Department of Mechanical Engineering
National Institute of Technology Karnataka, Surathkal

Summer Internship Programme under SSR-SERB

Advertisement no: Summer Internship/SSR/CRG/2023/MECH/PJR

Applications are invited for Summer Internship position under SSR Scheme of DST-SERB project.

Principal Investigator: Dr. P. Jeyaraj and Co-PI: Dr. M. R. Doddamani

Project Title: "Development of Biodegradable Microperporated Panel with non-uniform cross-section through 3D printing for Sound Absorption Applications", funded by DST-SERB, Government of India.

Project Summary:
Environmental concern leads to the development of bio-degradable materials for various applications. Most of the materials currently being used for sound absorption (SA) and sound transmission loss (STL) applications such as Glass wool and foams are toxic and pose severe environmental and health issues. Hence, there is a need to develop biodegradable material for SA and STL applications. Most of the researchers used biodegradable resin and natural fibre in order to develop the environmental friendly green material for SA and STL applications. Their main focus is to analyze the effect of different natural fibers and bio resin on acoustic performance of a material with and without micro perforation. Very few researchers analyzed effect of variation of perforation cross section and functionally graded porosity variation on acoustic performance of a green material. However, acoustic performance of a material can be improved by altering the porosity and its pattern through the thickness of a micro perforated panels (MPPs). However, most of the MPPs are made of perforation with constant circular/square cross section through the thickness of the panel. However, with the advancement in the additive manufacturing, it is possible to develop MPPs having perforation with varying cross section and functional gradation through the thickness. Hence, in this proposal it is planned to prepare biodegradable MPP with arbitrarily varying cross-sections and functionally graded porosity variations using natural fibre reinforced poly lactic acid (PLA) natural fibre composite (NFC) through 3D printing technique for SA and STL applications.

The Summer Internship Programme is open for students studying in Indian Universities/Institutes.

Post: Summer Internship (1 Number)
Duration: 2 Months (8 weeks)
Fellowship: 5000/- per month

The progress of the intern will be assessed after each month by appropriate committee following DST-SERB project guideline. If the progress is not satisfactory the internship is liable to beterminated.

Essential Qualification:
The students in the Pre-Final year in UG are encouraged apply.

- B.E./B.Tech. in Mechanical / Production/ Manufacturing/ Automobile/Aerospace Engineering
- A minimum of 60% marks at the preceding degree/course.

The application should include:

(i) A cover letter summarizing the application (including research interests)

(ii) A recent CV (including name as per 10th /12th grade mark sheet, a photo affixed, academic qualification, postal address, contact mobile number, email id) along with copies of all relevant testimonials (The scanned original degree certificates, mark sheets and Proof of date of birth etc.,)

(iii) A scanned copy of photo ID (proof for name given in CV).

(iv) Application should be forwarded/endorsed by the head of the institute/department where the candidate is currently studying.

How to apply:

Interested candidates can apply for this post by sending an application letter to the Principal Investigator, **Dr. P. Jeyaraj**, via email, **jeyaraj@nitk.edu.in** on or before 21st April, 2023, 5 P.M.

Candidates may contact PI for any further query. Contact Details: Dr. P. Jeyaraj, Department of Mechanical Engineering, National Institute of Technology, Karnataka, Surathkal-575025.