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List of Publications

Following are the list of published and communicated research papers during PhD work:

Research Articles

1. **Sachin Singh**, Santosh Kachhap, Manisha Sharma, and Sunil Kumar Singh. "Enhancing the temperature sensing property of a $Ca_{0.79-x}Bi_xEr_{0.01}Yb_{0.2}MoO_4$ phosphor via local symmetry distortion and reduction in non-radiative channels." *RSC advances* 13, no. 22 (2023): 14991-15000.

2. **Sachin Singh**, Santosh Kachhap, Akhilesh Kumar Singh, Sasank Pattnaik, and Sunil Kumar Singh. “Temperature sensing using bulk and nanoparticles of $Ca_{0.79}Er_{0.01}Yb_{0.2}MoO_4$ phosphor.” *Methods and Applications in Fluorescence* 10, no. 4 (2022): 044004.

3. M. Sharma, J. N. Mishra, **S. Singh**, P. Singh, S. K. Singh, and P. Singh, “Tm^{3+}/yb^{3+}: $NaGdF_4$ nanoparticles decorated g-c_3n_4/$biobr_{0.75}i_{0.25}$ multicomponent heterostructure: Structural, optical properties and uv–visible-nir responsive photocatalytic degradation of rhodamine b and reduction of cr(vi),” Materials Research Bulletin, vol. 178, p. 112 884, 2024, issn: 0025-5408.

4. H. Thakur, **S. Singh**, A. K. Gathania, S. K. Singh, and R. K. Singh, “Effect of $li^+/k^+/zn^{2+}$ doping on the optical and temperature sensing properties of tm^{3+} and yb^{3+} doped yvo_4 phosphor,” Ceramics International, vol. 49, no. 15, pp. 25 935–25 944, 2023, issn: 0272-8842.

5. H. Thakur, **S. Singh**, A. K. Gathania, S. Kumar Singh, I. Kumar, and R. Kumar Singh, “Impact of varying li^+ concentration on the upconversion emission and temperature sensing characteristics of yvo_4: Tm^{3+}/yb^{3+} phosphor,” Inorganic Chemistry Communications, vol. 158, p. 111 495, 2023, issn: 1387-7003.

6. C. Dubey, A. Yadav, D. Baloni, **S. Singh**, A. K. Singh, S. K. Singh, and A. K. Singh, “Multi-stimuli-responsive and dynamic color tunable security ink for multilevel anticounterfeiting,” Methods and Applications in Fluorescence, vol. 11, no. 2, p. 025 001, Mar. 2023.

7. Santosh Kachhap, **Sachin Singh**, Akhilesh Kumar Singh, and Sunil Kumar Singh. "Lanthanide-doped inorganic halide perovskites ($CsPbX_3$): novel properties and emerging applications." *Journal of Materials Chemistry C* 10, no. 10 (2022): 3647-3676.

Manuscripts under review

1. **S. Singh** and S. K. Singh, Exploiting $CaMoO_4:Ho^{3+}/Tm^{3+}/Yb^{3+}$ optical characteristics for NTCLs based temperature sensing and vibrant LFPs development. 2024, (Manuscript number: JALCOM-D-24-19238).

Book Chapter

1. P. Singh, **S. Singh**, P. Singh, and S. K. Singh, "Application of upconversion in photocatalysis and photodetectors," Upconverting Nanoparticles: From Fundamentals to Applications, pp. 347–373, 2022.

Conference/Workshop Attended during PhD.

1. Poster Presentation on 4th International Conference on "**Materials Sciences (ICMS-2024)**" 21st January – 2nd February 2024, Tripura University (A Central University), Agartalla (India).
2. Oral Presentation on International Conference "**Advances in Spectroscopic Techniques and Materials (ASTM 2024)**" 18th – 20th January 2024, IIT ISM, Dhanbad Jharkhand (India).
3. Oral Presentation on "**2nd International Conference and Expo on Lasers, Optics & Photonics**" 9th -11th October 2023.Holiday Inn Barcelona Sant Cugat, Barcelona (Spain).
4. Oral presentation on Conference "**2nd National Conference on Advance Nanomaterials and Applications (ANA-2023)**" 20th – 22nd March 2023, Central University of South Bihar, Bihar (India).
5. Poster Presentation on Conference "**International Conference on Smart Material for Sustainable Technology-II (SMST-2022)**" 13th -16th October 2022, IIT Bombay, Mumbai (India).
6. Oral presentation on Conference "**X-ray and Ion-Scattering Methods for Material Characterization (DST-SERB Karyashala Program)**" 13th -20th June, 2022, IIT Bhubaneswar, (India).
7. Poster Presentation on Conference "**International Conference on Advanced Material for Better Tomorrow (AMBT-2021)**" 5th -8th May 2021, IIT BHU, Varanasi, (India).