Applications from Indian nationals are invited for Project Appointment under the following project. Appointment shall be on contractual basis with consolidated pay, renewable yearly or upto the duration of the project, whichever is earlier. The project title is "Smart, Successful, Strong: Intelligent Material Development". The project is funded by the Ministry of Defence, New Delhi. The project is led by Prof. Sitikantha Roy.

**Brief description:** Scientific importance of the project Smart (EMG/EEG controlled) wearable exoskeleton has many advantages over its bulky, hard counterpart. On top of that, the materials used in the manufacturing are mostly polymeric material, hence when it is coupled with modern rapid prototyping techniques makes the device form factor cheap and affordable. Brain Machine Interface to control soft robotic gears is a new technological challenge but can unlock immense potential in the coming future. Bio-inspired soft automation, combined with smart, intelligent material development is going have big impact in defense technologies around the world. If successful, the current project may lead to many innovative usages for Indian armed force, for example the soldiers posted in difficult northern terrain needs performance boosting full body wearable exoskeleton, shape changing camouflage jacket or bioinspired robotic artillery. The artificial muscle technology and BMI based control platform developed in this project can lead to performance boosting wearable exo-suits.

**Why you would like to join:** 1. This is one of its kind of its kind project first time in the country. You will have an opportunity to interact with an interdisciplinary team of scientists having background as diverse as in soft robotics, scientific computation, 2. Two of the premier institutes in India, IIT Delhi and AIIMS Delhi are involved in this project. 3. This is cutting edge project AI/ML based modelling (Scientific Machine Learning), Soft Neuro robotics.

**Title of the Project:** Wearable soft robotics for Upper Limb Muscle Power Augmentation with BMI interface (DRDO JATC Project) (RP04191G)

**Funding Agency:** DRDO, Ministry of Defence, New Delhi

**Name of the Project Investigator:** Prof. Sitikantha Roy

**Department/Center:** School of Artificial Intelligence and Department of Applied Mechanics

**Duration of the Project (Post):** Upto 21/11/2022

| Research Associate(1) | Rs.47,000-49000-54000/- p.m. plus HRA @ 24% | Ph.D./M.D. or equivalent degree in the area of Mechanical Engineering/Biomedical Engineering/ Applied Mechanics/Instrumentation Engineering with first class (60%) or equivalent at all the preceding degrees and certificates along with good publication record in Science Citation Indexed (SCI) Journal. OR ME/MS/MMTech in Mechanical/Biomedical/ Aerospace/Applied Mechanics/Instrumentation Engineering with first class (60%) or equivalent at all the preceding degrees and certificates, and having six years of research, teaching experience in computational dynamics, modelling mechanism, musculoskeletal biomechanics etc with at least one good publication in Science Citation Indexed (SCI) Journal. Essential: Experience in Computational mechanics/modelling dynamical system/modelling mechanism/robotics modelling/Musculoskeletal Biomechanics/computational tissue biomechanics etc. The familiarity with programming language in any of MATLAB/Python/C++ language is necessary. Desirable skills: Some basic familiarity with AI/ML algorithm development. Interest to work in musculoskeletal biomechanics, tissue mechanics and soft robotics will be given high priority. Responsibilities: The candidate will be asked to develop computational model to simulate human motion, with exosuit. This is an intersectional problem, which will require some data modelling (ML) and scientific computation.

The post) may be downgraded as per discretion of the Selection Committee if none of the candidate is found suitable for the post.

Contd.....
The candidates who are interested to apply for the above post should download Form No. IRD/REC-4 from the IRD Website (http://ird.iitd.ac.in/rec) of IIT Delhi and submit the duly filled form with complete information regarding educational qualifications indicating percentage of marks/division, details of work experience etc. by e-mail with advertisement No. on the subject line to Prof. Sitikantha Roy at email id: recruitment.jatc@gmail.com and cc it to sroy@am.iitd.ac.in.

IIT Delhi reserves the right to fix higher criteria for short-listing of eligible candidates from those satisfying advertised qualification and requirement of the project post and their name will be displayed on web link (http://ird.iitd.ac.in/shortlisted) along with the online interview details. Only short-listed candidates will be informed for online interview. In case any clarification is required on eligibility regarding the above post, the candidate may contact Prof. Sitikantha Roy at email id: sroy@am.iitd.ac.in

5% relaxation of marks may be granted to the SC/ST Candidates. In case of selection of a retired/superannuated government employee, his/her salary will be fixed as per prevailing IRD norms. 50% relaxation of marks may be granted to the SC/ST Candidates. अनुशंसित जाति / अनुशंसित जनजाति के उम्मीदवार को अंकों की 5% घुटने की स्वीकृति है।

The last date for submitting the completed applications by e-mail is 16/02/2022 by 5.00 p.m.

वितरण
- Head of the Deptt./Centres/Units : It is requested that the contents of the Above Advt. be brought to the notice of the staff working in your Deptt./Centre/Unit
- Webmaster, IRD : To put advertisement at IITD website.
- Notice Boards
- Advertisement file
- Prof. Sitikantha Roy, PI, School of Artificial Intelligence and Department of Applied Mechanics
- Copy to Chairperson, DRC/CRC
- Dr. Harshita Bhatnagar, RD Coordinator, (R&D) Wing