

# Kishore Babu Kancherla

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LinkedIn | GitHub | Google Scholar | Research Gate



## Professional Experience

### Integrative Multi-scale Engineering Materials and Systems (iMEMS) Lab

Department of Aerospace Engineering, Indian Institute of Science (IISc), Bangalore, KA, India

#### Project Scientist – III

Apr 2024 – till date

#### Project Scientist – II

June 2022 – Mar 2024

#### Project Scientist – I

Apr 2022 – May 2022

Experienced professional with about a decade of proven expertise in Project coordination, Grant writing, and Experimental design. Skilled in Testing, Quality optimization, Stakeholder management, Technical documentation, Lab development and Asset maintenance with a strong focus on adopting lean methodologies, Six Sigma principles, and agile project management for projects funded by Boeing, Shell, ISRO, SERB, ADA, DRDO, and others.

#### Project Associate

May 2015 – Nov 2019

#### Research Associate – II

Dec 2019 – Sep 2020

#### Research Associate – III

Oct 2020 – Mar 2022

### Cognizant Technical Solutions India Pvt Ltd., Chennai, TN, India

#### Programmer Analyst

Jan 2015 – Mar 2015

Software quality assurance: Designing, Planning, and Executing test cases, Collaborating with developers and product managers

## Educational Credentials

### Integrated Dual Degree

MTech and BTech (Hons.)

IIT (BHU), Varanasi, 2014

### Materials Science and Technology

Thesis: 'Synthesis, Characterization and Microwave Absorption Properties of Nanocrystalline Perovskites'

## Skills and Competencies

### Technical

→ Process Design and Data Analysis	<ul style="list-style-type: none"><li>Root Cause Analysis</li><li>FMEA, Measurement System Analysis (MSA)</li><li>Hypothesis testing, ANOVA</li><li>Design of Experiments (DoE)</li></ul>	<ul style="list-style-type: none"><li>SWOT analysis</li><li>Graphical Tools</li><li>Statistical Process Control (SPC)</li><li>Value Stream Mapping (VSM)</li></ul>
→ Functional Testing	<ul style="list-style-type: none"><li>Material Property Characterization – Physical, Microstructure, Phase, Mechanical, Thermal, Electro-magnetic, Non-destructive (NDT) as per ASTM, ISO, IEEE, ASME, MIL, FAA standards</li></ul>	
→ Advanced Manufacturing	<ul style="list-style-type: none"><li>Advanced Polymer Composites (CFRP, GFRP, Sandwich, Hybrid, Natural)</li><li>Additive Manufacturing (FDM, LIM, LPBF)</li></ul>	<ul style="list-style-type: none"><li>Nanomaterial Synthesis etc. (Sol-gel, GNP)</li><li>Sensor Manufacturing (PZT, PVDF, CNT)</li></ul>
→ Grant Writing	<ul style="list-style-type: none"><li>Comprehensive literature reviews</li><li>Identification of technology gaps</li><li>Formulation of objectives and methodologies</li><li>Drafting detailed project proposals</li></ul>	<ul style="list-style-type: none"><li>Collaboration with interdisciplinary teams</li><li>Preparation of budget estimates</li><li>Compliance with submission guidelines</li></ul>
→ Software	<ul style="list-style-type: none"><li>Technical documentation (MS O365)</li><li>Project Management (SharePoint, Planner, Trello, Jira)</li></ul>	<ul style="list-style-type: none"><li>Data Analysis (MATLAB, Excel, Minitab, SQL)</li><li>Data Visualization (MATLAB, ORIGIN, Excel, Power BI)</li></ul>

### Management

- Waterfall, Agile (Scrum, Kanban)
- Critical Thinking
- Problem Solving
- Planning and Execution
- Effective Communication
- Cross-functional Team Management
- Continuous Process Improvement
- Cost Benefit Analysis

### Professional Certifications

- Lean Six Sigma Black Belt (The Council for Six Sigma Certification, USA)
- Chat-GPT for Six Sigma: AI Visualization Proficient (AIGPE)
- Mastering ISO 9001:2015 (QG)
- Quality Management Systems (QG)
- Product Management – Basics (Udemy)
- Project Management (Ivan, Udemy)
- Practical Leadership Skills (Chris Croft, Udemy)

## Awards and Achievements

- Published 4 Peer Reviewed Research Papers and 10+ Conference Proceedings and Presentations.
- Best paper award in 'SAE Aerocon-2024' conference for 'Assessing the Structural Feasibility and Recyclability of Flax/PLA Bio-Composites for Enhanced Sustainability'
- Presented Research work on 3D printed Functionally graded composites at Siemens Conference Center, Berlin, Germany in ASME AMRGT-2019.
- Trained more than 100 junior researchers in Research Planning, Execution, Delivery, Asset maintenance, Safety and Technical documentation.
- AIR 36 and AIR 42 in GATE 2017 and GATE 2014 respectively and IIT-JEE 2009 rank holder.

