Dr T. Jayakumar

Assistant Professor

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Work History

Sep- 2023- Present

Assistant Professor (SG)

KCG College, Chennai, TN, India

- Subject Handled includes mechanics of materials, Robotics & Machine design, and CIM, etc.
- Act as Department IQAC coordinator, IIC cell.

Jul 2018 – Aug 2023

Assistant Professor

AMET University, Chennai, TN, India

- Subject Handled includes Strength of materials, Materials Science, CNC technology, and CAD/CAM, etc.
- Apply diverse teaching technique to improve teaching learning process.
- Actively involved in various accreditation process such as NAAC, NBA, etc.
- Internship co-ordinator, Innovation & Incubation cell.

Jan 2014 - Jun 2018

Research Associate

VIT University, Chennai, TN, INDIA

- Title of Ph.D. thesis "Development and characterization of aluminum-based metal matrix composite for high-temperature application".
- Focus of the research included: manufacture of aluminum alloy and various metal matrix composites using liquid metallurgy technique.
- Characterization of metal matrix composites materials using SEM with EDX.
- Determination of mechanical properties of metal matrix composite from room temperature to elevated temperature condition.
- Determination of Tribological properties of metal matrix composite for automobile applications.
- Determination of Corrosion properties of metal matrix composites.

Jun 2012 - Jan 2014

Senior Engineer

Kishore Enterprises Pvt.Ltd.

- Responsibilities included designing various industrial components using CATIA and Solid works.
- Manufacturing the aluminum alloy using liquid metallurgy technique.
- Fabrication of the complex engineering components

Jun 2011 - May 2012

Assistant Professor

Sree sastha college of Engineering, Chennai, TN, India

- Subject Handled includes Strength of Materials, Engineering Graphics & Modeling laboratory, etc.

Jun 2010 - May 2011

Lecturer

DMI college of Engineering, Chennai, TN, India.

- Subject Handled includes Engineering Graphics, Computer Integrated Manufacturing, etc.

Education

Jan 2014 - Jan 2020

Ph.D.: Materials Science Engineering

VIT University, - Chennai, TN, India

Jun 2008 - Jun 2010

Master of Engineering: Computer Aided design

Government College of Engineering, Anna University - Salem, TN, India

Jun 2005 - Jun 2008

Bachelor of Engineering: Mechanical Engineering

REC Vellore, Affiliated in Anna University - Vellore, TN, India

Jun 2003 - Jun 2005

Diploma: Mechanical Engineering

SVPT College, State Board of Technical Education Tamilnadu - Vellore, TN, India

Software

- Modeling (CATIA, Solidworks, Creo) — Very Good
- Meshing (ANSA) — Excellent
- Analysis (ANSYS) — Good

Languages

- Native: Tamil — Excellent
- English: Excellent — Very Good
- Hindi: Beginner — Basic

Patent

- Analysis of Integrated -Semi- Transparent using Photovoltaic Thermal in an Uneven Span Green House, Indian Patent, published- 15th -Feb- 2022.

Awards

- Eminent Academicians of 2021, awarded by International Institute of Organized Research, for remarkable contribution in the field of academics.
- Best Faculty in ICT Enabled Teaching, awarded by Shreyas Institute of Engineering & Technology/ OSIET Chennai, 2020.
- Best Researcher in the field of High Temperature Materials, 9th International Conference on Recent Engineering and Technology, New Horizon College of Engineering, 2019.

Publications

- T. Jayakumar, et al. "Unlocking insights of oil derivatives with terahertz spectrum analysis: the hybrid refractive index rectangular core photonic crystal fiber perspective sensing." *Journal of Optics* (2023): 1-11.
- Jayakumar et al.. "High performance efficiency of optical networking infrastructure characteristics with maximum speed of commercial fiber optic line cables employment." *Journal of Optical Communications*, (2023), 1-10.
- Jayakumar,T.,et al. “Hot Tensile Behavior of SiC, NbC and MgO reinforced LM25 metal matrix composites for High Temperature Applications”. Journal of the Korean ceramic society,2023. (IF:2.5)
- Jayakumar, T., et al. "Machine Learning approach for Prediction of residual energy in batteries." Energy Reports 8 (2022): 756-764. (IF 6.87)
- Jayakumar, T., et al. "Experimental Analysis of the Thermal Performance of a Latent Heat Energy of Helical Coil for the Application of Solar Energy." International Journal of Photoenergy 2022. (IF.2.6)
- Jayakumar, T., et al. “Investigation of Wear and Corrosion Behavior of Aluminum Metal Matrix Composites for Automotive Applications”. No. 2020-28-0461. SAE Technical Paper, 2020.
- Jayakumar, T, investigation of mechanical Behaviour for Aluminum Based Meta Matrix Composites under Room Temperature to Elevated Temperature Condition (2020) Journal of Advance Research in Dynamical & Control Systems, Vol. 12, pp-127-136.
- Jayakumar, T., and K. Annamalai. "Investigation of hot tensile behavior of silicon carbide and magnesium oxide reinforced aluminum matrix composites." Silicon 11.2 (2019): 935-945. (IF.2.87)
- Jayakumar, T., Annamalai, K. Mechanical behavior of modified Al-Si-Cu-Mg alloy and reinforced with Sic under ambient to elevated temperature (2016) ARPN Journal of Engineering and Applied Sciences, 11 (7), pp. 4471-4477.
- Jayakumar, T., Annamalai, K. An unique approach to predict tensile strength for aluminum alloy using fuzzy logic (2015) International Journal of Applied Engineering Research, 10 (16), pp. 37185-37192.

