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*
Project Associate *May 2015 – Nov 2019*
Research Associate – II *Dec 2019 – Sep 2020*
Research Associate – III *Oct 2020 – Mar 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.

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	• Root Cause Analysis • FMEA, Measurement System Analysis (MSA) • Hypothesis testing, ANOVA • Design of Experiments (DoE)	• SWOT analysis • Graphical Tools • Statistical Process Control (SPC) • Value Stream Mapping (VSM)
→ Functional Testing	• Material Property Characterization – Physical, Microstructure, Phase, Mechanical, Thermal, Electro-magnetic, Non-destructive (NDT) as per ASTM, ISO, IEEE, ASME, MIL, FAA standards	
→ Advanced Manufacturing	• Advanced Polymer Composites (CFRP, GFRP, Sandwich, Hybrid, Natural) • Additive Manufacturing (FDM, LIM, LPBF)	• Material Synthesis (Nano: Sol-gel, GNP) • Sensor Manufacturing (PZT, PVDF, CNT)
→ Grant Writing	• Comprehensive literature reviews • Identification of technology gaps • Formulation of objectives and methodologies • Drafting detailed project proposals	• Collaboration with interdisciplinary teams • Preparation of budget estimates • Compliance with submission guidelines
→ Software	• Technical documentation (MS O365) • Project Management (SharePoint, Planner, Trello, Jira)	• Data Analysis (MATLAB, Excel, Minitab, SQL) • Data Visualization (MATLAB, ORIGIN, Excel, Power BI)
Management	• Waterfall, Agile (Scrum, Kanban) • Critical Thinking • Problem Solving • Planning, Execution, Monitoring & Control	• 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 – QMS (QG)	• Product Management – Basics (Udemy) • Project Management (Ivan, Udemy) • Practical Leadership Skills (Chris Croft, Udemy)

Awards and Achievements

- → Published 4 Peer Reviewed Research Papers,10+ Conference Proceedings and Presentations and 8 Technical Project Reports.
- → 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 Key Outcomes

→ *Sponsored Projects (Industry/Government)*

Roles	Responsibilities	Key Outcomes
Development of Algorithms and Testing Tools for Directed Energy System on Long-range and Agile Aerial Targets: Target Tracking, Accurate Pointing, Beam Stabilization, and High Lethality *Directorate of Futuristic Technology Management (DFTM), Defence Research & Development Organisation (DRDO), Ministry of Defence, Govt. of India.* (2024 – ongoing)		
Technical contributor	• Design of Experiments using in-house designed and developed Directed Energy (DE) system on laser-material interactions in adverse atmospheric conditions to enhance lethality	• Optimized DE system parameters by studying high energy laser and material interactions on UAV structures (alloys/composites) to enhance extent of damage
Selective Laser Melting Process Modelling, Diagnostics, and Tool Enhancement *Boeing Research and Technology Centre, The Boeing Company, USA,* (2023 – 2025, Completed)		
Project coordinator & Technical contributor	• Design of Experiments, Development of Process diagnostic methodology and Hardware set-up	• Developed a novel method of closed loop monitoring of powder bed fusion process based on multiple diagnostic techniques
Remaining Life Assessment of Non-Metallic GRP Pipeline in the Oil and Gas Industry *Shell India Pvt. Ltd., India,* (2024 – ongoing, 1st year completed)		
Technical contributor	• Design of Experiments, Development of testing methodology of GRE pipes for remaining useful life	• Developed accelerated fatigue methodology to estimate remaining useful life of oil and gas GRP pipelines
Multi-scale Design of Advanced Composites and Development of New Manufacturing Technologies *SERB (currently ANRF), DST, Govt. of India,* (2020-2023, Completed)		
Project coordinator & Technical contributor	• Multi-scale design, Selection of materials, Development of advanced manufacturing processes, Thermo-mechanical testing	• Developed an advanced multi-scale composite by optimization of fillers at different length scales with enhanced thermo-mechanical performance
Thermo – mechanical Fatigue Analysis of Solar Panels *UR Rao Satellite Centre (URSC), ISRO, Govt. of India,* (2019 – ongoing)		
Technical contributor	• Design of Experiments, Fatigue analysis of space deployable solar panels in the extreme temperature conditions ranging from -150°C to 100°C	• Developed a new accelerated methodology of thermo-mechanical fatigue testing & analysis to estimate RUL of solar panels • Determined material-wise thermo-mechanical fatigue life of solar panel components
ADA-IISc Joint Design and Development of Carbonaceous Radar Absorbing Structures *Aeronautical Development Agency (ADA), Ministry of Defence, Govt. of India,* (2019-2022, Completed)		
Project coordinator & Technical contributor	• 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	• Optimized RAM composition and performance in the desired frequency band of 2-18 GHz • Developed sandwich composite with 3D printed PEEK honeycomb core • Developed functionally graded composites with graded RAM and fabric architecture • Established Microwave co-axial waveguide testing facility at Aerospace department, IISc
ADA-IISc Joint Design and Development of Scaled Model of UAV for Radar Scattering Studies and Related Technologies, *Aeronautical Development Agency (ADA), Ministry of Defence, Govt. of India,* (2018-2021, Completed)		
Project coordinator & Technical contributor	• 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	• Developed scaled model of next generation UCAV with stealth capabilities in collaboration with ADA • Developed full-proof manufacturing inspection for RAM composites for varying compositions
Development of Nano-Composite Structures with Enhanced Thermo-Mechanical Properties, Damping, and Self-Sensing Capabilities, *ACECOST Phase-III, AR&DB, DRDO, Govt. of India,* (2014-2018, Completed)		
Technical contributor	• Nano-material synthesis and characterization, Development of new manufacturing methods for nanocomposites by optimizing processing parameters, Thermo-mechanical characterization	• Developed an optimized nano-additive dispersed composite for thermo-mechanical applications • Embedded piezo based sensors in composites for structural health monitoring applications

→ *In-house Projects*

- Development of Sustainable Composites and Their Enhanced Recyclability.
- Recycling of Fiber Reinforced Polymer Matrix Composites.
- Thermal Barrier Coatings for Scramjet Applications.
- Synthesis and Characterization of ZnO Nanostructures for Bio-sensing Applications.