## Projects – Roles, Responsibilities and Outcomes

### → Sponsored Projects (Industry/Government)

Roles	Responsibilities	Outcomes
<b>Selective Laser Melting Process Modelling, Diagnostics, and Tool Enhancement</b> <i>Boeing Research and Technology Centre, The Boeing Company, USA, (2023 – 2025, Completed)</i>		
Project coordinator & Technical contributor	<ul style="list-style-type: none"> <li>Design of Experiments, Development of Process diagnostic methodology and Hardware set-up</li> </ul>	<ul style="list-style-type: none"> <li>Developed a novel method of closed loop monitoring of powder bed fusion process based on multiple diagnostic techniques</li> </ul>
<b>Remaining Life Assessment of Non-Metallic GRP Pipeline in the Oil and Gas Industry</b> <i>Shell India Pvt. Ltd., India, (2024 – ongoing)</i>		
Technical contributor	<ul style="list-style-type: none"> <li>Design of Experiments, Development of testing methodology of GRE pipes for remaining useful life</li> </ul>	<ul style="list-style-type: none"> <li>Developed accelerated fatigue methodology to estimate remaining useful life of oil and gas GRP pipelines</li> </ul>
<b>Multi-scale Design of Advanced Composites and Development of New Manufacturing Technologies</b> <i>SERB (currently ANRF), DST, Govt. of India, (2020-2023, Completed)</i>		
Project coordinator & Technical contributor	<ul style="list-style-type: none"> <li>Multi-scale design, Selection of materials, Development of advanced manufacturing processes, Thermo-mechanical testing</li> </ul>	<ul style="list-style-type: none"> <li>Developed an advanced multi-scale composite by optimization of fillers at different length scales with enhanced thermo-mechanical performance</li> </ul>
<b>Thermo – mechanical Fatigue Analysis of Solar Panels</b> <i>UR Rao Satellite Centre (URSC), ISRO, Govt. of India, (2019 – ongoing)</i>		
Technical contributor	<ul style="list-style-type: none"> <li>Design of Experiments, Fatigue analysis of space deployable solar panels in the extreme temperature conditions ranging from -150°C to 100°C</li> </ul>	<ul style="list-style-type: none"> <li>Developed a new accelerated methodology of thermo-mechanical fatigue testing &amp; analysis to estimate RUL of solar panels</li> <li>Determined material-wise thermo-mechanical fatigue life of solar panel components</li> </ul>
<b>ADA-IISc Joint Design and Development of Carbonaceous Radar Absorbing Structures</b> <i>Aeronautical Development Agency (ADA), Ministry of Defence, Govt. of India, (2019-2022, Completed)</i>		
Project coordinator & Technical contributor	<ul style="list-style-type: none"> <li>Design and development of Multi-scale EM FGM and Sandwich composite, Theoretical optimization of material composition, Advanced manufacturing process, EM/Mechanical Testing and analysis, NDT manufacturing inspection</li> </ul>	<ul style="list-style-type: none"> <li>Optimized RAM composition and performance in the desired frequency band of 2-18 GHz</li> <li>Developed sandwich composite with 3D printed PEEK honeycomb core</li> <li>Developed functionally graded composites with graded RAM and fabric architecture</li> </ul>
<b>ADA-IISc Joint Design and Development of Scaled Model of UAV for Radar Scattering Studies and Related Technologies</b> , <i>Aeronautical Development Agency (ADA), Ministry of Defence, Govt. of India, (2018-2021, Completed)</i>		
Project coordinator & Technical contributor	<ul style="list-style-type: none"> <li>Design and Development of Multi-scale EM fabric and sandwich composite, Optimization of manufacturing process, EM/Mechanical Testing and analysis, Development of NDE manufacturing inspection</li> </ul>	<ul style="list-style-type: none"> <li>Developed scaled model of next generation UCAV with stealth capabilities in collaboration with ADA</li> <li>Developed full-proof manufacturing inspection for RAM composites for varying compositions</li> <li>Established Microwave co-axial waveguide testing facility at Aerospace department, IISc</li> </ul>
<b>Development of Nano-Composite Structures with Enhanced Thermo-Mechanical Properties, Damping, and Self-Sensing Capabilities</b> , <i>ACECOST Phase-III, AR&amp;DB, DRDO, Govt. of India, (2014-2018, Completed)</i>		
Technical contributor	<ul style="list-style-type: none"> <li>Nano-material synthesis and characterization, Development of new manufacturing methods for nanocomposites by optimizing processing parameters, Thermo-mechanical characterization</li> </ul>	<ul style="list-style-type: none"> <li>Developed an optimized nano-additive dispersed composite for thermo-mechanical applications</li> <li>Embedded piezo based sensors in composites for structural health monitoring applications</li> </ul>

### → In-house Projects

- Development of Sustainable Composites and Their Enhanced Recyclability.
- Laser Damage on Composites and Effect on Their Mechanical Properties.
- Recycling of Fiber Reinforced Polymer Matrix Composites.
- Development of Strain Sensors Using Additive Manufacturing Techniques.
- Thermal Barrier Coatings for Scramjet Applications.
- Synthesis and Characterization of ZnO Nanostructures for Bio-sensing Applications.