

**WALK-IN INTERVIEW: Project Position to Join NTPC Funded Project as
Junior Research Fellow (JRF)**

*(Industry Research and Development Project: Sponsored by National Thermal Power Corporation
(NTPC), A Maharatna Company and Govt. of India Enterprise)*

GENERAL

National Thermal Power Corporation (NTPC), A Maharatna Company and Govt. of India Enterprise has sanctioned an industrial research project to Thapar Institute of Engineering and Technology (TIET).

Project title: On Developing Reliable Scale-up Procedures and Design Optimization for Pneumatic Fly Ash Conveying Systems for 500/800/1000 MW Units

Principal investigator: Dr. S.S.Mallick (Associate Professor), Mechanical Engineering Department, TIET

Co-Principal investigator(s): Dr. Gautam Setia (Assistant Professor), Dr. Anu Mittal (Assistant Professor), Mr. Atul Sharma (Lecturer), Mechanical Engineering Department, TIET

Sponsoring agency: National Thermal Power Corporation (NTPC)

Project duration: 21.02.2018 to 20.02.2020

Project value: Rs. 1.15 Crore

Number of positions vacant: 1 (*Junior Research Fellows*)

Principal Investigator: Dr. S.S.Mallick, Associate Professor, Department of Mechanical Engineering, TIET

INTERVIEW INFORMATION

Walk-in interview will be held at the office of the Head-Mechanical as per the following schedule:

Date: ~~01.10.2018~~ 03.10.2018

Interview Time: 10.00 AM onwards

Reporting time: 9.30 to 10 AM (late reporting may disqualify the candidates for interview)

Venue: Office of the Head of Department, Mechanical

Interview mode: The candidates will need to appear in front of a panel of interviewers in person.

Joining date: 01.11.2018

NOTE: The candidates are to bring academic transcripts starting from class X onwards and documentary evidence of any past design and/or fabrication project(s), that they might have carried out, wherever applicable. No TA/DA will be provided to attend the interview with project team and interview at TIET.

PROJECT INFORMATION

The existing system of fly ash conveying in coal fired thermal power stations in India (including NTPC power stations) suffers from non-optimized designs for the storage and transport system. As a result, the fly ash either does not get discharged from the ESP hoppers/storage facilities and/or does not provide adequate material transport capacity (and often resulting in pipeline blockage). This project will develop improved design criteria that will be part of NTPC's future design/specification for ash handling systems for thermal power stations in India. The project is divided into three major stages: (1) expansion of the existing laboratory of bulk solids handling and performing extensive test work; (2) carrying out practical validation tests at NTPC plant(s); (3) preparation of a design specification by closely working with NTPC project/design team. Major outcomes: achieving higher solids (fly ash) transport rates using pneumatic conveying systems (vacuum and pressure systems) without pipeline blockage and significant reduction in transport gas and operating power consumption, especially under stepped-up pipelines; optimal pipe sizing for given product, capacity and pipe layout; achieving higher fly ash flow rate coming out of storage vessels for fine, cohesive ash and controlled feed for excessive free flowing coarser ash; identification of possible root cause of unusually high level of agglomeration fly ash particles; improved ability to troubleshoot existing systems; getting a technical specification for 500/800/1000 MW plants including specific design for a certain plant and delivery of formulae/tables/figures to select compressor sizing, pipe sizing etc. for different solids/ash flow rates and ash properties (such as for different ash particle size distribution, bulk densities etc.).

POSITION DESCRIPTION

Position Title:

Junior Research Fellow

Number of Available Positions:

One (1)

Position Duration:

Till the end date of project (employment is subject to satisfactory performance)

Position Type:

Temporary (till the completion of the project, employment is subject to satisfactory performance)

Reporting Authority:

Dr. S.S.Mallick, Associate Professor, Department of Mechanical Engineering, TIET

Salary and Other Benefits:

- Rs. 25,000 per month + HRA (as per TIET guidelines or as admissible) + medical allowance
- Opportunity to get enrolled at TIET in PhD program
- Opportunity to network/work with different industries, including NTPC
- Opportunity to network/work with national and international/overseas experts
- Suitable travel allowance will be provided for all project related travel and conferences
- Opportunity to write and publish papers in journals and conferences

Key Responsibilities:

- Carry out purchase process for recurring and non-recurring items: preparation of technical specification, data sheet, schematic and design drawings for various equipment, auxiliary, accessory, instruments, fabricated items required for the laboratory development (pressure and vacuum pneumatic conveying system and hoppers); search and establish technical contact with potential suppliers regarding bidding process; offer evaluation/prepare comparatives, selection of final supplier, preparation of draft purchase

- order, establish and follow up network with NTPC and TIET purchase/finance/technical team for fund clearance, carry out purchase process including audit, bank guarantee, clearance of all bills etc.
- Facilitating/carrying out unloading, storing, installation, commissioning of equipment, instruments, auxiliaries etc.
 - Preparation of fabrication and detail layout drawing, including BoM.
 - Facilitating /carrying out fabrication of suitable parts and installation.
 - Installation of auxiliary/accessory parts to main set-up.
 - Travel to supplier facilities and NTPC project sites for purchase, site installation, testing, ash collection etc.
 - Installation of instruments/auxiliaries/accessories at NTPC site for validation and carry out site tests.
 - Establish reliable and safe testing/working procedure at the laboratory and perform test work on pneumatic conveying pilot plant and hopper/flow properties, including data analysis, modelling, scale-up prediction, validation at site, generating design document and interpretation.
 - Troubleshoot mechanical and electrical/electronic systems/equipment etc. at the laboratory.
 - Liaison with construction and maintenance department of TIET.

Essential Attributes/Qualification:

- Masters of Engineering/Technology OR Bachelor of Engineering/Technology Degree with overall first class on aggregate/CGPA in Mechanical/Industrial/Production Engineering
- Skills in manufacturing and fabrication (having adequate practical hands-on experience) and supervision
- Skills in preparing design/fabrication drawings using appropriate computer tools
- Ability to operate and troubleshoot mechanical equipments/components (having practical hands-on experience).
- Ability to operate and troubleshoot electrical and electronic equipments/components (having practical hands-on experience).
- Competency on MS-WORD, MS-EXEL and MS-POWERPOINT
- Competency in written and verbal communication in Hindi and English
- Ability to work in teams and having decent interpersonal skills
- Ability and willingness to travel to all over India on short notice
- Ability to work beyond scheduled working hours and on holidays/weekends in case of emergencies

Desirable Attributes:

- Ability to join the position on short duration (within a month of appointment)
- Having a valid driving license

Note: Fulfilling of the essential attributes/qualification does not guarantee to be shortlisted for interview. In case of exceptional candidates (in terms of experience/merit suitable to projects), minimum qualifying criteria may be relaxed.

CONTACT

All queries are to be addressed to:

Dr. S.S.Mallick. Associate Professor

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