



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: 20 / 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 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, 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	M. Tech. in (petroleum engineering / chemical engineering / environmental

	<p>engineering / biochemical engineering)</p> <p>Or</p> <p>M.Sc. in (chemistry / biochemistry)</p>
Desirable Qualification	Ph.D. in Petroleum Engineering / Chemical Engineering / Environmental Engineering / Biochemical Engineering / Chemistry / Biochemistry
Age and Relaxation (if any)	Preferred age below 30
Fellowship	35,000 / month
Correspondence	<p>Email at ajaysuri@iitism.ac.in your</p> <ol style="list-style-type: none"> 1. Resume and 2. Statement of interest (50 words)
Last Date & Time	February 28, 2023, 5 PM
<p>Shortlisted candidates will be informed on the date of interview. Mere possession of minimum qualification does not guarantee an invitation to the interview. Candidates will be short listed 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>	


 23/1/23
 (Signature of PI)