Indian Institute of Technology (Indian School of Mines), Dhanbad

The Office of Dean, Research & Development

Sanction No and Date: vide agreement signed with TCOE India dated 06/12/2024	**IIT (ISM) Project No. SRDP 1172 G**	Date: 07/04/2025

JRF position under DoT TCOE India Project

Applications are invited under the sponsored project. The details of the project are as under:

Name of the Position	Junior Research Fellow (JRF)
Number of Position (s)	1
Title of The Project	Development of Quantum Algorithms for Next generation Wireless Communication Systems
Principal Investigator	**Dr. Samrat Mukhopadhyay** (Assistant Professor) Department of Electronics Engineering IIT(ISM) Dhanbad, 826004, India E-mail: samrat@iitism.ac.in Phone no: (0326) 2235388 (Office), +91-7044004253 (Mobile)
Tenure of Project	The initial appointment will be given for 1 year and is extendable based on yearly performance till the project completion (Total project duration 3 years).
Job Description (in maximum of 100 words)	In the era of 6G and 5G NR communications, classical computations are about to reach their limit to solve problems in near-future advanced communication scenarios. In this project, the candidate will be responsible for designing advanced quantum algorithms to address high-computations of classical optimization/ signal processing involved in critical communication tasks, e.g., channel estimation, data detection, with the hope of obtaining possible quantum advantage in terms of quadratic or even exponential reduction in the computational complexity, in the context of state-of-the-art communication settings e.g., IRS and OTFS.
Essential Qualification	1) B.E./BTech/M.E./MTech/M.Sc. or equivalent in streams like **Electronics & Communication Engineering /Computer Science/Mathematics/Engineering Physics/Engineering Mathematics** with good academic background. 2) The candidate should be qualified in **GATE** or **CSIR/UGC NET or any other National level examination** conducted by the Central Government Departments/Institutions.
Desirable Qualification	Knowledge in probability/statistics and signal processing, communication systems and wireless systems and some experience of programming in C, C++, Python, MATLAB are desirable. Experience in Quantum computing will be preferred.
Age and Relaxation (if any)	As per Government of India norms.
Fellowship	37000 INR + 16% HRA p.m. for years 1 and 2 and 42000 INR + 16% HRA p.m. for year 3
Last Date & Time	**April 18, 2025, 11:59 PM.** ***Online Application link: https://forms.gle/CGFMqep45XAopxeL8***
Application Procedure	Interested candidates are requested fill the online application (as per the link provided) and must attach all supporting documents (e.g. self-attested copies of educational qualifications, experience certificate, age proof, valid cast certificate (if applicable), copies of publications, awards, recommendation letter, CV with Photo, GATE/NET/National level examination qualification certificate (if any), etc.).

Shortlisted candidates will be informed through email about the interview. The interview would be on online/offline mode. The date and time of interview would be sent to the shortlisted candidates by email. Mere possession of the minimum qualifications does not guarantee an invitation to the interview. Candidates will be shortlisted based on their merits and as per the requirements of the project.

Samrat Mukhopadhyay

Dr. Samrat Mukhopadhyay
(Principal Investigator)