

Advertisement for Post-Doctoral Fellowship
Rapidly Deployable Cardiac Digital Twin
Gangwal School of Medical Science and Technology
IIT Kanpur

Applications are invited for the position of **post-doctoral fellows** at the Gangwal School of Medical Science and Technology, IIT Kanpur for the project titled “*Rapidly Deployable Cardiac Digital Twin*”. The candidate must have a PhD degree in Engineering or Sciences from a reputed university/institute. Candidates from Engineering backgrounds will be preferred. Candidates who have submitted their dissertation and are awaiting oral examination can also apply.

The project concerns developing a personalized simulator of cardiac electrophysiology using MRI and ECG data collected from patients. The simulator will be used for analyzing what-if scenarios, such as (a) predicting the risk of sudden cardiac death (b) planning therapies such as ablation targeting and pacing. The project is highly interdisciplinary, involving IIT Kanpur faculty from Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, and Mathematics, as well as Radiologists from SGPGI Lucknow and Cardiac Electrophysiologists from Narayana Health, Bangalore.

Though the project is concerned with cardiac electrophysiology simulation, prior knowledge in this domain is not essential. **Experience in solving large-scale partial differential equations (PDEs) using finite element methods (FEM) and good knowledge of python is expected.** Any knowledge of specific topics such as *reaction eikonal model, reaction-diffusion bidomain model, OpenCARP software framework, or optimization algorithms* will be an advantage.

This is an institute post-doctoral position with a starting salary of Rs. 60000 per month, in addition to a performance-based variable salary of up to Rs. 30000 per month. All expenses pertaining to the project, including travel, will be covered by the institute. HRA at 16% of the fellowship amount will be paid if the accommodation is off campus. A contingency amount of Rs. 100000 per year for travel, research publications, etc. will also be available. Other norms can be found here:

https://www.iitk.ac.in/dofa/data/Institute_Postdoctoral_Norms_27_February_2020.pdf

Interested candidates may please send their CV to ketan@iitk.ac.in latest by 22 May 2023.

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