

इंडियन इंस्टीट्यूट ऑफ टेक्नोलॉजी दिल्ली  
हौज खास, नई दिल्ली -110016  
(औद्योगिक अनुसंधान एवं विकास इकाई)  
INDIAN INSTITUTE OF TECHNOLOGY DELHI  
Hauz Khas, New Delhi-110016  
(Industrial Research & Development Unit)

No. IITD/IRD/RP04313G/ 107511

Dated:28/12/2022

**Advertisement No.: IITD/IRD/264/2022**

Applications from Indian nationals are invited for Project Appointment under the following project. Appointment shall be on contractual basis with consolidated pay subject to periodic performance review and renewable yearly or upto the duration of the project, whichever is earlier. निम्नलिखित परियोजना के तहत परियोजना की नियुक्तियों के लिए भारतीय राष्ट्रीयता के उम्मीदवारों को वॉक-इन परीक्षा/साक्षात्कार के लिए उपस्थित होने के लिए आमंत्रित किया जाता है। अपॉइंटमेंट वार्षिक आधार पर या परियोजना की अवधि तक समेकित वेतन पर संविदात्मक आधार पर जो भी पहले हो, होगा.

The project involves design, development and testing of 5kW first prototype of EV motors and controllers, and then scaling up the prototype for 30 kW system for e-loaders. It offers excellent opportunities for overall professional development of fresh PhD graduates, or experienced M. Tech and B. Tech candidates, with a supportive environment, by working towards the real need of the indigenous development of EV subsystems for Indian conditions. The developed subsystem is planned to be tested under harsh environments with several field trials, before compliance testing, and certifications for industry level production and usage. Looking for engineers to work on industry level product development with on par salary.

Subjects of study for the selection procedure: Course of study related to machine design engineering, manufacturing process, thermal engineering, product design technology, machine design, hands on experience in CAD, thermodynamics.

Title of the Project	Development of High Efficiency Motors and Controllers for EVs for Indian Driving Conditions (under Development of Electric Vehicle) (RP04313G)	
Funding Agency	Ministry of Electronics and Information Technology	
Name of the Project Investigator	Prof. Krishna Raj Ramachandran Potti [email ID:meitycartiitd@gmail.com]	
Deptt./Centre	Centre for Automotive Research and Tribology (CART)	
Duration of the Project	Upto:22/03/2024	
Post (s)	Consolidated fellowship / Pay-slab	Qualifications
Sr. Project Scientist (1) (Power Electronics and Drives Engineer)	Rs.45,000-48,200-51,400-55,400-59,400-63,400/- p.m. plus HRA @ 24%	Ph.D in Power Electronics and drives, or experienced Masters Graduate in Power Electronics & Drives. Required qualification: (1) Looking for fresh Ph. D. graduate with relevant experience with hands-on in Power Electronics and Drives or equivalent, OR (2) M.Tech/M.E/MSR in Electrical Engineering or equivalent with Specialization in Power Electronics and Electric Drives or electric mobility or equivalent with two or more years of relevant experience, and 1 st class or above in Bachelors in Electrical Engineering or equivalent, with GATE qualification in EE, OR (3) Dual Degree (Integrated Masters Degree) in Electrical Engineering with Specialization in Power Electronics and Drives or equivalent, for CFTI candidates/ with GATE qualification in EE for non-CFTI candidates, with two or more years of experience. Hands-on in power electronics, drives and motor control development is preferred. Work Requirement and expectations: - Product level design and development of power electronic systems for automotive grade drives, - Understanding, and digital control implementation in real time DSPs and FPGA systems, hands-on these platforms are preferred. - Design of PCBs for power electronic systems, validation of control concepts through simulation platforms in open-source platforms like spice. - Generation and procurement of Bill of Materials (BoM) for power electronic converters, - Participation and involvement in technical reviews of requirements, specifications, designs, - Active lead in developmental activities and detailed project report preparation. - Essential soft skills are expected. Subjects of study for the selection procedure: Power electronics, Electric Drives and Control, Electrical Machines, Digital Control of Power Electronic Systems or equivalent, experience on embedded C, VHDL, Verilog

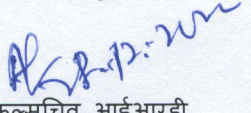
P.T.O.

