

## Department of Mechanical Engineering, NIT Raipur

### Research Grants

| S.No.                                     | No & Title of The Project                                                                                                                                                                                                                                              | Co-Ordinators                                        | Research Grant | Funding Agency            | Year Of Sanction | Current Status   |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------------|---------------------------|------------------|------------------|
| <b>(A) Externally Sponsored Projects:</b> |                                                                                                                                                                                                                                                                        |                                                      |                |                           |                  |                  |
| 1                                         | <b>NITRR/RP/ Electrical/2022/</b> : 3D Printed substrate Integrated Hollow Waveguide based Photoacoustic Interferometry for eNO detection                                                                                                                              | Dr. Srinivasu G. (Co-PI)                             | 57,81,864/-    | SERB, DST, Govt. of India | 2022             | On Going         |
| 2                                         | <b>NITRR/RP/ Mech/2021/151:</b> Development of a Framework for Successful Knowledge Management Implementation in Steel Industry in Developing Countries                                                                                                                | Dr. Suraj Mukti                                      | 13,53,648/-    | SERB, DST, Govt. of India | 2022             | On Going         |
| 3                                         | <b>UTR. 8652101029080,</b> Development of cross flow turbine for rural electrification                                                                                                                                                                                 | Dr. Vivek Kumar Gaba & Dr. Sudhakar Pandey           | 50,000/-       | CRDT, UBA, Delhi          | 2021             | On Going         |
| 4                                         | <b>NITRR/RP/Mech/2021/139:</b> Development of Eco- Friendly Bricks/ Particle Boards from Waste natural Resources for Low-Cost Housing Structures: A Green Manufacturing Technology for Rural Industrialization and Entrepreneurship Development in Chhattisgarh Region | Dr. Jagdish & Dr. Sudhakar Pandey                    | 1,00,000/-     | CRDT, UBA, Delhi          | 2021             | Completed (2022) |
| 5                                         | <b>NITRR/RP/Mech/2021/140:</b> Skill Development Campaign for Low –Cost Bamboo-Based Skewer Sticks Making Technique in Bendri Village of Chhattisgarh                                                                                                                  | Dr. Jagdish & Dr. Sudhakar Pandey                    | 50,000/-       | CRDT, UBA, Delhi          | 2021             | Completed (2022) |
| 6                                         | <b>NITRR/ RP/Mech/ 2018/ 93:</b> Experimental Investigation and Modelling of Ultrasonic Jet Electrodeposition and Machining for micro part Fabrication                                                                                                                 | Dr. Mridul Singh Rajput & Dr. H. K. Narang           | 31,05,093/-    | SERB, DST, Govt. of India | 2018             | Completed (2021) |
| 7                                         | <b>AR&amp;DB/01/1051914/M/I,</b> Design analysis of adhesively bonded composite patch repair of cracked aluminum aircraft panels                                                                                                                                       | Dr. Somnath Bhattacharya (Co-PI)                     | 14,34,000/-    | ARDB, DRDO                | 2019             | Completed (2021) |
| 8                                         | <b>CSVТУ/CRPTEQIP-III/95,</b> Dated 05 Oct 2019, Development of Functionally graded material and mechanical object disk                                                                                                                                                | Dr. Sanjay Singh, Lakshman Sondhi, & Dr. S. Bhowmick | 2,00,000/-     | CSVТУ                     | 2019             | Completed (2020) |
| 9                                         | <b>NITRR/ RP/Mech./2016/ 67:</b> Characterization of Strain Induced Behaviours of Electro- active Polymers (EAP) for Sensor and Actuator Applications                                                                                                                  | Dr. Raj Kumar Sahu                                   | 31,52,600/-    | SERB, DST, Govt. of India | 2016             | Completed (2020) |

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| 10 | <b>CCOST/2230/CCOST/MRP/15</b> dated 23.12.2015. Development, characterization of functionally graded material with self-lubrication property for cutting tool application                          | Dr. Raj Kumar Sahu & Dr. Srinivasu G.                            | 3,50,000/-  | CGCOST | 2015 | Completed (2019) |
| 11 | <b>UNICEF/2500232086</b> , Design and validation of existing bike-based patient carrier and proposing design of bike trailer assembly                                                               | Dr. S. Bhowmick & Dr. Govardhan Bhat                             | 10,00,000/- | UNICEF | 2015 | Completed        |
| 12 | <b>CCOST/MRP/14</b> , Determination of Operating Conditions for hydro-transport of mineral slurry based on wall shear stress and head loss measurement for mineral industries of Chhattisgarh State | Dr Shobha Lata Sinha & Dr. Satish Kumar Dewangan                 | 5,00,000/-  | CGCOST | 2014 | Completed (2016) |
| 13 | Strategies for Effective Environmental Management in Thermal Power Plants in Chhattisgarh                                                                                                           | Dr. A.M. Rawani (NITRR), & Mr. Jeetendra Tiwari, (SSCET, Bhilai) | 5,00,000/-  | CCOST  | 2013 | Completed        |

### **(B) SEED Grant Projects NIT Raipur:**

|    |                                                                                                                                                                                                              |                         |            |            |      |                  |
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| 14 | <b>NITRR/Seed Grant/2021-22/37</b> , "Manufacturing of High-Strength and Corrosion-Resistant Hastelloy C-276 Stirrer For Petrochemical Industries".                                                          | Dr. Kalinga Simant Bal  | 5,00,000/- | NIT Raipur | 2022 | On Going         |
| 15 | <b>NITRR/Seed Grant/2021-22/39</b> , "Synergetic Impact of Pioneer UVMC Setup on Weldability of 316Ti Austenitic Stainless Steel and Inconel 718 Superalloy Welds".                                          | Dr. Sanjeev Kumar       | 5,00,000/- | NIT Raipur | 2022 | On Going         |
| 16 | <b>NITRR/Seed Grant/2021-22/40</b> , "Model Analysis of Isotropic and Composite Plate".                                                                                                                      | Dr. Ankur Gupta         | 4,70,000/- | NIT Raipur | 2022 | On Going         |
| 17 | <b>NITRR/Seed Grant/2021-22/78</b> , "Study of Modern Industrial Air Purification and Sterilization Techniques"                                                                                              | Dr. Anuj Kr. Shukla     | 4,65,000/- | NIT Raipur | 2022 | On Going         |
| 18 | <b>NITRR/Seed Grant/2019-20/002</b> , "Development and Characterization of Machining Properties of Green Composites from Selected Indian (Chhattisgarh Resign) Cultivars Using Green Manufacturing Process". | Dr. Jagdish             | 4,80,000/- | NIT Raipur | 2019 | Completed (2021) |
| 19 | <b>NITRR/Seed Grant/2016-17/004</b> , "Experimental Investigation and Modelling of Micro Milling Assisted Ultrasonic Jet Electrodepositing (MAUJE) for Micro Part Fabrication".                              | Dr. Mridul Singh Rajput | 4,47,000/- | NIT Raipur | 2017 | Completed (2021) |

### **Abbreviations:**

**SERB:** Science and Engineering Research Board,

**ARDB:** Antibiotic Resistance Genes Database,

**CCOST/CGCOST:** Chhattisgarh Council of Science & Technology, **SEED:** Science for Equity Empowerment and Development Division, DST

**CRDT, UBA:** Centre for Rural Development & Technology, Unnat Bharat Abhiyan

**CSVU:** Chhattisgarh Swami Vivekanand Technical University