

CURRICULUM VITAE

Dr. Ishwar Prasad Sahu

M.Sc, M.Phil, Ph.D

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Educational Qualifications

- **Ph.D.** (2015), Physics; Pt. Ravi Shankar Shukla University, Raipur – 492010, India
Thesis Title : STUDIES ON THE LUMINESCENCE PROPERTIES OF RARE EARTH DOPED SILICATE BASED LONG AFTERGLOW PHOSPHORS
- **M.Phil** (2009) Physics; Dr. C.V. Raman University, Bilaspur – 495113, India
Dissertation Title : STUDIES ON MECHANOLUMINESCENCE OF GAMMA IRRADIATED Tb DOPED Na₂SO₄ PHOSPHORS
- **M.Sc.** (2008), Physics; Pt. Ravi Shankar Shukla University, Raipur – 492010, India
- **B.Sc.** (2006), Pt. Ravi Shankar Shukla University, Raipur – 492010, India

Research Interests:

- Area of Research : Solid State Physics/ Material Science
- Specialization : Luminescent Materials viz. Silicate based phosphors, aluminate based phosphors, long afterglow phosphors, white light emitting phosphors

Membership in Society/Association:

- Life Time Member (Membership No. 580) of Luminescence society of India (LSI), Regd. No. Guj./1156/Baroda Sept. 95.
- Life Time Member (Membership No. 14117L9081) of Indian Association of Physics Teachers (IAPT), Kanpur, Utter Pradesh, India
- Life Time Member (Membership No. A25401) of International Association of Physical Sciences (IAPS)

Awards:

1. Prof. B. P. Chandra Research Award by Luminescence Society of India (LSI) 2017.
2. First Best Poster Presentation award PES University & PES Institute of Technology, Bangalore 2015.

Editorial Board Member:

1. Peer Reviewed journal “Human Resources Management and Services”, EnPress Journals, Pisco Med Publishing Pte Ltd. <https://systems.enpresspublisher.com/index.php/HRMS/about/editorialTeam>
2. Peer Reviewed journal “Applied Chemical Engineering”, EnPress Journals, ISSN: 2578-2010 (Online), EnPress Journals, Pisco Med Publishing Pte Ltd. <https://systems.enpress-publisher.com/index.php/ACE/about/editorialTeam>
3. **Editorial Board Member** of Peer Reviewed journal “Wireless Communication Technology”, ISSN: 2529-766X (Online), Whioce Publishing Pvt. Ltd. <http://ojs.whioce.com/index.php/wct/about/editorialTeam>
4. **Editorial Board Member** of Peer Reviewed journal “*Insight - Material Science*” <http://insight.piscomed.com/index.php/IMS/about/editorialTeam>
5. **Editorial Board Member** of Peer Reviewed journal “Thermal Science & Engineering” ISSN: 2578-1782 (Online) EnPress Journals, Pisco Med Publishing Pte Ltd. <https://systems.enpress-publisher.com/index.php/TSE/about/editorialBoard>

Reviewer in Journal:

1. “JOURNAL OF ALLOYS & COMPOUND” ELSEVIER Publication
2. “JOURNAL OF LUMINESCENCE” ELSEVIER Publication
3. “JOURNAL OF MOLECULAR STRUCTURE” ELSEVIER Publication
4. “JOURNAL OF PHYSICS & CHEMISTRY OF SOLIDS” ELSEVIER Publication
5. “JOURNAL OF SCIENCE: ADVANCED MATERIALS & DEVICES” ELSEVIER Publication
6. “MATERIALS CHEMISTRY & PHYSICS” ELSEVIER Publication
7. “NANO STRUCTURES & NANO -OBJECTS” ELSEVIER Publication
8. “OPTIK” ELSEVIER Publication
9. “RESULTS IN PHYSICS” ELSEVIER Publication
10. “SENSORS & ACTUATORS B: CHEMICAL” ELSEVIER Publication
11. “SPECTROCHIMICA ACTA PART A: MOECULAR & BIOMEDICAL SPECTROSCOPY” ELSEVIER Publication
12. “MATERIALS AND DESIGN” ELSEVIER Publication
13. “RESEARCH ON CHEMICAL INTERMEDIATE” SPRINGER Publication
14. “JOURNAL OF MATERIALS SCIENCE: MATERIALS IN ELECTRONICS” SPRINGER Publication
15. “SILICON” SPRINGER Publication
16. “CHEMICAL PAPERS” SPRINGER Publication
17. “JOURNAL OF THE AMERICAN CERAMIC SOCIETY” WILLEY Publication
18. ROYAL SOCIETY OPEN SCIENCE PUBLICATION”

Research Guidance:**Doctorate: 01**

1. Priya Barik “Luminescence Properties of Rare Earth Activated Lithium Meta-Silicate Phosphors for Solid State Lighting” awarded in January 2025.

Master Dissertation: 23**Research Projects Completed (Principal Investigator): 01**

1. Development of Eco-Friendly White Light Emitting Diodes Based on Zirconium-Silicate Phosphors by UGC (UGC-BSR Start up Project) 2018.

Book Chapter:

1. “Transmission Electron Microscopy for the Biomedical Applications” in Analytical Techniques for Biomedical Nanotechnology, Sayan Mukherjee, Sandeep Kaushik, Poonam Singh, S Shweta, **Ishwar Prasad Sahu, (2023)** ISBN 978-0-7503-3379-5 (ebook) IOP publication.

