



22nd June 2020

ADVERTISEMENT FOR A JRF / SRF POSITION

Applications are invited from motivated and eligible candidates for the position of Junior Research Fellow (JRF) / Senior Research Fellow (SRF) in a DST (Technology Mission Division) funded Research Project titled **“STUDIES ON CO FUELED SELF-SUSTAINING UNMIXED COMBUSTION (UMC) REACTOR FOR INTEGRATED CO₂ CAPTURE AND POWER/STEAM GENERATION”**.

The Mission Innovation partner in this project is “The University of Manchester, United Kingdom” and “Thermax Ltd.” will be the Industrial partner.

In the present study, the potential of a dynamically operated high temperature UMC packed bed reactor will be investigated using CO as feedstock for CO₂ capture and extending its application to power/steam generation. A bench scale “proof of concept” test rig will be designed and fabricated. The experimental study will be conducted to demonstrate the CO to CO₂ combustion using UMC process and understand the effect of important parameters like inlet temperature, pressure, reactive gas flowrates and solid loading on the production of high temperature CO₂ stream. Kinetic data will be generated for reactions involved. The investigations related to carbon formation at high temperatures and its mitigation will also be carried out. The process simulation of integrating the proposed UMC system with a gas turbine or water boiler system to investigate its application for power/steam generation will be carried out using ASPEN. **The selected candidate will work on the experimental and simulation part of this work. The selected candidate will be allowed to register for a PhD program of BITS Pilani as a full time candidate if selected (subject to the PhD rules and regulations of the Institute).**

ELIGIBILITY

Essential Qualification: M.E. / M.Tech. in Chemical Engineering or equivalent with 60% marks in preceding examination. Meeting this essential qualification does not necessarily guarantee selection. Shortlisted candidates will be called for an online interaction / interview with the PI.

STIPEND: The amount of JRF fellowship will be as per DST norms (Rs. 31000/- for JRF and Rs. 35,000/- for SRF). The funding support will come from DST.

ACCOMMODATION: Hostel accommodation will be provided subject to availability and will be subject to rules and regulations of the Institute prevailing at the time of joining of the candidate.

DURATION: Initial appointment will be for one year, which is extendable up to 3 years solely based on performance. **It is expected that the selected candidate will join the project with immediate effect.**

HOW TO APPLY

Interested candidates are requested to submit a detailed CV to Prof. Srinivas Krishnaswamy (PI to the project) / Dr. Amol Deshpande (Co-PI), Department of Chemical Engineering, BITS Pilani K K Birla Goa Campus, Zuarinagar – 403726 by email: srinivas@goa.bits-pilani.ac.in / amoldeshpande@goa.bits-pilani.ac.in on or before 10th July 2020. Incomplete applications will be rejected. Only shortlisted candidates will be communicated via e-mail for further interaction / interview.

