

Faculty Academic Resume

- **Name:** Dr. Harsha Pawar
- **Designation:** Guest Faculty
- **Department:** Physics
- **Academic Qualifications:** Ph.D. (Physics)
- **Specialization:** Solid State Physics
- **Teaching Experience:** 10 years

- **Key Responsibilities Held**

| S.No | Designation | Cell/Committee/Criteria |
|------|-------------|-------------------------|
| 1. | | |
| 2. | | |

- **Academic Event Management**

| S.No | Name of Seminar/FDP/Conference/Workshop | Date | Role |
|------|--|--------------|------------------|
| 1. | Workshop on Electronic Instrumentation Handelling by Sadhu Vaswani Autonomous College Bhopal | 2017 | Committee Member |
| 2. | National Webinar National Education Policy and Vocational Curriculum by Veer Rengu Korku Govt College, Khaknar, Burhanpur | 11 June 2024 | Committee Member |
| 3. | National Webinar Different dimension of personality development, Veer Rengu Korku govt college, Khaknar, Burhanpur | 24-Aug-2023 | Committee Member |

- **Research Profiles:**

- Google Scholar: [Link] - <https://scholar.google.com/citations?user=L-68vAAAAAJ&hl=en>
- ORCID ID: [Link] - <https://orcid.org/0009-0007-9009-650X>

- **Publications:**

1. First Principles Study of Structural and Electronic Properties of ErX (X=Cu, Ag and Au) Intermetallics. Mani Shugani, **Harsha Pawar**, Mahendra Aynyas, and Sankar P. Sanyal *Advance Material and Research*, 1141 (2016) 72-83.
2. Structural and Electronic Properties of NdX (X=As and Sb) Monopnictides, **Harsha Pawar**, Mani Shugani, Nikita Acharya, Mahendra Aynyas, and Sankar P. Sanyal. *AIP Conference Proceedings* 1942 (2018) 090009-1-4.

3. Structural, electronic and elastic properties of heavy Fermion YbRh₂ Laves phase Compound. **Harsha Pawar**, Mani Shugani, Mahendra Aynyas, and Sankar P. Sanyal *AIP Conference Proceedings* 1953 (2018) 110039-1-4.
4. Structural, Electronic and Elastic Properties of Heavy Fermion YbTM₂ (TM= Ir and Pt) Laves Phase Compounds. **Harsha Pawar**, Mani Shugani, Mahendra Aynyas, and Sankar P. Sanyal, *IOP Conf. Series: Materials Science and Engineering* 310 (2018) 012054-1-6.
5. Electron-phonon interaction and superconducting behaviour of ZrB and HfB: A First Principle study. Deepika Shrivastava, **Harsha Pawar**, Nikita Acharya, Sankar P. Sanya, *IOP Conf. Series: Materials Science and Engineering* 310 (2018) 012023-1-7.
6. Localization effect of *f*-electron of heavier rare-earth atoms in RENi₂ (RE=Dy, Ho and Er) Laves phase compounds. **Harsha Pawar**, Mani Shugani, Mahendra Aynyas and Sankar P. Sanyal, *Computational Condensed Matter* 16 (2018) e00316-1-9,
7. Thermoelectric properties of rare-earth based RENi₂ (RE=Dy, Ho and Er) Laves phase Compounds. **Harsha Pawar**, Mahendra Aynyas and Sankar P. Sanyal, *Journal of Magnetism and Magnetic Materials* 468 (2018) 123–131,
8. Electronic, Phonon and Superconducting Properties of MgHg and CaHg Compounds: A DFT Approach. **Harsha Pawar**, Deepika Shrivastava, Nikita Acharya, Mani Shugani, Mahendra Aynyas, Sankar P. Sanyal, *International Journal of Latest Trends in Engineering and Technology* Special Issue I CRMR (2018) 089-092.
9. Electronic Structure and Thermoelectric Properties of NaMgP Half-Heusler Compound With 8 Valence Electrons Count. Deepika Shrivastava, Nikita Acharya, **Harsha Pawar**, Sankar P. Sanyal, *International Journal of Latest Trends in Engineering and Technology* Special Issue ICRMR (2018) 011-014.
10. Structural and Electronic Properties of REOs₂ (RE=Sm, Gd) MgZn₂-type Laves Phase Compounds. Nikita Acharya, Deepika Shrivastava, **Harsha Pawar**, Sankar P. Sanyal *International Journal of Latest Trends in Engineering and Technology* Special Issue ICRMR (2018) 093-095.
11. Electronic Structural, Lattice Dynamics and Superconducting Properties of TiFe Intermetallic Compound: A First-Principles Study. **Harsha Pawar**, Mani Shugani, Mahendra Aynyas and Sankar P. Sanyal, *AIP Conference Proceedings* 2115, 030336 (2019)
12. Electronic Structure, Lattice Dynamics and Superconducting Properties of Mercury-Alkaline Earth Metal Compounds: A First-Principles Study. **Harsha Pawar**, Mahendra Aynyas, Mani Shugani and Sankar P Sanyal *Journal of Superconductivity and Novel Magnetism* (2019), 1-6
13. Structural stability, electronic and thermoelectric properties of ruthenium silicide
N Acharya, H Pawar, SP Sanyal *Journal of Alloys and Compounds* 826, 154164 (2020)
14. First-principles investigation of structural, electronic and mechanical properties of some Dysprosium chalcogenides, DyX (X= S, Se and Te) SN Tripathi, V Srivastava, **H Pawar**, SP Sanyal *Indian Journal of Physics* 94 (8), 1195-1201 (2020)
15. Structural phase transition, electronic and thermoelectric properties of osmium silicide