Published Papers in Refereed Journals (SCI & SCI EXPANDED):

1. Ishwar Prasad Sahu, D.P. Bisen, Nameeta Brahme, Dysprosium doped di-strontium magnesium di-silicate white light emitting phosphor by solid state reaction method, *Displays*, 35 (5) (2014) 279-286.
2. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Ravi Sharma, Luminescence properties of Eu^{2+} , Dy^{3+} doped $\text{Sr}_2\text{MgSi}_2\text{O}_7$ and $\text{Ca}_2\text{MgSi}_2\text{O}_7$ phosphors by solid state reaction method, *Research on Chemical Intermediate*, 41(9) (2015) 6649-6664.
3. Lata Wanjari, D.P. Bisen, Nameeta Brahme, Ravi Sharma, Ishwar Prasad Sahu, Effect of capping agent concentration on thermo-luminescence and photo-luminescence of copper doped zinc sulfide nanoparticles, *Luminescence*, 30 (5) (2015) 655-659.
4. Ishwar Prasad Sahu, D.P. Bisen, Nameeta Brahme, Luminescent Properties of Green Emitting $\text{Ca}_2\text{MgSi}_2\text{O}_7:\text{Eu}^{2+}$ Phosphor by Solid State Reaction Method, *Luminescence*, 30(7) (2015) 1125-1132.
5. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Lata Wanjari, Raunak Kumar Tamrakar, Structural Characterization and Luminescence Properties of Bluish-Green Emitting $\text{SrCaMgSi}_2\text{O}_7:\text{Eu}^{2+}$, Dy^{3+} Phosphor by Solid State Reaction Method, *Research on Chemical Intermediate*, 41(11) (2015) 8797–8814.
6. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Manju Ganjir, Enhancement of the Photoluminescence and Long Afterglow Properties of $\text{Sr}_2\text{MgSi}_2\text{O}_7:\text{Eu}^{2+}$ Phosphor by Dy^{3+} Co-doping, *Luminescence* 30(8) (2015), 1318-1325.
7. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Structural characterization and optical properties of dysprosium doped strontium calcium magnesium di-silicate phosphor by solid state reaction method, *Displays*, 38 (2015) 68-76.
8. Ishwar Prasad Sahu, The role of europium and dysprosium in the bluish-green long lasting $\text{Sr}_2\text{Al}_2\text{SiO}_7:\text{Eu}^{2+}$, Dy^{3+} phosphor by solid state reaction method, *Journal of Material Science: Material in Electronics*, 26(9) (2015) 7059-7072.
9. Ishwar Prasad Sahu, Priya Chandrakar, R.N. Baghel, D. P. Bisen, Nameeta Brahme, Raunak Kumar Tamrakar, Luminescence Properties of Dysprosium Doped Calcium Magnesium Silicate Phosphor by Solid State Reaction Method, *Journal of Alloys and Compound*, 649 (2015) 1329-1338.
10. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Raunak Kumar Tamrakar, Ravi Shrivastava, Luminescence Studies of Dysprosium Doped Strontium Aluminate White Light Emitting Phosphor by Combustion Route, *Journal of Material Science: Material in Electronics*, 26(11) (2015) 8824–8839.
11. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Raunak Kumar Tamrakar, Ravi Shrivastava, Dysprosium Doped Di-calcium Magnesium Di-silicate White light Emitting Phosphor by Solid State Reaction Method, *Journal of Material Science: Material in Electronics*, 26 (2015) 9907–9920.
12. Raunak Kumar Tamrakar, D. P. Bisen, Kanchan Upadhyay, Ishwar Prasad Sahu, Comparative Study and role of Er^{3+} and Yb^{3+} Concentration on Upconversion process

- of $\text{Gd}_2\text{O}_3:\text{Er}^{3+}$ and Yb^{3+} Phosphor by Solid State Reaction and Combustion Method, *The Journal of Physical Chemistry C*, 119 (2015) 21072–21086.
13. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Raunak Kumar Tamrakar, Studies on the Luminescence Properties of Europium Doped Strontium Alumino-Silicate Phosphors by Solid State Reaction Method, *Journal of Material Science: Material in Electronics*, 26 (2015) 10075–10086.
 14. Raunak Kumar Tamrakar, D.P. Bisen, Kanchan Upadhyay, Ishwar Prasad Sahu, Up-conversion and color tunability of $\text{Gd}_2\text{O}_3:\text{Er}^{3+}$ phosphor prepared by combustion synthesis method, *Journal of Alloys and Compound*, 655 (2015) 423-432.
 15. Raunak K Tamrakar, K. Upadhyay, D. P Bisen, M. Sahu, Ishwar Prasad Sahu, N. Brahme, Comparison of emitted colour by pure Gd_2O_3 prepared by two different methods by CIE coordinates, *Superlattices and Microstructures*, 88 (2015) 382-388.
 16. Raunak Kumar Tamrakar, D. P. Bisen, Chandra Shekher Robinson, Ishwar Prasad Sahu, N. Brahme, Kanchan Upadhyay, Structural and luminescence behavior of $\text{Gd}_2\text{O}_3:\text{Er}^{3+}$ phosphor synthesized by solid state reaction method, *Optik*, 126 (20) (2015) 2654-2658.
 17. Ishwar Prasad Sahu, D. P. Bisen, Ravi Sharma, UV excited green luminescence of $\text{SrAl}_2\text{O}_4:\text{Eu}^{2+}$, Dy^{3+} nanophosphor, *Research on Chemical Intermediate*, 42 (4) (2016) 2791-2804.
 18. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Raunak Kumar Tamrakar, Enhanced luminescence performance of $\text{Sr}_2\text{MgSi}_2\text{O}_7:\text{Eu}^{2+}$ blue long persistence phosphor by co-doping with Ce^{3+} Ions, *Journal of Material Science: Material in Electronics*, 27 (1) (2016) 554 - 569.
 19. Ishwar Prasad Sahu, D. P. Bisen, Raunak Kumar Tamrakar, Ravi Shrivastava, Enhancement of the photo-luminescence and long afterglow properties of $\text{Ca}_2\text{MgSi}_2\text{O}_7:\text{Eu}^{2+}$ phosphor by Dy^{3+} co-doping, *Research on Chemical Intermediate*, 42 (2016) 1823–1843.
 20. Manmeet Kaur, D.P. Bisen, N. Brahme, Prabhjot Singh, Ishwar Prasad Sahu, Photoluminescence Properties of Rare Earth Doped (Er^{3+} , Yb^{3+}) Y_2O_3 Nanophosphors by Combustion Synthesis Method, *Luminescence*, 31(3), (2016)728-737.
 21. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Raunak Kumar Tamrakar, Luminescence Behavior of Europium Activated Strontium Aluminate Phosphors by Solid State Reaction Method, *Journal of Material Science: Material in Electronics*, 27 (4) (2016) 3443-3455.
 22. Raunak Kumar Tamrakar, D.P. Bisen, Kanchan Upadhyay, Ishwar Prasad Sahu, Comparative Study of Thermo-luminescence Behaviour of Gd_2O_3 phosphor Synthesized by Solid State Reaction and Combustion Method with Different Exposure, *Radiation Measurements*, 84 (2016) 41-54.
 23. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Raunak Kumar Tamrakar, Generation of White Light from Dysprosium Doped Strontium Aluminate Phosphor by Solid State Reaction Method, *Journal of Electronic Material*, 45(4) (2016) 2222 - 2232.
 24. Ishwar Prasad Sahu, D. P. Bisen, N. Brahme, Impulsive Excitation of Mechanoluminescence in Europium Activated Strontium Ortho-silicate Phosphor, *Journal of Material Science: Material in Electronics*, 27 (4) (2016) 3934 – 3940.

25. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Raunak Kumar Tamrakar, Studies on the luminescence behavior of SrCaMgSi₂O₇:Eu³⁺ phosphor by solid state reaction method, *Journal of Material Science: Material in Electronics*, 27(2) (2016)1828-1839.
26. Kanchan Upadhyay, Raunak Kumar Tamrakar, D.P. Bisen, Ishwar Prasad Sahu, Manjulata Sahu, Enhancement of the photoluminescence behavior of Gd₂O₃:Er³⁺ phosphor by alkali metal, *Optik*, 127 (2016) 3693-3697.
27. Ishwar Prasad Sahu, D. P. Bisen, N. Brahme, R. K. Tamrakar, Ganesh Banjare, Pradeep Dewangan, Luminescent Properties of R⁺ Doped Sr₂MgSi₂O₇:Eu³⁺ (R⁺ = Li⁺, Na⁺ and K⁺) Orange- Red Emitting Phosphors, *Journal of Material Science: Material in Electronics*, 27 (2016) 6721-6734.
28. Ishwar Prasad Sahu, D. P. Bisen, R. N. Baghel, K.V.R. Murthy, Luminescence behavior of Europium Doped Strontium Magnesium Silicate Phosphor by Solid State Reaction Method, *Journal of Material Science: Material in Electronics*, 27 (2016) 7573–7581.
29. Raunak Kumar Tamrakar, D.P. Bisen, Ishwar Prasad Sahu, Kanchan Upadhyay, Manjulata Sahu, Structural Characterization of Gd₂O₃ phosphor Synthesized by Solid State Reaction and Combustion Method using X-ray diffraction and transmission electron microscopic techniques, *Journal of Display Technology*, 12(11) (2016) 1478-1484.
30. Ishwar Prasad Sahu, Studies on the luminescence properties of dysprosium doped strontium metasilicate phosphor by solid state reaction method, *Journal of Material Science: Material in Electronics*, 27 (9) (2016) 9094 -9106.
31. Geetanjali Tiwari, Nameeta Brahme, Ravi Sharma, D. P. Bisen, Sanjay Kumar Sao, Ishwar Prasad Sahu, Ca₂Al₂SiO₇:Ce³⁺ phosphors for mechanoluminescence dosimetry, *Luminescence*, 31 (8) (2016) 1479 -1487.
32. Ishwar Prasad Sahu, Studies on the photoluminescence behaviour of rare earth (Ce, Sm, Eu, Dy, Tb) activated Calcium Magnesium Silicate Phosphors, *Journal of Material Science: Material in Electronics*, 27 (10) (2016) 10353 – 10363.
33. Ishwar Prasad Sahu, Luminescence Properties of Dysprosium doped Barium-alumino-Silicate Phosphors Prepared by the Solid-State Reaction Method, *Journal of Material Science: Material in Electronics*, 27 (2016) 13134 – 13147.
34. Ishwar Prasad Sahu, Enhancement of the Mechanoluminescence Properties on Ca₂MgSi₂O₇:Dy³⁺ Phosphor by Co-doping of Charge Compensator Ions, *Applied Physics A-Material Science & Processing*, 122 (2016) 782 (1-10).
35. Raunak Kumar Tamrakar, D.P. Bisen, Kanchan Upadhyay, Ishwar Prasad Sahu, Manjulata Sahu, The Effect of Annealing and Irradiation Dose on Thermoluminescence Glow Peak of Monoclinic Gd₂O₃:Yb³⁺ Phosphor, *RSC Advances*, 6 (2016) 80797 – 80807.
36. Raunak Kumar Tamrakar, D.P. Bisen, Kanchan Upadhyay, Ishwar Prasad Sahu, Manjulata Sahu, The down conversion properties of a Gd₂O₃:Er³⁺ phosphor prepared via a combustion synthesis method, *RSC Advances*, 6 (2016), 92360-92370.
37. Ishwar Prasad Sahu, D. P. Bisen, Raunak Kumar Tamrakar, Dysprosium-Doped Strontium Magnesium Silicate White Light Emitting Phosphor Prepared by Solid State Reaction Method, *Journal of Display Technology*, 12 (11) (2016) 1478 – 1484.

