



CALL FOR JUNIOR RESEARCH FELLOW FOR A DST-SERB PROJECT

Applications are invited from eligible candidates for **Junior Research Fellow (JRF)** to work on the following project sponsored by **DST-SERB** (SRG/2019/00336) under supervision of Dr. Bhanu Vardhan Reddy Kuncharam, at Department of Chemical Engineering, BITS-Pilani- Pilani campus, Rajasthan. The details are as follows:

Project Title	Assessment of Mixed-Matrix membrane system for CO ₂ separation for upgradation of Biogas to Bio-Compressed Natural Gas (Bio-CNG).
Principal Investigator	Dr. Bhanu Vardhan Reddy Kuncharam
Project Description	Biomass can be used to produce biogas which mostly contains CH ₄ , but it also contains impurities such as CO ₂ and H ₂ S. Bio gas can be used for direct heating, natural gas substitute, transportation fuel, or can be reformed to produce hydrogen for use in Fuel cells. However, CO ₂ and H ₂ S in biogas can cause corrosion in pipes of transportation of biogas or if biogas is directly used as fuel in engines. The upgradation, i.e. removal of CO and H ₂ S is required for biogas to be converted to Bio-CNG. This removal can be performed using traditional separation techniques such as absorption, adsorption or pressure swing adsorption. But these techniques are energy-intensive, not portable and cannot be used under harsh biogas conditions. Membrane systems offer an alternative to these conventional systems using a membrane material capable of separating CO and H ₂ S. However, the challenge in membrane systems is to obtain high permeability and high selectivity for deployment in commercial settings. The proposed topic will test various membranes such as Mixed-Matrix Membranes for CO ₂ separation and upgrade raw biogas to Bio-CNG.
Fellowship	Rs. 31,000/- per month (as per SERB and Institute guidelines)
Project Duration	18 Months
Essential Qualifications	M.E./M.Tech. with at least 60% marks in Chemical Engineering/Material Science/Environmental Engineering/Nano Technology or relevant area
Desirable Qualifications	Gate or UGC-NET qualification.
Application Deadline	31/07/2020
Tentative Interview Date	03/08/2020
Expected Joining Date	10/08/2020

Application procedure:

- Interested and eligible candidates can send their current resume or C.V. and a cover letter with details about educational qualifications, research experience and other relevant details to Principal Investigator (PI) at bhanu.vardhan@pilani.bits-pilani.ac.in with the subject "Application for JRF position".
- Only shortlisted candidates will be informed through email and called for interview through Video conference (skype or google meet) or at Chemical Engineering department, BITS, Pilani, Pilani Campus, Rajasthan.

Notes:

- For any queries regarding position, please feel free to email the PI.
- The selected candidate will be encouraged to join the PhD program of BITS, Pilani as per institute rules.
- No TA/DA will be paid for attending the interview.

Dr. Bhanu Vardhan Reddy Kuncharam (PI)
Assistant Professor