N Acharya, **H Pawar**, SP Sanyal *AIP Conference Proceedings* 2265 (1), 030439 (2020)

16. Thermoelectric response of anti-fluoride Sr₂Ge semiconducting material: A first-principles study **H Pawar**, N Acharya, M Shugani, M Aynyas, SP Sanyal
AIP Conference Proceedings 2265 (1), 030438 (2020)
17. Thermoelectric response of CsGeCl₃ perovskite halide compound: A potential material for device application **H Pawar**, N Acharya, M Shugani, M Aynyas, SP Sanyal
AIP Conference Proceedings 2800 (1), 020085 (2023)
18. Transport Properties of Bismuth Telluride and MoS₂ Composites. Poonam Khade, Toshi Bagwaiya, **Harsha Pawar**, Shovit Bhattacharya and Vilash Shelke, *Taylor & Francis* ISBN 978-1-041-16452-4 (2026)

- **Conferences/Seminars/Workshops/Webinar Attended**

| S.No | Program Name | Program Title | Date |
|------|------------------------------------|---|----------------------|
| 1. | National conference | Recent Trends in Science of Materials, (<i>NCSM-2K15</i>), held at Maharaja Sayajirao University of Baroda, Gujart | December 28-30, 2015 |
| 2. | Workshop | Electronic Instrumentation in I.E.H.E. Bhopal | 2015 |
| 3. | National conference | Simulation, Fabrication & Testing of Electronic Circuits by Measuring Instruments IEHE Bhopal | 8-13 Feb 2016 |
| 4. | National conference | Current Trends in Advanced Materials, (<i>NCCTAM-2K16</i>), Govt. Narmada P.G. College, Hoshangabad (M.P.) | 29-30 January 2016 |
| 5. | International Conference | Condensed Matter and Applied Physics, (<i>ICC-2017</i>) at Govt. Engineering College, Bikaner, Rajasthan | November 24–25, 2017 |
| 6. | International Conference | Advanced in Materials and Manufacturing Application (<i>IconAMMA-2017</i>), held at Amrita Vishwa Vidyapeetham University, Bangalore | August 17-19, 2017 |
| 7. | International Conference/Symposium | 62 nd DAE Solid State Physics Symposium (<i>DAE SSPS-2017</i>) at Bhabha Atomic Research Centre, Trombay, and Mumbai, India | 26- 30 Dec, 2017 |
| 8. | Workshop | MATLAB and Its applications in Computer Intelligence by Maulana Azad National Institute of Technology (MANIT Bhopal). | 14-19 Dec 2017 |
| 9. | International Workshop | Evolution of Electronic Structure Theory and Experimental Realization (<i>EESTER-2018</i>) SRMIST and IIT Madras, India | 11-15 September 2018 |
| 10. | International Conference/Symposium | 63 rd DAE Solid State Physics Symposium (<i>DAE SSPS-2018</i>) at Guru Jambheshwar University Hisar, Haryana, India. | 18-22 December 2018 |