38. Ishwar Prasad Sahu, Effect of charge compensator ions ($R^+ = Li^+, Na^+$ and K^+) on $Sr_2MgSi_2O_7:Dy^{3+}$ phosphors by solid-state reaction method, *Applied Physics A- Material Science & Processing*, 122 (2016) 855 (1-11).
39. Ishwar Prasad Sahu, Enhance Luminescence by Introducing Alkali Metal Ions ($R^+ = Li^+, Na^+$ and K^+) in $SrAl_2O_4:Eu^{3+}$ Phosphor by Solid State Reaction Method, *Radiation Effect and Defects in Solids*, 171 (5-6) (2016) 511 – 527.
40. Ishwar Prasad Sahu, Luminescence Properties of Cerium doped Di-strontium Magnesium Di-silicate phosphor by Solid State Reaction Method, *Radiation Effect and Defects in Solids*, 171 (5-6) (2016) 544-564.
41. Ishwar Prasad Sahu, Luminescence Properties of Violet – Blue Emitting $Ca_2MgSi_2O_7:Ce^{3+}$ Phosphor Prepared by Solid State Reaction Method, *Journal of Material Science: Material in Electronics*, 28 (1) (2017) 381 -393.
42. Raunak Kumar Tamrakar, Ishwar Prasad Sahu, C.S. Robinson, D.P. Bisen, Kunal Uplop, Structural characterization and photoluminescence properties of pure and Ag (1-5%)-doped $(Cd_{0.95}Zn_{0.5})S$ phosphors synthesized by solid-state reaction methods, *Journal of Taibah University for Science*, 10 (1) (2016) 115-121.
43. Ishwar Prasad Sahu, Orange-Red Emitting Europium Doped Strontium Ortho-Silicate Phosphor by Solid State Reaction Method, *Luminescence*, 32 (3) (2017) 364 -374.
44. Ishwar Prasad Sahu, Effect of charge compensator ion on dysprosium doped di-calcium magnesium di-silicate phosphors, *Journal of Material Science: Material in Electronics*, 28 (2017) 892-902.
45. Raunak Kumar Tamrakar, Kanchan Upadhyay, Ishwar Prasad Sahu, Durga Prasad Bisen, Tuning of photoluminescence emission properties of Eu^{3+} doped Gd_2O_3 by different excitations, *Optik*, 135 (2017) 281-289.
46. Ishwar Prasad Sahu, D.P. Bisen, Raunak Kumar Tamrakar, K.V.R. Murthy, M. Mohapatra, Luminescence studies on the europium doped strontium metasilicate phosphor prepared by solid state reaction method, *Journal of Science: Advanced Materials and Devices*, 2 (2017) 59-68.
47. Ishwar Prasad Sahu, D.P. Bisen, Raunak Kumar Tamrakar, K.V.R. Murthy, M. Mohapatra, Studies on the luminescence properties of $CaZrO_3:Eu^{3+}$ phosphors prepared by the solid-state reaction method, *Journal of Science: Advanced Materials and Devices*, 2 (2017) 69-78.
48. Pradeep Dewangan, D. P. Bisen, N. Brahme, R. K. Tamrakar, K. Upadhyay, Shweta Sharma, Ishwar Prasad Sahu, Studies on thermoluminescence properties of alkaline earth silicate phosphors, *Journal of Alloys and Compound*, 735 (2018) 1383-1388.
49. Akshkumar Verma, Sanjay Kumar Pathak, Ashish Verma, G.V. Bramhe, Ishwar Prasad Sahu, Tuning of luminescent properties of $Zn_{1-x}MgAl_{10}O_{17}:Eu_x$ nano Phosphor, *Journal of Alloys and Compound*, 764 (2018) 1021- 1032.
50. Akshkumar Verma, Sanjay Kumar Pathak, Ashish Verma, G.V. Bramhe, Ishwar Prasad Sahu, Optical studies of the $Ba_{1-x}MgAl_{10}O_{17}:Eu_x$ phosphors synthesis by combustion route, *Journal of Alloys and Compound*, 769 (2018) 831- 842.
51. P. Dewangan, D. P. Bisen, N. Brahme, S. Sharma, R. K. Tamrakar, Ishwar Prasad Sahu, Thermoluminescence glow curve for UV induced $Sr_3MgSi_2O_8$ phosphor with its structural characterization, *Journal of Material Science: Material in Electronics*, 30(1), (2019) 771-777.

