



**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	<b>IIT (ISM) Project No. SRDP 1172 G</b>	Date: 15/04/2025
--	--	------------------

**RA position under DoT TCOE India Project**

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

<b>Name of the Position</b>	Research Associate (RA)
<b>Number of Position (s)</b>	1
<b>Title of The Project</b>	Development of Quantum Algorithms for Next generation Wireless Communication Systems
<b>Principal Investigator</b>	<b>Dr. Samrat Mukhopadhyay</b> (Assistant Professor) Department of Electronics Engineering IIT(ISM) Dhanbad, 826004, India E-mail: <a href="mailto:samrat@iitism.ac.in">samrat@iitism.ac.in</a> Phone no: (0326) 2235388 (Office), +91-7044004253 (Mobile)
<b>Tenure of Project</b>	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).
<b>Job Description (in maximum of 100 words)</b>	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.
<b>Essential Qualification</b>	<b>PhD or, M.E./MTech/M.Sc. in ECE/CS/Physics/Math</b> with 3 years relevant experience in either of the aforementioned fields with at least 1 SCI journal. The candidates must have good academic background and good knowledge in any of the following areas: Communication Systems/Machine Learning & Signal Processing/ Quantum Algorithms
<b>Desirable Qualification</b>	<ul style="list-style-type: none"><li>• PhD</li><li>• The research experience of the candidate should be aligned with subjects relevant to quantum algorithms/ optimization/ signal processing or machine learning</li><li>• Good communication skills, both in scientific writing as well as presentation</li></ul>
<b>Age and Relaxation (if any)</b>	As per Government of India norms.
<b>Fellowship</b>	58000 INR with 16% HRA p.m. for year 1, 61000 INR with 16% HRA for year 2 and 67000 INR with 16% HRA p.m. for year 3.
<b>Last Date &amp; Time</b>	<b>April 25, 2025, 11:59 PM.</b> <b>Online Application link:</b> <a href="https://forms.gle/igey7X69nOfsBNFi9">https://forms.gle/igey7X69nOfsBNFi9</a>
<b>Application Procedure</b>	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)