THAPAR Institute of Engineering and Technology, PATIALA

Electrical and Instrumentation Engineering Department

ADVERTISEMENT FOR VACANCY IN DST SPONSORED PROJECT UNDER MISSION INNOVATION (MI- SMART GRID)

This project is a multi-consortium project with Lead Institute IIT Delhi and partner Institute TIET, DTU, SKRKR Engineering College, Anna University, Tata Power, and Prasad and Company along with International Collaboration NTNU Norway & CES Tech.

Project title: Demonstration of Grid Supportive EV Charger and Charging Infrastructure at LT Level(D-EVCI)

Position: JRF (two) (One in Power Electronics and another in Microcontroller)

Duration: Three years

Stipend: As per DST guidelines

(Rs. 25,000 + HRA (for first year) and Rs. 28,000 + HRA (rest of duration))

Qualifications:

Essential: Master's degree in electrical engineering/power systems/instrumentation/ control systems/power electronics/ Electronics Engineering or equivalent with minimum of 55% marks or 6.0 cgpa.

Specialization: Power Electronics and Control/ Microcontroller

Desirable: Working knowledge of power electronics and control systems (JRF 1). For JRF 2, working knowledge of different microcontroller, PCB design and ready to work on any electronics hardware. Candidates with NET/GATE and research experience in the relevant field would be given preference.

Last date of application: 20th August, 2018.

1. Interested candidates may send their typed CV* through email (with subject as "JRF Vacancy for DST Project") to the PI (mukesh.singh@thapar.edu) before last date.
2. No application would be considered after the due date.
3. Shortlisted candidates will be informed about the interview date through email only.
4. No TA/DA will be given to the candidates called for the interview.
5. The candidate selected for JRF may also get enrolled for Ph.D. degree simultaneously as per the Institute norms.

Dr. Mukesh Singh,

Principal Investigator,

Electrical and Instrumentation Department,

Thapar Institute of Engineering and Technology, Patiala.

E-mail: mukesh.singh@thapar.edu

*Note: The CV should include candidate's name, date of birth, address, mobile, e-mail, qualifications (with subject, year of passing, %age/cgpa), achievements, list of publications (if any), research experience (if any), name of two referees and hardware experience if any (200 words)

Demonstration of Grid Supportive EV Charger and Charging Infrastructure at LT Level(D-EVCI)

VISION

To develop strategies for the optimization and control of IoT based EV charging facilities and smart EV charger with the following capabilities: V2G and G2V, net metering and inertial response

OUTCOMES

1 Proof of new concepts at a device and system level while creating IoT based EV charging infrastructure

2 Demonstration of V2G and G2V control strategies

3 DMS for Optimal EV charging/discharging

4 Demonstrate communication between different entities in the system

5 Human resource building

PROJECT TEAM

NATIONAL

IIT Delhi
Dr. Sukumar Mishra
Dr. Ranjan K. Malik
Dr. Ashu Verma

DTU
Dr. Vishal Verma

Thapar University
Dr. Mukesh Singh

SRKR Engineering College
Dr.G.P. Saradhi Varma
Dr. I. Hemalatha
Dr. N.G. Krishna Murthy

Anna University
Dr. V. R. Sarma Dhulipala

INTERNATIONAL

NTNU
Norwegian University of Science and Technology
NTNU
Dr. Marta Molinas

**CES TECH**
Anis Jouini

INDUSTRY

PRASAD & COMPANY
(PROJECT WORKS) LIMITED

TATA POWER-DDL

METHODOLOGY

1 Design and development of smart bidirectional EV chargers with/without photovoltaic

2 Development of bi-directional metering for V2G and G2V concepts

3 Optimization strategies for transformer and feeder load management enabling DSM

4 Development of IoT based communication infrastructure for EV charging stations

5 Demonstration of the charging infrastructure on real feeders under various test conditions in India
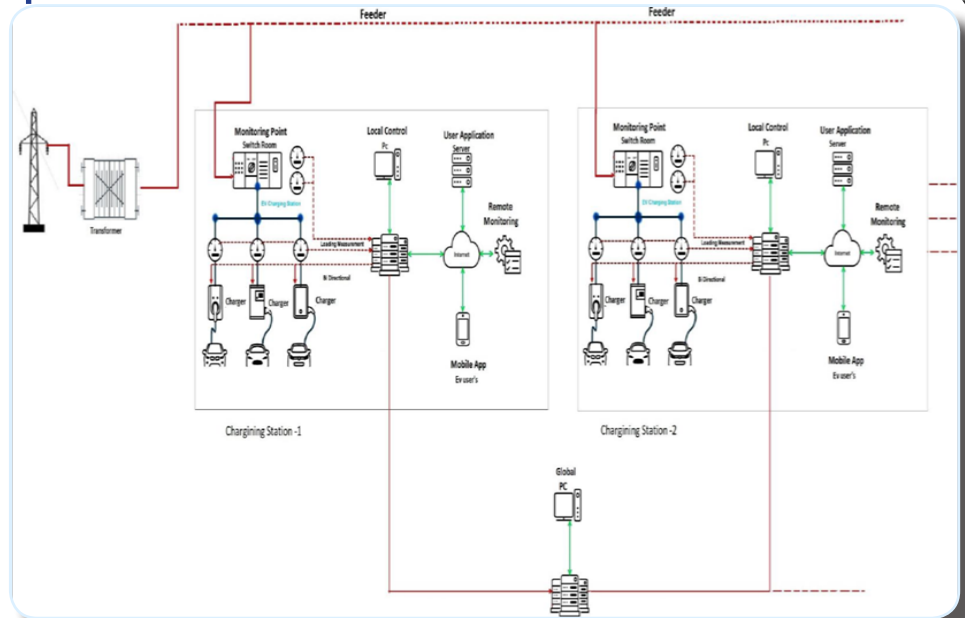
DEMONSTRATION

1 Charging algorithms to control EV charging/discharging will be formulated and tested

2 The project will demonstrate using efficient control strategies that grid support can be provided

3 Demonstrate communication between different chargers

4 IoT Interface (mobile application/website) between EV users and charging stations

5 The field demonstration of the charger up to 40 kW