52. Ganesh Ram Banjare, D. P. Bisen, Nameeta Brahme, Chitrkant Belodhiya, Pradeep Dewangan, Ekta Chandrawansi, Ishwar Prasad Sahu, Thermoluminescence Studies of Dy³⁺ Doped Calcium Barium Ortho-silicate Co-doped with Li⁺ ion, *Journal of Thermal Analysis and Calorimetry*, 139 (2020) 1577-1583.
53. Pradeep Dewangan, D. P. Bisen, Nameeta Brahme, Shweta Sharma, Raunak Kumar Tamrakar, Kanchan Upadhyay, Ishwar Prasad Sahu, Influence of Dy³⁺ concentration on Spectroscopic Behaviour of Sr₃MgSi₂O₈:Dy³⁺ Phosphors, *Journal of Alloys and Compounds*, 816 (2020), 152590.
54. Pradeep Dewangan, D. P. Bisen, Nameeta Brahme, Shweta Sharma, Raunak Kumar Tamrakar, Ishwar Prasad Sahu, Investigation of Structural and Thermal Response of Sm³⁺ Doped Sr₃MgSi₂O₈ Phosphors, *Optical and Quantum Electronics*, 52 (2020) 441.
55. Sanjay Kumar Pathak, Akshkumar Verma, Ashish Verma, Ishwar Prasad Sahu, Photo and Mechano-luminescence properties of novel Zn_{1-x}Eu_xAl_{2-y}BayO₄ advance blue phosphor, *Physica B: Physics of Condensed Matter*, 602 (2021) 412612.
56. Shweta Sharma, N. Brahme, D.P. Bisen, Pradeep Dewangan, Ishwar Prasad Sahu, S.G.Onkar, V.S Thool, S.G. Vidhale, G.S. Mendhe, Enhanced thermoluminescence properties of CaSrAl₂SiO₇:Ce³⁺,Tb³⁺ phosphor, *Journal of Materials Science: Materials in Electronics*, 32 (2021) 28765-28771
57. Akshkumar Verma, D. P. Bisen, Nameeta Brahme, Ishwar Prasad Sahu, and Arun Kumar Singh, Yttrium aluminum garnet based novel and advanced phosphor synthesized by combustion route activated by Dy, Eu, and Tb rare earth metals, *Journal of Materials Science: Materials in Electronics*, (2023) 34:644
58. Priya Barik, Akshkumar Verma, Ravinder Kumar, Vinod Kumar, Ishwar Prasad Sahu, Structural and photoluminescence properties of europium (III)-activated lithium meta-silicate phosphors for solid-state lighting, *Applied Physics A* (2023) 129:677
59. Jigyasa Pathak, Bhamini Pandey, Poonam Singh, Ravinder Kumar, Sandeep Kaushik, Ishwar Prasad Sahu, Tarun Kumar Thakur, Amit Kumar, Exploring the Paradigm of Phyto-Nanofabricated Metal Oxide Nanoparticles: Recent Advancements, Applications, and Challenges, *Molecular Biotechnology*
60. Priya Barik, Ishwar Prasad Sahu, Akshkumar Verma, Ravinder Kumar, Vinod Kumar, Pradeep Dewangan, Manorama Sahu, Ankali Mehto, Tetravalent manganese-doped lithium meta-silicate red-emitting phosphors for LED applications: structural and luminescence properties, *Radiation Effects & Defects in Solids*,
61. Manorama Sahu, Ishwar Prasad Sahu, Studies on the structural, thermal and luminescence properties of Sr_{1-x}ZrSi₂O₇:xEu³⁺ phosphors for solid state lighting, *Applied Physics A* (2024) 130:322
62. Priya Barik, Akshkumar Verma, Ravinder Kumar, Vinod Kumar, Pradeep Dewangan, Manorama Sahu, Ishwar Prasad Sahu, Structural and photoluminescence properties of terbium (III) activated Li₂SiO₃ phosphors: an approach for bluish-green light emission, *Applied Physics A* (2024) 130:391
63. Pradeep Dewangan, D. P. Bisen, N. Brahme, D. S. Kshatri, Shubhra Mishra, Vikas Kumar Jain⁴, Hemant Kumar Sharma, Manorama Sahu, and Ishwar Prasad Sahu, Studies on structural, photo and thermoluminescence properties of Sm³⁺ activated Ca₃MgSi₂O₈ phosphors for solid-state lighting, *Journal of Materials Science: Materials in Electronics*, (2024) 35:898

64. Akshkumar Verma, Dipti Sahu, D. P. Bisen, Nameeta Brahme, Priya Barik, I. P. Sahu, Chandn iKumari, Prerna Gupta, Achieving structural, photo-luminescence, temperature dependent Photoluminescence and thermo-luminescence properties of $\text{SrAl}_2\text{O}_4:\text{Dy}^{3+}\text{Eu}^{3+}$ phosphor for WLED application, *Emergent Materials*, (2024)
65. Pankaj Pathak, Manisha Singh, Pankaj Kumar Mishra, Snehal Jani, Rajeev Gupta, Ranjeet Brajpuriya, Ishwar Prasad Sahu, Dy^{3+} doped $\text{Zn}_{0.66}\text{Mg}_{0.3}\text{Al}_2\text{O}_4$ nanophosphor for high dose radiation thermoluminescence dosimetric applications, *Next Materials* 6 (2025) 100391.
66. Priya Barik, Ishwar Prasad Sahu, A White Light Emitting $\text{Li}_2\text{SiO}_3:\text{Tb}^{3+}, \text{Eu}^{3+}$ Phosphors: Structural, Thermal, Spectroscopic Properties and Energy Transfer Mechanism, *Applied Physics A* (2025) 131:18.
67. Priya Barik, Ishwar Prasad Sahu, Spectroscopic, Photometric Properties and Energy Transfer Mechanism of White Light Emitting $\text{Li}_2\text{SiO}_3:\text{Tb}^{3+}, \text{Eu}^{3+}, \text{Mn}^{4+}$ Phosphors, *Optical & Quantum Electronics*, (2025) 57:50.
68. Priya Barik, Ishwar Prasad Sahu, Spectroscopic Properties of Blue Light Emitting $\text{Li}_2\text{SiO}_3:\text{xGd}^{3+}$ Phosphors for Solid State Lighting Applications, *Brazilian Journal of Physics*, (2025) 55:44.

