

## Indian Institute of Technology (Indian School of Mines), Dhanbad The Office of Dean, Research & Development

Sanction No. and Date: File No. ANRF/ECRG/2024/001272/ENS, Dated: 03 June, 2025

IIT (ISM) Project No: SRDP 1200 G

Date: 20/06/2025

JRF position under ANRF Sponsored PM-ECRG Project

Applications are invited under the sponsored project. The details of the project are given below.

Position	Junior Research Fellow (JRF)
Number of Position (s)	ONE
Title of The Project	Development of Novel Zwitterionic Biosurfactants for Improved Hydrate-Based Geological Carbon Dioxide Sequestration: A Strategy for Combating Global Climate Change.
Principal Investigator	Dr. Chandan Sahu Assistant Professor, Department of Petroleum Engineering Indian Institute of Technology (Indian School of Mines), Dhanbad-826004, Jharkhand. Email Id: <a href="mailto:chandansahu@iitism.ac.in">chandansahu@iitism.ac.in</a> , Mobile Number: 9870040521
Tenure of Project	Three years (maximum), or until the completion of the project, whichever comes earlier. [The position may be converted to a regular JRF of the Institute at any point, subject to IIT(ISM) rules.]
Job Description (in maximum of 100 words)	The research project focuses on the development and comprehensive characterization of cost-effective, non-toxic, and biodegradable zwitterionic biosurfactants derived from identified natural resources. It aims to explore their effectiveness in enhancing carbon dioxide hydrate formation and dissociation kinetics under high-pressure conditions, and to evaluate their synergistic interactions with conventional anionic surfactants for effective Kraft point reduction.
Essential Qualification	<ul> <li>M.E./M.Tech or B.E/B.Tech in Petroleum Engineering/Chemical Engineering/Mechanical Engineering with more than 60% marks or equivalent CGPA/OGPA.</li> <li>M.Sc. in Chemistry with more than 60% marks or equivalent CGPA/OGPA.</li> <li>Note:</li> <li>M. Tech./ M. Sc. Final Year students may also apply.</li> <li>All candidates must be either GATE or NET qualified.</li> </ul>
<b>Desirable Qualification</b>	Experience/Knowledge in the relevant fields.
Age and Relaxation (if any)	The upper age limit will be 28 years at the time of appointment. A relaxation in the upper age limit will be given to SC/ST/OBC (Non-Creamy layer)/ Female candidates as per GOI/DST rules.
Fellowship	Rs. 37,000/- + Applicable HRA per month for the first two years (from the start of the project) and Rs. 42,000/- + Applicable HRA per month for the third year based on satisfactory performance.
Last Date & Time	22 <sup>nd</sup> July 2025, 11.00 pm
Tentative Date of Interview	26 <sup>th</sup> July 2025, 10.00 am ( <b>Online</b> )

Application Procedure: Candidates interested in the position are required to submit a hard copy of their application along with self-attested copies of all relevant degree and experience certificates via speed post. Additionally, a soft copy should be emailed to the Principal Investigator. Shortlisted eligible candidates will be invited for an interview. Kindly mention the project number in the subject line of your application. The interview will be conducted in online mode.

Project Investigator (Prof. Chandan Sahu)