



**Department of Mechanical Engineering  
NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL**

**Advertisement for Junior Research Fellow (JRF)**

Applications are invited for the position of **Junior Research Fellow (JRF)** in a research and development project (**Ref. No. 3348/NITK/MHRD/IMPRINT/MECH/HK/2016-17/A9**) with following details:

**Title of the project:**

**“Development of Cost Effective Magneto-Rheological (MR) Fluid Damper in Two wheelers and Four Wheelers Automobile to Improve Ride Comfort and Stability”**

**Principal Investigator:**

**Dr. Hemantha Kumar,**

Assistant Professor,

Department of Mechanical Engineering,

National Institute of Technology Karnataka, Surathkal

Mangalore-575025,

Karnataka.

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<http://mech.nitk.ac.in/faculty/hemantha-kumar>

**Name of the position: Junior Research Fellow (JRF)**

**No of Positions/Vacancies: One (01) Positions**

**Qualifications:** B.E/B.Tech in Mechanical Engineering/ Related Branches with a minimum of 60% aggregate score (6.5/10 CGPA) and M.Tech/M.E in Thermal engineering/ Thermal and Fluids engineering/ Computational Fluid Dynamics and Heat Transfer/ Related Branches with a minimum of 60% aggregate score (6.5/10 CGPA). A good GATE score will be an added advantage but not mandatory. Those who are appearing for M.Tech/ M.E last semester may also apply. Proof of M.Tech/ M.E certificate has to be provided during the time of interview.

**Desired Skills:-**

- Basic exposure to software related to computational fluid dynamics.
- Academic project and work experience related to thermal measurements, CFD analysis.

- Ability to work in a team, good communication skills and experience in experimental research.

**Age Limit:- 30 years**

**Salary:- Rs. 25,000/month**

**Duration:** Three years or up to the termination of project, subject to annual performance review. **The candidate is entitled to register for Ph.D. at NITK, Surathkal, if found suitable.**

**How to apply:** Interested candidates must apply with the following documents (1) Cover letter (2) Bio-data with passport-sized photograph, (3) Scanned copies of educational certificates and mark sheets, class XII onwards (4) GATE qualified certificate(Optional) and (5) Scanned copies of Proof for research experience, special achievements and publications, if any.

The soft copies of all the above documents (pdf format) must be **emailed** to the **Principal Investigator (Dr. Hemantha Kumar) by 15<sup>th</sup> October 2017**. The email address for correspondence is given above. Only shortlisted candidates will be intimated by email and called for interview in person. No TA/DA will be paid for attending the interview. The position is available immediately. Interviews most likely to be held during last week of October 2017.

# PROJECT TEAM



IMPACTING RESEARCH INNOVATION  
AND TECHNOLOGY



Ministry of Human Resource Development  
Government of India



सड़क परिवहन और राजमार्ग मंत्रालय  
MINISTRY OF ROAD TRANSPORT & HIGHWAYS  
भारत सरकार  
Government of India

**PROJECT TITLE:- DEVELOPMENT OF COST EFFECTIVE MAGNETO-  
RHEOLOGICAL (MR) FLUID DAMPER IN TWO WHEELERS AND FOUR  
WHEELERS AUTOMOBILE TO IMPROVE RIDE COMFORT AND  
STABILITY**

**Project No: 7330**

**Budget:- Rs. 3.55 Crores  
2020**

**Time Period: 2017-**

**Principal Investigator:- Dr. Hemantha Kumar**, Dept. of Mechanical Engineering,  
NITK

Co -Investigators

**Prof. C.Sujatha**

Dept. of Mechanical Engineering, IIT Madras

**Prof. K.V.Gangadharan**

Dept. of Mechanical Engineering, NITK

**Dr. Sharnappa J.**

Dept. of Mechanical Engineering, NITK

**Dr. Mohd.Rizwan Rahman**

Dept. of Material and Metallurgy Engg. NITK

**Dr. Sheron F**

Dept. of Electrical and Electronics Engg. NITK.

**Dr. Sandesh S**

Senior Manager, Ashok Leyland Ltd. Chennai

**Mr. Rajasekharan**

Scientific Advisor, Rambal Ltd. Chennai

**Academic  
Collaborators**



**Industrial  
Collaborators**



## **About IMPRINT India**

IMPRINT is the first of its kind MHRD supported Pan-IIT + IISc joint initiative to address the major science and engineering challenges that India must address and champion to enable, empower and embolden the nation for inclusive growth and self-reliance. It stands for Impacting Research Innovation and Technology. IMPRINT provides the overarching vision that guides research into areas that are predominantly socially relevant. Please refer to the website <http://www.imprint-india.org> for more information.

## **PROJECT SUMMARY**

This project involves in the application of Magneto-Rheological (MR) damper for two and four wheelers automobile. Present project proposes to design and development of market ready cost effective MR fluid and MR damper for an automotive vehicle suspension system. Performance of developed MR damper for vehicular application is investigated in laboratory subjected to standard road excitations. Mathematical modelling and field tests are conducted on the vehicle having MR damper under Indian road condition by adopting suitable control strategy.