



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

Sanction No and Date: CRG/2022/002304, 27 Dec 2022	IIT (ISM) Project No. DST(SERB)(372)/2022-23/976/PE	Date: June 1 2023
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Senior Research Fellow (SRF) under DST-SERB Project

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

Position	Senior Research Fellow
Number of Position (s)	1
Title of The Project	Evaluation and Synthesis of Green Hydrate Inhibitors with Enhanced Hydrate Inhibition and Biodegradability
Principal Investigator	Prof. Ajay Suri, Associate Professor Department of Petroleum Engineering, IIT (ISM) Dhanbad ajaysuri@iitism.ac.in
Tenure of Project	Maximum 3 years
Job Description	<p>Procure natural chemicals such as polysaccharides, proteins, vitamins, nucleic acids, and other biomolecules and test their kinetic hydrate inhibition performance using the existing set-up under the DST SERB project.</p> <p>Perform biodegradability tests using existing set-up for the various natural chemicals.</p> <p>Synthesize new partially or fully biodegradable homo/co-polymers using high-performing natural chemicals with the existing high-performing commercial kinetic hydrate inhibitors and test their overall performance & biodegradability.</p> <p>Characterize all the procured and synthesized homo/co-polymers for their functional groups, molecular size distribution, molecular weight distribution and rheology using FTIR, Litesizer, APC and rheometer.</p> <p>Perform rudimentary modelling for estimating cooling rates and induction times in pipelines at different gas and water flow rates, temperature, and pressure conditions for field applications.</p> <p>Perform additional tests of high-performing natural and newly synthesized biodegradable chemicals with solvents and/or salts for enhancing hydrate inhibition and for field application.</p>
Essential Qualification	<ul style="list-style-type: none"> M.Sc. in Chemistry/Applied Chemistry/Biochemistry/Energy or related areas or ME/M.Tech. in Petroleum/Chemical Engineering or related areas with 60% marks or First class done after selection from NET tests by CSIR-UGC NET including lectureship (assistant professorship), GATE, national level exams

	<p>by central govt. departments and their agencies and institutions such as DST, DBT, DAE, DOS, DRDO, MHRD, ICAR, ICMR, IIT, IISc, IISER etc</p> <ul style="list-style-type: none"> • And two years of research/academic/industrial experience
Desirable Qualification	PhD in Science or engineering or a related field
Age and Relaxation (if any)	Preferred age below 30 and age relaxation will be provided for SC/ST/OBS/Women as per GoI norms
Fellowship	35,000 / month
Correspondence	<p>Email at ajaysuri@iitism.ac.in your</p> <ol style="list-style-type: none"> 1. C.V. 2. Statement of interest that includes how your background matches with the project and how you plan to execute the project. 3. Copies of all the certificates the qualifications
Last Date & Time	August 1, 2023, 5 PM
<p>Shortlisted candidates will be informed of the date of the interview. Mere possession of minimum qualification does not guarantee an invitation to the interview. Candidates will be shortlisted based on their merit and as per the requirement of the project. All candidates should make their own arrangements for their stay at Dhanbad if required. No TA/DA will be paid to attend the interview.</p>	

(Signature of PI)