Research Papers published Peer Reviewed Journals

1. Raunak Kumar Tamrakar, Durga Prasad Bisen, Chandra Shekher Robinson, Ishwar Prasad Sahu, Ytterbium doped gadolinium oxide ($\text{Gd}_2\text{O}_3:\text{Yb}^{3+}$) phosphor: topology, morphology, and luminescence behaviour, *Indian Journal of Materials Science*, Article ID 396147 (2014) (1-7)
2. Raunak Kumar Tamrakar, Durga Prasad Bisen, Nameeta Brahme, Ishwar Prasad Sahu, UV and gamma ray induced thermoluminescence properties of cubic $\text{Gd}_2\text{O}_3:\text{Er}^{3+}$ phosphor, *Journal of Radiation Research and Applied Sciences*, 7(4) (2014) 417-429.
3. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Lata Wanjari, Raunak Kumar Tamrakar Luminescence Properties of $\text{Sr}_2\text{MgSi}_2\text{O}_7:\text{Eu}^{2+}, \text{Ce}^{3+}$ Phosphor by Solid State Reaction Method, *Physics Procedia*, 76 (2015) 80 – 85.
4. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Raunak Kumar Tamrakar Photoluminescence properties of europium doped di-strontium magnesium di-silicate phosphor by solid state reaction method, *Journal of Radiation Research and Applied Sciences*, 8 (2015) 104 - 109.
5. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Europium Doped Di-calcium Magnesium Di-silicate Orange-Red Emitting Phosphor by Solid State Reaction Method, *Journal of Radiation Research and Applied Sciences*, 8 (2015) 381 - 388.
6. Raunak Kumar Tamrakar, D. P. Bisen, Kanchan Upadhyay, Nameeta Brahme, Effect of synthesis annealing temperature & Yb^{3+} concentration on photoluminescence properties of monoclinic Gd_2O_3 phosphor, *Journal of Optics*, 44 (4) (2015) 337 -345.
7. Lata Wanjari, D. P. Bisen, Nameeta Brahme, Ishwar Prasad Sahu, Thermoluminescence Characteristics Of $\text{ZnS}:\text{Cu}$ Nanoposphors, *Journal of Optoelectronic and Biomedical Materials*, 7(3), (2015) 59 – 65.
8. Ishwar Prasad Sahu, D. P. Bisen, Nameeta Brahme, Lata Wanjari, Raunak Kumar Tamrakar, Luminescence Properties of $\text{Sr}_2\text{MgSi}_2\text{O}_7:\text{Eu}^{2+}, \text{Ce}^{3+}$ Phosphor by Solid State Reaction Method, *Physics Procedia*, 76 (2015) 80 – 85

9. Ishwar Prasad Sahu, D. P. Bisen, N. Brahme, Raunak Kumar Tamrakar, Ganesh Ram Banjare, Pradeep Dewangan, Mechanoluminescence Properties Of Europium Doped Di-Strontium Magnesium Di-Silicate Phosphor, *International Science Journal*, 2(1) (2015) 1-7
10. Ravi Shrivastava, Ishwar Prasad Sahu, Photoluminescence Studies of Europium (III) Doped Di-Barium Magnesium Silicate Phosphors, *Research & Reviews: Journal of Material Sciences*, 10 (2) (2022) 27-32. e-ISSN: 2321-6212
11. Sanjeeta Rani, Sunita Hooda, Neelu Dheer, V Bhasker Raj, Ishwar Prasad Sahu, Manisha Verma, Complex dielectric-impedance spectroscopic studies of magnetite added chitin biopolymer, *Applied Chemical Engineering* (2023) 6 (1) 59-67.
12. Deepika Khandelwal, Vikrant Kumar, Neeti Misra, Shallu Sachdeva, Sanjeeta Rani, Manisha Verma, Ishwar Prasad Sahu, Sunita Hooda, NMR spectroscopy based configurational and compositional analysis of isobornyl methacrylate—Acrylonitrile copolymers, *Applied Chemical Engineering* (2023) 6 (1) 82-93
13. Darshan Singh, Anuradha, Surendra Kumar, Amar Kumar, Neelu Dheer, M. Ramananda Singh, Rajni Kanojia, Sangeeta Kaul, Ishwar Prasad Sahu, Photodegradation of Methylene blue and Rhodamine B using potato starch mediated zinc oxide nanoparticles and its calcium nanocomposites: Greener approach, *Applied Chemical Engineering* (2023) 6 (1) 94-103
14. Akshkumar Verma, DP Bisen, N Brahme, Ishwar Prasad Sahu, Priya Barik, Long Lasting Persistent Photo-Luminescence Properties of $\text{Eu}_x\text{M}_{1-x}\text{MgAl}_{10}\text{O}_{17}$ (M = Ba, Ca, Sr, Zn) Phosphors, *Journal of Physics: Conference Series*, 2576 (2023) 012011

Invited Technical Talk on International Conferences:

1. “Generation of White Light from Dysprosium doped Potassium Zirconium Silicate Phosphors Prepared” by Solid State Reaction Method, 16-17th June, 2017, Nanyang Technological University, Singapore.
2. “Structural & Optical Properties of Europium doped Strontium Zirconium Silicate Phosphor”, 6th International Conference on Luminescence & Its Application (ICLA - 2019) January 7-10, 2019, School of Studies in Physics & Astrophysics, Pt. Ravishankar Shukla University, Raipur & Luminescence Society of India (LSI).
3. “Luminescence & its Applications” 1st International Conference on Functional Materials (ICFM -2022) August 24-26th, 2022, School of Studies in Physics & Astrophysics, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh
4. “Photoluminescence Properties of $\text{Sr}_{1-x}\text{ZrSi}_2\text{O}_7:\text{xEu}^{3+}$ Phosphors Prepared by SSR Method”, 9-10th December, 2022, Seminar on Luminescence Materials [ISLM-2022], Department of Physics, All Saints college, Trivandrum, Kerala, INDIA
5. Structural and photoluminescence properties of terbium (III) activated Li_2SiO_3 phosphors: an approach for bluish-green light emission, 7th International Conference on Luminescence & Its Application (ICLA -2023) CSIR – IICT, Hyderabad, INDIA.