<p>Jr. Research Fellow (1) (Electromagnetics Engineer):</p>	<p>Rs.31,000/-p.m. plus HRA @ 24%</p>	<p>1st class M.Tech/ME/MS(R) in Electrical Engineering or equivalent with post-graduation done through valid GATE score in EE paper, OR (2) 1st class or above B. Tech in Electrical Engineering or equivalent, with 2 years of relevant experience in industry, and valid GATE score in EE paper. The candidate is expected to have in-depth knowledge in the field of electrical machines and their design. Knowledge of different FE simulation software like ANSYS MAXWELL 2D/3D, JMAG, MOTORSOLVE is desirable. Type of Work to be performed by the project staff: (1) Analytical design of permanent magnet motors, (2) Simulation and performance analysis of designed motor using electromagnetic software, (3) Thermal analysis of EV Motor, (4) Leading a team for prototype fabrication, (5) Development of test plan and performance validation of fabricated prototype, (6) Preparation of project report, (7) Other works as mentioned by PI/Co-PI. Essential soft skills are expected. Subjects of study for the selection procedure: (1) Electrical Machines (UGLevel), (2) Electric Drives (UG Level), (3) Mathematical Modelling of Electrical Machines (PG level), (4) Power Electronics (UG Level).</p> <p>*The requirement of NET/GATE examination for the selection to the post of JRF/SRF may be relaxed for the candidates who have graduated from Centrally Funded Technical Institutes (CFTIs) with a CGPA of more than 8.000 (80% aggregate marks).</p>
<p>Jr. Research Fellow (1) (Mechanical Engineer) (1)</p>	<p>Rs.31,000/-p.m. plus HRA @ 24%</p>	<p>1st class M. Tech/ME/MS(R) in Mechanical Engineering or Production Engineering or equivalent with post-graduation done through valid GATE score in ME or PI paper, OR (2) 1 st class or above in B. Tech Mechanical Engineering or equivalent, with 2 years of relevant experience in industry, and valid GATE score in ME or PI paper. The candidate is expected to have in-depth knowledge and preferably hands-on in the field of manufacturing techniques and material processing selection for electrical machines, thermal analysis &amp; design for electrical machines and electrical system, CAD design for electrical machines and proficiency of working with software like CATIA or SOLIDWORKS or equivalent, knowledge in materials for machine design and manufacturing. Proficiency in motor design simulations in Electromagnetic FEA software is a plus. Type of work to be performed by the project staff: (1) Mechanical design and development of Electric Motor, (2) FEA and simulation development, thermal analyses and prototype build and testing of electric motors, (3) cross functional team interaction and developmental work on electric motor design and thermal design of motors and power converters, (4) Development of CAD models, including part and assembly drawings, Bill of Materials (BOMs) to support manufacturing, testing and assembly, (5) Carrying out DFEMA and design reviews, (6) Participation and involvement in technical reviews of requirements, specifications, designs. Essential soft skills are expected.</p> <p>*The requirement of NET/GATE examination for the selection to the post of JRF/SRF may be relaxed for the candidates who have graduated from Centrally Funded Technical Institutes (CFTIs) with a CGPA of more than 8.000 (80% aggregate marks).</p>

The candidates who are interested to apply for the above post should download **Form No. IRD/REC-4** from the IRD Website (<http://ird.iitd.ac.in/rec>) of IIT Delhi and submit the duly filled form with complete information regarding educational qualifications indicating percentage of marks/division, details of work experience etc. **by e-mail with advertisement No. on the subject line to Prof. Krishna Raj Ramachandran Potti** at email id: [meitycartiitd@gmail.com](mailto:meitycartiitd@gmail.com)

IIT Delhi reserves the right to fix higher criteria for short-listing of eligible candidates from those satisfying advertised qualification and requirement of the project post and their name will be displayed on web link (<http://ird.iitd.ac.in/shortlisted>) alongwith the online interview details. **Only short-listed candidates will be informed for online interview.** In case any clarification is required on eligibility regarding the above post, the candidate may contact **Prof. Krishna Raj Ramachandran Potti** at email id: meitycartiitd@gmail.com

5% relaxation of marks may be granted to the SC/ST Candidates. In case of selection of a retired/superannuated government employee, his/her salary will be fixed as per prevailing IRD norms. अनुसूचित जाति / अनुसूचित जनजाति के उम्मीदवारों को अंकों की 5% छूट दी जा सकती है. एक सेवानिवृत्त सरकारी कर्मचारी के चयन के मामले में उसका वेतन वर्तमान आईआरडी मानदंडों के अनुसार तय किया जाएगा। **The last date for submitting the completed applications by e-mail is 10/01/2023 by 5.00 p.m.**

  
सहायक कुलसचिव, आईआरडी

वितरण

- Head of the Deptt./Centres/Units : It is requested that the contents of the Above Advt. be brought to the notice of the staff working in your Deptt./Centre/Unit
- Webmaster, IRD : To put advertisement at IITD website.
- Notice Boards
- Advertisement file
- Prof. Krishna Raj Ramachandran Potti, PI, Centre for Automotive Research and Tribology (CART)
- Copy to Chairperson, DRC/CRC