

इंडियन इंस्टीट्यूट ऑफ टेक्नोलॉजी दिल्ली
हौज खास नई दिल्ली -110016
(औद्योगिक अनुसंधान एवं विकास इकाई)
INDIAN INSTITUTE OF TECHNOLOGY DELHI
Hauz Khas, New Delhi-110016
(Industrial Research & Development Unit)

No. IITD/IRD/RP03981G/345210

Dated: 17/08/2021

Advertisement No.: IITD/IRD/138/2021

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. निम्नलिखित परियोजना के तहत भारतीय नागरिकों से आवेदन आमंत्रित किए जाते हैं। अपॉइंटमेंट, अनुबंधित आधार पर समेकित वेतन, नवीकरणीय वार्षिक या परियोजना की अवधि तक, जो भी पहले हो, के साथ होगा।

Brief description: This project plans to develop a physics based medical simulation platform that will incorporate a digital brain model with anatomical details and realistic material properties/physics, to study the real-time deformation of the brain during interventional neurosurgery inside the operation theatre. Ultimate goal is to create and develop a mixed reality immersive platform for surgical simulation and training. The immediate objectives of the project are as follow: • In-vivo characterization of human brain tissue using non-invasive techniques such as magnetic resonance elastography. • Tissue property estimation using quantitative medical imaging. • Development of algorithm for MRI image processing. The project will explore brain mechanics and its subsequent application in prototype building in neurosurgical simulation, thereby leading to improvement in patient outcome and survival.

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| Title of the Project | Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tool (RP03981G) | |
| Funding Agency | Indian Council of Medical Research (ICMR) | |
| Name of the Project Investigator | Prof. Sitikantha Roy [email ID: sroy@am.iitd.ac.in] | |
| Deptt./ Centre | Department of Applied Mechanics | |
| Duration of the Project | Upto:30/09/2023 | |
| Post (s) | Consolidated fellowship / Pay-slab | Qualifications |
| Principal Project Scientist (1) | Rs.56,000-60,000-64,000-69,000-74,000-79,000/- p.m. plus HRA @ 24% | Ph.D./MD/MDS or equivalent degree in the area of Mechanical Engineering/Physics (computational) / Biomedical Engineering/Radiology/Biomedical Signal and Image Processing/Medical Imaging/Applied Computational Mechanics/Computer Science Engineering/Mathematics 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 1 st class ME/MS/MTech in Mechanical/Biomedical/Radiology/Applied Mechanics having atleast 6 years of research, teaching and algorithm development experience in Biomechanics related field with at least one good publication in Science Citation Indexed (SCI) Journal. Prior knowledge of Magnetic Resonance (MRI/CT) Image Processing, Machine Learning, Artificial Intelligence and Physics of MRI/CT etc quantitative analysis is a must for shortlisting. Experience in scientific computation, image processing will be given weightage. Understanding of Computational Mechanics is desired. Desirable skills: Candidate with hands-on knowledge of algorithm development using Python, C++ or MATLAB. Prior experience in Magnetic Resonance Elastography, neuro radiology, Mechanic. |

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

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:brainmech6@gmail.com**

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>) alongwith 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: brainmech6@gmail.com** 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. अनुसूचित जाति / अनुसूचित जनजाति के उम्मीदवारों को अंकों की 5% छूट दी जा सकती है. एक सेवानिवृत्त सरकारी कर्मचारी के चयन के मामले में उसका वेतन वर्तमान आईआरडी मानदंडों के अनुसार तय किया जाएगा। **The last date for submitting the completed applications by e-mail is 31/08/2021 by 5.00 p.m.** The shortlisted candidates who are called for interview should bring original certificates (both professional and academic) with a recent passport size photograph at the time of interview.



सहायक कुलसचिव, आईआरडी

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, Department of Applied Mechanics
- Copy to Chairperson, DRC/CRC
- Dr. Harshita Bhatnagar, RD Coordinator, (R&D) Wing