Oral/Poster Presentation on International Conferences:

1. “Thermoluminescence of rare Earth doped ZrO_2 Nanophosphors” International Conference on Luminescence and its Application (ICLA - 2012), 7-10th February, 2012, Rajiv Gandhi University of Knowledge and Technology, Hyderabad, India,

- Indian Institute of Chemical Technology (IICT) Hyderabad India (Poster Presentation).
2. “Luminescence Studies of White Light Emitting $\text{Sr}_2\text{MgSi}_2\text{O}_7:\text{Dy}^{3+}$ Phosphor” International Conference on Emerging Trends in Electrical, Electronics, 27 March 2014, Dept. of Physics, BIT Raipur, Chhattisgarh, India (Poster Presentation).
 3. “Photoluminescence Properties of Red Emitting $\text{Sr}_2\text{MgSi}_2\text{O}_7:\text{Eu}^{3+}$ Phosphor” International Conference on Luminescence and its Application (ICLA - 2015), February 9-12, 2015, PES Institute of Technology, Bengaluru, Karnataka, India (Oral Presentation).
 4. “Thermoluminescence Properties of γ – Irradiated $\text{Sr}_2\text{MgSi}_2\text{O}_7:\text{Eu}^{2+}, \text{Dy}^{3+}$ Phosphor” International Conference on Luminescence and its Application (ICLA - 2015), February 9-12, 2015, PES Institute of Technology, Bengaluru, Karnataka, India (Poster Presentation).
 5. “Luminescence Studies of Dysprosium Doped Strontium Silicate Phosphor by Solid State Reaction Method” International Symposium cum Workshop on Luminescence Materials [ISWLM - 2015], 18-20 Dec. 2015, Faculty of Technology and Engineering, MS University of Baroda, Vadodara, Gujarat, India (Oral Presentation).
 6. “Luminescence Properties of Europium Doped Strontium Zirconate Phosphors by the Solid State Reaction Method” International Conference on Sustainable Energy Technologies for Smart and Clean Cities (SETS & CC-2016) 27-30 July 2016, Indian Institute of Technology, Tirupathi, Andhra Pradesh, India (Oral Presentation).
 7. “Deconvoluted Thermoluminescence Glow curve of $\text{Y}_2\text{O}_3:\text{Gd}^{3+}$ Under UV excitation” International conference on recent trends in Science and Engineering (ICRTSE – 2016), 15-16 January 2016, Department of Physics and Chemistry Govt. V.Y.T.P. G. Autonomous College Durg (C.G.) India (Oral Presentation).
 8. “Mechanoluminescence Properties of Europium doped Strontium Calcium Magnesium Silicate Phosphor by Solid State Reaction Method” International Seminar on Physics & Chemistry of Materials & Applications (ISPCMA -2017), 4-5th January, 2017, Department of Chemistry & Physics, Shree Padmavathi Mahila Hindu Kalasala, Machilipatnam, Andhra Pradesh, India (Oral Presentation).
 9. “Luminescence Properties of Dysprosium doped Strontium Zirconate Phosphors by Solid State Reaction Method” January 7-10, 2019, 6th International Conference on Luminescence & Its Application (ICLA -2019), SOS in Physics & Astrophysics, Pt. Ravishankar Shukla University, Raipur & Luminescence Society of India (LSI), India (Poster Presentation).
 10. “Eco- Friendly Terbium activated Barium Zirconium Silicates Phosphors for Solid State Lighting” International Conference on Sustainable Research & Engineering, Science & Management (ICSRESM - 2020), January 10-11th, 2020, Shri Shankaracharya Institute of Professional Management and Technology, Raipur, Chhattisgarh, India (Oral Presentation).
 11. “Photoluminescence studies of Europium (III) doped Di Magnesium Silicate phosphors” International Conference on Influence and Usability of Contemporary Science & Technology Tools for Society (I -TechSci 2021), 08-09th October, 2021, Faculty of Science & Technology, The ICFAI University, Raipur, Chhattisgarh, India (Oral Presentation).

12. “Structural & Luminescence Properties of Europium (III) doped Strontium Zirconium Silicates Phosphors for Display Devices” Ist International Conference on Functional Materials (ICFM -2022), 24-26th August 2022, School of Studies in Physics & Astrophysics, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh, India (Oral Presentation).

Invited Technical Talk on National Conferences:

1. “Structural, Thermal and Luminescence Properties of Europium (III) activated Strontium Zirconium Silicate Phosphors for Lighting Applications”, 2nd National Conference on Signal Processing, Sustainable Energy Materials And Astronomy & Astrophysics (NSSEMA -2023), March 16-18th, 2023, SoS in Physics & Astrophysics and SoS in Electronics & Photonics, Pt. Ravishankar Shukla University, Raipur, 492010, (C.G) INDIA.

Oral/Poster Presentation on National Conferences:

1. “Photoluminescence and Thermoluminescence of Cu Doped ZnS Nanoparticles” National Conference on Luminescence and its Application (NCLA - 2013), January 8-10, 2013, PES Institute of Technology, Bengaluru, Karnataka, India (Oral Presentation).
2. “Characterization and Luminescence Properties of SrCaMgSi₂O₇ Phosphor” National Seminar on Nanomaterials: Synthesis and Application (NSNSA - 2013), 4-6 March 2013, Department of Physics, Govt. Autonomous Post Graduate College, Chhindawara, Madhya Pradesh (Oral Presentation).
3. “Optical Properties of Rare Earth Doped Ca₂MgSi₂O₇ Phosphors” National Conference on Luminescence and its Application (NCLA - 2014), 5-7 February 2014, Department of Post Graduate Studies and Research in Physics and Electronics, Rani Durgavati University, Jabalpur, Madhya Pradesh (Oral Presentation).
4. “Synthesis, Characterization and Luminescence Properties of Bluish-Green SrCaMgSi₂O₇:Eu²⁺ Phosphor” National Conference on Recent Trends in Photonics (NCRTP – 2014), 12-14 March, 2014 School of Studies in Electronics and Photonics, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh (Oral Presentation).
5. “Mechanoluminescence Properties of Sr₂SiO₄:Dy³⁺ Phosphor by Solid State Reaction Method” National Seminar on “Optoelectronic Device Materials”, Department of Physics, 20th June 2015, The Bapatla College of Arts of Science, Guntur, Andhra Pradesh (Poster Presentation).
6. “X-Ray Diffraction and Morphological studies of Er³⁺ Doped Y₂O₃ phosphor Synthesized By Solid State Reaction Method” National Conference on: Nanostructured Materials And Their Characterizations, 20-21 February 2015, Department of Applied Physics, Bhilai Institute of Technology, Durg (C. G.) (Poster Presentation).
7. “Luminescence Properties of Cerium doped Strontium Aluminate Phosphor Synthesized by Solid State Reaction Method”, National Conference on Physics of Luminescence and Emerging Trends, 29-30 January 2016, Department of Applied Physics, Bhilai Institute of Technology, Durg (C. G.) (Oral Presentation).
8. “Luminescence Properties of Europium doped Strontium Meta-Silicate Phosphor by Solid State reaction Method”, National Conference on Luminescence and its

