



Dr. Manoj Ku. Mahapatra – Ph. D.

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Designation : Senior Assistant Professor
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RESEARCH INTERESTS

- Nano-Metal matrix Composites, Tribology
- Wire-EDM, Wear, Optimization

Academic Qualifications

- Ph. D. (Nano Science, Sambalpur University, Burla, Odisha, India)
- M. Tech. (Mechanical Engineering) VSSUT Burla, Odisha, India

Teaching Experience/Industrial Experience/Research Experience

Teaching Experience – 28 years+

Research Experience – 7 years

PUBLICATIONS

JOURNALS

1. **Manoj Kumar Mahapatra**, Payodhar Padhi, Jayadev Rana, Biswajit Satpathy, A WEDM Investigation of Alumina-Metal Matrix Nanocomposites Fabricated by Non-Contact Ultrasonic Cavitation Method by Multi-Response Signal-to-Noise ratio (MRSN) Approach. Industrial Engineering Journal. 15.10. 741-753 (2022).
2. **Manoj Kumar Mahapatra**, Vyjainto Kumar Ray, Jayadev Rana, Biswajit Satpathy, Sliding wear characteristics through an artificial neural network of alumina-aluminum nano-composite produced by non-contact ultrasonic cavitation method, Advances in Mechanics. 10.1. 1457-1470 (2022)
3. Shadangi, N., Satpathy, P., Panda, A., & **Mahapatra, M. K.** (2025, January). Study of impurity effect on strongly correlated heavy fermion system and to explore influence of the interaction of phonon with 'f' and 'd' electrons on resistivity a small 'q' and finite 'T' analysis. In AIP Conference Proceedings (Vol. 3198, No. 1). AIP Publishing. DOI : <https://doi.org/10.1063/5.0248508>

CONFERENCE PAPERS PRESENTED

1. **Manoj Kumar Mahapatra**, Payodhar Padhi, Biswajit Satpathy, Study of processing parameters of hybrid Nano-alumina reinforced aluminum metal matrix composites with wire cut EDM. National Conference on Advances in Condensed Matter Physics (ACMP-2020). Post Graduate

Department of Physics, Government (Autonomous) College, Angul, Odisha, India during 3rd -4th December 2022.

2. **Manoj Kumar Mahapatra**, Jayadev Rana, Biswajit Satpathy, Tribological characteristics of Metal matrix nano composite prepared by non contact solidification cavitations method. 4th International Conference on Processing and Characterization of Materials (ICPCM-2022). Department of Metallurgical and Materials Engineering. NIT, Rourkela during 9th -11th December 2022.
3. **Manoj Kumar Mahapatra**, Jayadev Rana, Biswajit Satpathy, MRSN-based Multi-response Optimization of Wire EDM parameters for Aluminium Silicon Carbide Metal matrix Nano Composites. 50th National Symposium on Acoustical Science (NSA-2023) "Emerging Trends in Acoustical science, Design and Technology. Department of Physics and Architecture, VSSUT, Burla, Odisha and Acoustical Society of India (ASI) during 24th -26th February 2023.
4. Namita Shadangi, Prayasha Satpathy, Ambarish Panda, **Manoj Kumar Mahapatra**, Study of impurity effect on strongly correlated heavy fermion system and to explore the interaction phonon with f and d electrons on resistivity a small q and finite T analysis. 67th DAE Solid State Physics Symposium (DAE SSPS 2023) held at Gandhi Institute of Technology and Management (GITAM), Visakhapatnam, India, during December 20-24, 2023
5. **Manoj Kumar Mahapatra**, Jayadev Rana, Biswajit Satpathy, Synthesis and Characterization of Al₂O₃ and SiC Nanoparticle-Reinforced IE-07 Aluminium Nanocomposites Using Ultrasonic Cavitation Casting Technique. National Seminar on "Recent Development in Frontiers of Physics" (RDFP-2024). School of Physics (Autonomous), Sambalpur University, Burla, Odisha, during March 15-16, 2024