FDP Course

- Learning Analytics Tools, FDP certified NPTEL course, Course completed 2023.
- Data science for Engineers, FDP certified NPTEL course, Course completed 2023.
- Redemption from Plastic Pollution: Indian Railways, under “Waste technology domain", ATAL FDP Certified Course, organized by the NRTI, Vadodara, 2021.
- Novel Nanomaterials-based Flexible and Wearable Devices for Healthcare Applications, FDP Certified Course, Vellore Institute of technology, deemed to be university, 2021.
- 3D Printing & Design, ATAL FDP Certified Course, Veer Surendra Sai University of Technology (VSSUT), 2021.
- Engineering Graphics, FDP Certified Course, Velammal Institute of Technology, Chennai, course completed 2019.
- Experimental Stress analysis An-Overview, FDP certified NPTEL course, course completed 2018.

Membership

- All India Council for Technical Skill Development, Lifetime membership
- International Institute of Organized research (I2OR), Lifetime membership.
- International Society for Development and Sustainability (ISDS), Associate member.
- International Association of Engineers (IAENG), Lifetime membership. Institute of Research Engineers and Doctors, three-year membership from 12/01/2019 to 12/01/2022.
- Eurasia research, Lifetime membership, Teaching and Education Research Association.

Session Chair:

- International Conference on contemporary engineering and technology, Prince Shri Venkateshwara Padmavathy Engineering College, Chennai, Tamilnadu, India. May 2022.
- International conference on science & innovative engineering, Jawahar Engineering College, Chennai, Tamilnadu, India. May 2021.
- International Conference on contemporary engineering and technology, Prince Shri Venkateshwara Padmavathy Engineering College, Chennai, Tamilnadu, India. April 2021.
- International conference on engineering advancement in technology -2019, lords Institute of Engineering and Technology, Chennai, Tamilnadu, India. April 2019.
- International conference on contemporary engineering and technology-2019, Inderprastha Engineering College, Ghaziabad, Uttar Pradesh, India.April 2019.

Event organized.

- One day National Seminar on “Metallic Materials- Characterization, Testing and Manufacturing Technique” convener, Department of Mechanical Engineering, AMET University on 12th February 2022.
- One day National Seminar on “Materials Synthesis & characterization technique” convener, Department of Mechanical Engineering, AMET University on 23rd June 2021.
- Extension and social activities on “Avoiding Noise Pollution” convener, Department of Mechanical Engineering, AMET University joint with Ini oru vidhi seivom NGO on 4th March 2020.

Invited Talk

- Importance of high temperature materials for automotive industry, ICCET 2019, Inderprastha Engineering college, ghazibad, April 2019.
- High temperature materials and its applications, ICEAT 2019, Lord Institute of Engineering and Technology, Hyderabad, April 2019.
- Recent Trends in Light weight materials for automotive application, International conference on science & innovative engineering 2021, Jawahar Engineering College, Chennai, May 2021.

Conference & Symposium:

- Jayakumar T and Annamalai, “Hot Tensile Behavior of SiC, NbC, and MgO reinforced L25 metal matrix composites, IconACES 2020, VIT university, Oct 2020.
- Jayakumar T and Annamalai, “Dry Sliding Wear Behaviour of Al -Si-Cu-Mg Matrix composites”, AMET university, Chennai, September 2019.
- Jayakumar T and Annamalai K, ‘Corrosion Behavior of SiC and MgO Particle Reinforced Aluminum Metal Matrix Composites, ICRAME 2017, Kingston Engineering College, Vellore 2017.
- T. Jayakumar, K. Annamalai, Wear Behavior of Al-Si-Cu-Mg Alloy Reinforced with Silicon Carbide, ICSIE 2016, jawahar engineering college, Chennai, Apr 2016.
- T. Jayakumar, Thermal analysis of heat sink using ansys, jawahar engineering college, Chennai, March 2013.
- T. Jayakumar, Design & Analysis of Disc Brake using ANSYS, Sengunthar Engineering College Tiruchengode, 21st APR -2010.
- T. Jayakumar, Design & Analysis of Disc Brake using ANSYS, Arunai Engineering College, Tiruvannamalai, March -2010.

Workshops:

- Online workshop on “Scanning Electron Microscope” VIT Deemed to be University, Chennai, India, June 2021
- Electric & hybrid vehicle engineering (EHVE 2019), IIITD&M, CHENNAI, INDIA, October 2019
- New Materials, their Characterization and Applications, MIT campus, Anna University, Chennai India, October, 2015.