Application (NCLA - 2016), 18-20 February 2016, Department of Physics. RTM Nagpur University, Nagpur and Taywade College Koradi, Nagpur (M.H.) (Poster Presentation).

9. "White Light Generation from Dysprosium Doped Calcium Zirconate Phosphor by Solid State Reaction Method", National Seminar on Materials & Applications, 7th January 2017, Department of Physics, AG & SG Siddhartha College of Arts & Science, Vuyyuru, Andhra Pradesh (Oral Presentation).
10. "Studies on the Luminescence Properties of Cerium activated Strontium Alumino Silicate Phosphor by Solid State Reaction Method", National Conference on Luminescence and its Application (NCLA -2017), 9-11th January 2017, CSIR-Indian Institute of Chemical Technology (IICT) Hyderabad & Mahatma Gandhi National Institute of Research & Social Action (MGNIRSA) Hyderabad (Oral Presentation).
11. "Generation of White Light from Dysprosium Doped Strontium Zirconate Phosphor Prepared by Solid State Reaction Method", National Conference on Luminescence and its Application (NCLA -2017), 9-11th January 2017, CSIR-Indian Institute of Chemical Technology (IICT) Hyderabad & Mahatma Gandhi National Institute of Research & Social Action (MGNIRSA) Hyderabad, Telangana, India (Poster Presentation).
12. "Luminescence Properties of Europium Doped Barium Zirconosilicate Phosphor Prepared by Solid State Reaction Method", 4th National Conference on Applied Physics and Material Science (APMS -2017), 10-11th March, 2017, Department of Physics, Vasavi College of Engineering, Hyderabad, Telangana, India(Oral Presentation).
13. "Orange-Red Emitting Europium Doped Potassium Calcium Silicate Phosphor by Solid State Reaction Method" National Conference on Signal Processing, Sustainable Energy Materials and Astronomy & Astrophysics (NSSEMA- 2017), 28-30th March, 2017, S.O.S in Electronics & Photonics & S.O.S in Physics & Astrophysics, Pt. Ravishankar Shukla University, Raipur (C.G.) (Oral Presentation).
14. "Dysprosium Doped Lithium Calcium Silicate Phosphor for White Light Emitting Diode" National Conference on Signal Processing, Sustainable Energy Materials and Astronomy & Astrophysics (NSSEMA- 2017), 28-30th March, 2017, S.O.S in Electronics & Photonics & S.O.S in Physics & Astrophysics, Pt. Ravishankar Shukla University, Raipur (C.G.) (Poster Presentation).
15. "Luminescence Properties of Europium Doped Calcium Zirconium-Silicates Phosphor" National Conference on Advanced Materials and Environmental Sciences (NCAMES 2019), October 14-15th, 2019, Department of Physics, Kalinga University, Naya Raipur, Chhattisgarh (Oral Presentation)..
16. "Structural & Optical Characterizations of Cerium Doped Strontium Silicate Phosphor" National Conference on Advanced Materials and Environmental Sciences (NCAMES 2019), October 14-15th, 2019, Department of Physics, Kalinga University, Naya Raipur, Chhattisgarh (Poster Presentation)..
17. "Eco-friendly White light Emitting Dysprosium Activated Calcium Zirconium Silicates Phosphors for Solid State Lighting" National Conference on Advanced Materials & Applications (NCAMA – 2019), December 21-22nd, 2019, Department Of Physics, National Institute Of Technology, Raipur, Chhattisgarh (Oral Presentation).

State Level Conference/Seminar (Oral Presentation):

1. “Blue Emitting Europium doped Di-strontium Magnesium Di-Silicate Long Afterglow Phosphor by Solid State Reaction Method”, 28 February –1 March 2015, 13th Chhattisgarh Young Scientist Congress -2015, Chhattisgarh Council of Science and Technology, Raipur & Indira Gandhi Krishi Vishawavidyalaya, Raipur (C.G.)
2. “Luminescent Properties of R⁺ doped Sr₂MgSi₂O₇:Eu³⁺ (R⁺ = Li⁺, Na⁺ and K⁺) Orange- Red Emitting Phosphors”, 28-29 February 2016, 14th Chhattisgarh Young Scientist Congress -2016, Chhattisgarh Council of Science and Technology, Raipur & Bilaspur University, Bilaspur (C.G.)
3. “Generation of White Light From Dysprosium Doped Calcium Zirconate Phosphors Prepared by Solid State Reaction Method”, 28 February –1 March 2017, 15th Chhattisgarh Young Scientist Congress -2017, Chhattisgarh Council of Science and Technology, Raipur & Chhattisgarh Swami Vivekananda Technical University, Bhilai

Resource Person:

1. “Professionalism in Teaching” 21 days Service Course Training Program, Jawahar Navodaya Vidyalaya, Amarkartak, Madhya Pradesh.
 2. “Materials Science: Structural and Optical Characterization Techniques” National Webinar on Relishing Physics: during covid-19, Govt. Rajeev Lochan PG College, Rajim, District-Gariaband, Chhattisgarh.
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