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| 11. | International Conference | Recent Multidisciplinary Research (<i>ICRMR-2018</i>) at Kuala Lumpur, Malaysia | 22-23 June 2018 |
| 12. | International Conference/ Symposium | 64 nd DAE Solid State Physics Symposium (<i>DAE SSPS-2019</i>) at IIT Jodhpur, India | 18-22 December 2019. |
| 13. | Seminar | Research Seminar on Internal Quality Assurance Cell, Barkatullah University Bhopal, India | 18-19 March 2019 |
| 14. | M. P. Young Scientist Congress | 34 th M. P. Young Scientist Congress (MPYSC-2019) organized by M.P Council of Science & Technology, Bhopal, at Rajiv Gandhi Proudyogiki Vishwavidyalaya Bhopal on | 28-Feb-01 March 2019. |
| 15. | National conference | RESINNOVATIVE-1: Emerging Trends and Innovations in Sciences by IEHE Bhopal and MPCST-Bhopal | 28 Jan 2020 |
| 16. | International Conference | Material for emerging Technology (ICMET-21), Lovely professional University, Jalandhar, Phagwara, Panjab | 18-19 Feb 2022 |
| 17. | National Webinar | Different dimension of personality development, Veer Rengu Korku govt college, Khaknar, Burhanpur | 24-Aug-2023 |
| 18. | National Webinar | Skill Based Learning & Employability at Govt College Dhulkot | 29 Aug 2023 |
| 19. | FDP | NEP 2020 Orientation and Sensation Program organised by Mission Malviya Teachers Training Centre, DAVV Indore | 16-17 Dec 2023 |
| 20. | FDP | Faculty Development Programme on AI in Practice by Mission Malviya Teachers Training Centre for Science and Society, IISER Bhopal | 27 Sep to 04 Oct 2024 |
| 21. | National Webinar | National Education Policy and Vocational Curriculum by Veer Rengu Korku Govt College, Khaknar, Burhanpur | 11 June 2024 |
| 22. | National Webinar | Indians in the Environment of Education Institute at Govt College Dhulkot | 13-June 2024 |
| 23. | International Conference | Recent Trends in Applied physics and Material Science (RAM-2024) by Bikaner Technical University, Rajasthan | 15-16 Nov 2024 |
| 24. | National Webinar | Recent Trends of E- Content for the development of Higher Education at Govt College Dhulkot | 31Oct 2025 |
| 25. | National Webinar | New Education Methods and Digital Education by PMCOE, P.J.N. College Napanagar | 26 Oct 2025 |
| 26. | International Conference | Interdisciplinary Approaches in Science, Engineering & Technology (ICASSET-2025) by Sagar Institute of Research & Technology- Excellence, Bhopal | 24-25 July 2025 |

- **Patent/Books / Book Chapters:**

1. Name of Patent /Article-**Transformer Cooler System**

Dr. Ekta Jain, Prof. Kshitij Yugbodh, **Dr. Harsha Pawar**, Dr. Yogesh ASgawal, Dr. Ruchi Singh, Dr Vaishali Deshmukh, Dr. Ranjana Singh Tomar, Mr. Raj Vishwakarma
Design No. 427893-001, Date-22/08/2024

- **Research Interests:**

- First Principles Study, Density Functional Theory
- Electronic Properties, Elastic Properties, Thermoelectric Properties,
- superconductivity and phonon study

- **Awards / Achievements:(State And National Level)**

- Participated in **State Adventure Camp (20-24 Nov 2011)** in a college event.
- Participated and Present research paper in International Conference on Recent Multidisciplinary Research (**ICRMR-2018**) in **Kuala Lumpur, Malaysia.**
- Junior Research Fellowship
(**JRF-MPCST**) **(May-2018)**
By Madhya Pradesh Council of Science and
Technology (MPCST) Bhopal – 462003
- Fellowship for Training of Young
Scientist Award (**FTYS-MPCST**) **(February-2019)**
By Madhya Pradesh Council of Science
And Technology (MPCST), Bhopal- 462003