of Chemistry, Central University of Jharkhand, 21st to 26th September 2020. 4. Participated in AICTE Training and Learning Academy FDP on 3D Printing and Design from 03-02-2020 to 07-02-2020 at Central University of Jharkhand. 5. Successfully completed 8 week NPTEL course on “Solar Photovoltaics, Fundamentals, Technology and Application” which is equivalent to one week FDP, NPTEL-AICTE, July-September 2019. <p>Short Term Training Programme (STTP)</p> <ol style="list-style-type: none"> 1. Participated in short term training programme on “Fundamental and Application of Nanomaterials” conducted by National Institute of Technical Teachers Training and Research, Kolkata (NITTTR, Kolkata) from 22-07-2019 to 02-08-2019 (2 weeks) 2. Participated in short term training programme on “Testing and Health Benefits of Drinking Water” conducted by National Institute of Technical Teachers Training and Research, Kolkata (NITTTR, Kolkata) from 07-09-2020 to 18-09-2020 (2 weeks) <p>Refresher Course</p> <ol style="list-style-type: none"> 1. Participated in UGC sponsored Refreshers course in Basic Science conducted by HRDC Ranchi University, January 9th to 28th, 2016. 2. Participation in UGC sponsored Refreshers course in Women Studies and Gender Sensitization conducted by HRDC, Ranchi University, July 20th to 3rd August, 2018. <p>Orientation Course</p> <ol style="list-style-type: none"> 1. Participation in UGC sponsored Orientation Course conducted by HRDC Ranchi University, February 2nd to 23rd, 2014. |
| Program Organized | <ul style="list-style-type: none"> • 3 days AICTE sponsored Faculty Development Program (FDP) on student induction from January 20th -22nd, 2020. • 3 days AICTE sponsored Faculty Development Program on Universal Human Values in Technical Education from February 1st- 3rd, 2024 |
| PhD supervision | <p>PhD awarded-02, Ongoing PhD-01</p> <p>PhD awarded student: Name of the student: Dr. Durgesh Kumar PhD thesis title: Modeling and simulation of solar photovoltaic system to improve the conversion efficiency. Date of PhD award- 9th January 2023.</p> <p>Name of the student: Dr. Sanjeet Kumar Paswan PhD thesis title: Correlation between crystal structure and physical properties of nanostructured nickel ferrite and its non-magnetic, magnetic and rare earth derivatives</p> |

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| | Date of PhD award: 27 th July 2023. |
| Awards and Honours | <ul style="list-style-type: none"> • Qualified National Eligibility Test (CSIR-NET: Subject-Physical Science) for Lectureship eligibility conducted by Joint CSIR-UGC (December 2006). • Qualified Graduate Aptitude Test in Engineering (GATE-Physics) in 2007 and secured All India Rank-128 organized by MHRD Govt. of India. • Qualified Joint Entrance Screening Test (JEST-Physics) 2007: All India Rank-295. • Received MHRD fellowship during M.Tech. • Received institute fellowship during PhD • Received best poster award: Research Scholar day, IIT Patna 2011. • Outstanding Reviewer recognized by editor of Journal of Magnetism and Magnetic Materials (Elsevier) - March, 2018. |
| Any other information: | <ul style="list-style-type: none"> • Life Membership (LM 620) of Magnetic Society of India • Life Membership (LM 1047) of Electron Microscope Society of India |
| Updated as on | 09 th April 2024 |