



DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA  
SURATHKAL, SRINIVASNAGAR - 575025, MANGALORE,  
KARNATAKA, INDIA

Ref No: NITK/EED/6738 /CMCK/CRG-SERB/JRF

Date: 31.08.2021

## Advertisement for Junior Research Fellow

Applications with complete biodata are invited for a temporary post of **one Junior Research Fellow** to work under the research project funded under the Core Research Grant by the Science & Engineering Research Board (SERB), Department of Science and Technology, Govt. of India. As a part of this role, the JRF will carry out cutting edge research in the area of development of assistive devices for rehabilitation. The work is carried out in collaboration with IIT Goa and Kasturba Medical College (KMC) Mangalore and will include design, analysis, fabrication and testing of the mechanical parts of the equipment with sensors and motors mounted on it. The JRF is expected to carry out high impact research, publish and present results in top conferences/workshops and journals in the area. Details follow.

**Project title and Reference No:** An affordable therapeutic solution for rehabilitation of cerebral palsy children with crouch gait (Ref. No: CRG/2020/001567).

### Principal Investigator:

**Dr. Krishnan C. M. C.**

Department of Electrical and Electronics,  
NITK Surathkal, Mangalore, India

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### Co-Principal Investigators:

Dr. Deepu Vijayasanen, Dept. of Electronics and Communication Engineering, NITK Surathkal, Mangalore, India.
Dr. Ranjith M, Department of Mechanical Engineering, NITK Surathkal, Mangalore, India.
Prof. Sumam David, Dept. of Electronics and Communication Engineering, NITK Surathkal, Mangalore, India.
Dr. Sheron Figarado, School Of Electrical Sciences, Indian Institute of Technology, Goa, India.
Prof. Unnikrishnan B, Dept. of Community Medicine, Kasturba Medical College, Mangalore, India.

**Collaborator and Consulting Physician:** Dr. Shyam Krishnan, Department of Physiotherapy, Kasturba Medical College, Mangalore, India.

## Essential Qualifications

M.E/M.Tech in Mechatronics OR Mechanical with focus in Robotics OR Electrical/Electronics with focus in Robotics - minimum 60% aggregate percentage or 6.0/10 CGPA. The candidate must have qualified the GATE examination (old GATE score is also considered).

**Age Limit:** 28 years.

## Desired Skills

- Sound knowledge in the area of mechanical design, finite element methods.
- Proficiency in computer aided design using CATIA, Solid works, AutoCAD.
- Proficiency in simulation using ANSYS software.
- Programming skills in Python, Matlab, C etc.
- Worked in the area of robotics.
- Knowledge in fabrication and mechatronics related work using sensors and motors.
- Previous work experience in related projects.
- Ability to work in a team, good communication skills and experience in experimental research for fabrication of setup.

## Salary and Duration

- INR 31000 per month (consolidated) + HRA (as per norms).
- The selected candidate will be appointed initially for one year (on contract) and the services will be extended for next year based on the performance review and is co-terminus with the project. The candidate is encouraged to apply for PhD at NITK, Surathkal.

## How to apply

### Step-1:

You are required to fill-up the basic details through a google form link:

<https://forms.gle/p3YwCdSU9aePYCjg6>

### Step-2:

Duly fill the application form (page 4 to 6 of this document, a doc format is available [HERE](#)) and take a scan. This, along with the scan of other documents (given as a checklist in the last page of the application), create a compressed/zip file. Name the file as “*yourFirstname\_Lastname\_JRF.zip*”

### Step-3

Send the zip file as an email attachment to [cmckrishnan@nitk.edu.in](mailto:cmckrishnan@nitk.edu.in) with subject line “*Application for JRF position CRG-SERB-EE-NITK*” **on or before 21<sup>st</sup> September, 2021 (Saturday).**

Written Test/Interview details will be emailed to suitable candidates only. TA/DA will not be paid for attending the interview. The position is available immediately.

## More about the Project

Total Duration: 3 Years (August 2021-August 2024)

The aim of the project is to develop a cost effective, portable, and powered exoskeletal orthosis. The project by its very nature is multidisciplinary and will involve:

- Mechanical design and fabrication of the orthosis.
- Integration of different sensors and actuators.
- Human gait phase detection using signal processing and pattern recognition techniques.
- Selection/design of actuators, controllers and power supply, etc.

This collaborative project demands interaction with medical practitioners and occasional travel between the participating institutes. Significant part of the project also requires going to the medical college and testing of the prototype.

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**Application for the Position of Junior Research Fellow under SERB**

1. Post Applied for : JRF-Junior Research Fellow

2. Name of the Candidate (BLOCKLETTER):

3. Father's Name (BLOCKLETTER):

4. Mother's Name (BLOCKLETTER):

5. (a) Date of Birth: (DD/MM/YYYY) \_\_\_\_\_

(b) Sex (Male/Female/Other):\_\_ \_

(c) Marital Status: Married/Single

(d) Category: SC/ST/OBC/PWD/Open

6. Previous Research experience: (use additional sheet if required)\_\_\_\_\_

7. Publication(s), if any: (use additional sheet if required)\_\_\_\_\_

8. GATE/ NET (if any): Qualified (Yes/No): Score: \_\_\_\_\_ Rank: \_\_\_\_\_

Paste here a  
recent passport  
size photograph

Specialization: \_\_\_\_\_ Year: \_\_\_\_\_

9. Academic Qualification: (Starting from Standard 10 or equivalent Examination)

<b>Name of Exam Passed</b>	<b>Name of the School/College/Institute/University</b>	<b>Year of Passing</b>	<b>Discipline/ Specialization</b>	<b>Percentage of Marks/ CGPA</b>

10. (a) Address for Communication: (BLOCKLETTER):

(b) Contact No (Mob):

(c) E-mail ID :

11. Contact Details of two referees:

	<b>Referee I</b>	<b>Referee II</b>
Name :		
Designation :		
Organization:		
Office Address :		
Office Phone Number:		
Email ID:		

12. Declaration:

I do here by declare that the information furnished in this application is true to the best of my knowledge and belief. If selected, I promise to abide by the rules and regulations of the Institute.

Date:

Place:

Signature

Checklist (please tick the relevant documents and include it in the compressed file along with this application)

- Scanned copies of educational certificates and mark sheets from class X onwards
- Scanned copy of GATE Score Card (old GATE score is also considered).
- Scanned copies of Proof for research experience,
- Special achievements and publications, if any

**Note-** If any information is required, extra A4 sheet may be attached.