

Name of Teaching Staff : Poonam Suresh Deshmukh  
Designation : Assistant Professor  
Department : Mechanical Engineering  
  
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Google Scholar Link : <https://scholar.google.com/citations?user=T2Eg5eAAAAAJ&hl=en&oi=sra>

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Publons Researcher ID :

Qualifications with Class / Grade : M.Tech. (First class with Distinction), PhD (Thesis Submitted)

Total Experience in Years : 00

- Papers Published in Journal: :
1. Poonam Deshmukh, Krishna Tomar, Dan Sathiaraj, IA Palani, “Optimum Strength and Ductility of Pure Copper Fabricated by Wire Arc Additive Manufacturing”, Manufacturing Letters 33(2022). <https://doi.org/10.1016/j.mfglet.2022.06.005>.
  2. Poonam Deshmukh, Sunil Yadav, Dan Sathiaraj, CP Paul, “Nano to Macro-Mechanical Properties of Laser Directed Energy Deposited CoCrNi Medium Entropy Alloy”, Materials Today Communications 35(2023): 106351. <https://doi.org/10.1016/j.mtcomm.2023.106351>
  3. Poonam Deshmukh, Dan Sathiaraj, Sunil Yadav CP Paul, “Effect of Interlayer Scan Rotation on StructureProperty Relationship of Direct Energy Deposited CoCrNi Medium Entropy Alloy”, Materials Characterization 216 (2024): 114281. <https://doi.org/10.1016/j.matchar.2024.114281>.
  4. Poonam Deshmukh, Dan Sathiaraj, CP Paul, “Effect of Co-content on Microstructure, Phases, and Mechanical Properties of Laser Additive Manufactured Cox(CrNi)100-x alloy”, Journal of Alloys and Compounds 1005(2024): 176139. <https://doi.org/10.1016/j.jallcom.2024.176139>.
  5. Poonam Deshmukh, Rajendra Goud, Dan Sathiaraj, “Strength-Ductility Synergy in a Non-equiatomic Co-CrNi Medium Entropy Alloy Wall Structure Deposited Using Twin-Wire Arc Additive

Manufacturing”, Materials Chemistry and Physics 327 (2024):129917.  
<https://doi.org/10.1016/j.matchemphys.2024.129917>.

6. Poonam Deshmukh, Dan Sathiaraj, Michael Johanes, Manoj Gupta. “Effect of Cyclic Cryogenic Treatment on Pure Magnesium and the effect of Nano ZnO Particles”. Progress in Composite Materials 1(1) (2025):100003. <https://doi.org/10.53941/pcm.2025.100003>
7. Poonam Deshmukh, Ambar Choubey, A. N. Jinoop, C. P. Paul, S. S. Mohite, and K. S. Bindra. "Laser Polishing of Laser Additive Manufactured Hastelloy-X: Parametric Dependence and Process Optimization." In Advances in Materials and Mechanical Engineering: Select Proceedings of ICFTMME 2020, pp. 339-346. Springer Singapore, 2021. [https://doi.org/10.1007/978-981-16-0673-1\\_27](https://doi.org/10.1007/978-981-16-0673-1_27)
8. Poonam Deshmukh, Dan Sathiaraj, “A Review on Twin Wire Arc Additive Manufacturing of Metals and Alloys: Microstructure and Mechanical Properties”, Advances in Materials and Mechanical Engineering (2021). [https://doi.org/10.1007/978-981-16-7787-8\\_5](https://doi.org/10.1007/978-981-16-7787-8_5).
9. Poonam Deshmukh, Dan Sathiaraj. “Microstructure, mechanical properties, and strain rate sensitivity of vacuum arc melted CoCrNi medium entropy alloy”. Materials Today: Proceedings (2023). <https://doi.org/10.1016/j.matpr.2023.02.015>.
10. Poonam Deshmukh, Abhinav Katiyar, Anshu Sahu, Dan Sathiaraj, IA Palani, Avinash Sonawane, “Wire Arc Additive Manufacturing of Commercially Pure Titanium Bio-medical Alloy”, Materials Today: Proceedings (2023). <https://doi.org/10.1016/j.matpr.2023.03.346>

#### Papers Presented in Conferences

#### Area of Specialization

Advanced Manufacturing, Additive Manufacturing, Laser Material Processing

#### PhD Guide ? Give field & University

: **Field:** Metal Additive Manufacturing, Wire Arc Additive Manufacturing, Laser Shock Peening, Medium and High Entropy Alloys  
**University:** Indian Institute of Technology Indore

#### PhDs / Projects Guided

: **PhDs :**  
**Projects at**  
**Masters level:**

#### Books Published / IPRs / Patents

: Books (Editors for conference Proceedings on Springer)

#### Professional Memberships

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|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grants fetched                               | : Minor Research Grant<br>(University of Mumbai)                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Interaction with Professional Institutions   | : <b>Other Achievements and Responsibilities:</b>                                                                                    | <p>Volunteered in Wire Arc Additive Manufacturing Karyashala, sponsored by SERB under Accelerate Vigyan Program organized by Dr. Dan Sathiaraj at Indian Institute of Technology Indore, 24 to 30 June 2023.</p> <p>Attended five days TEQIP III sponsored program on Research Methodology for Beginner Researchers, organized by Indian Institute of Technology Bombay, India, during 14 - 18 September 2019.</p> <p>Two days TEQIP-III sponsored workshop on Basic Programming on CNC Lathe and Milling, conducted at Centre for Skilling and Technical Support at Sambhajinagar, Maharashtra, under Department of Chemicals &amp; Petrochemicals, Government of India, 25 - 56 February 2019.</p> |
|                                              | <b>Research Experience:</b>                                                                                                          | <p>Visiting Scholar (March 2024 - May 2024) at dept. of mechanical engg., National University of Singapore (NUS), Singapore: Worked on cryogenic treatment of Mg and Mg-ZnO metal matrix composites and microstructure-property.</p> <p>M.Tech Dissertation Project Intern (August 2019 – June 2020) at Laser additive manufacturing lab, Raja Ramanna centre for advanced technology (RRCAT), Indore: Laser polishing of LDED-built Hastelloy-X superalloy</p>                                                                                                                                                                                                                                      |
| Subjects Taught                              | <b><u>UG Level: 00</u></b><br><b><u>PG Level: 00</u></b>                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Projects Guided                              | : <b><u>UG Level:</u></b> Mentored 03 BTech Projects (during PhD)<br><b><u>PG Level:</u></b> Mentored 05 MTech Projects (during PhD) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Recommended Students for Higher Education    | <b><u>Name of the Student</u></b>                                                                                                    | <b><u>University/Industry</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Institute/Department Responsibility handled: | 00                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Pedagogy Development                         | NA                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |