Indian Institute of Technology Jodhpur
Office of Research and Development

Advt. No.: IITJ/R&D/2020-21/23 15 October 2020

Project Recruitment

Applications are invited from the citizen of India for filling up the following temporary position in the Sponsored Research Project at this Institute. The position is purely temporary, initially for a period of 06 Months, and extendable but co-terminus with the duration of the project, on contractual basis with consolidated pay. The requisite qualification, experience and others details are given below:

1.	Project No.	S/SERB/SVS/20190071
2.	Project Title	Design and Development of Indigenous On-board Autopilot and Vision-based Navigation Systems for Autonomous Flight of Hover Capable Rotary-wing Vehicles
3.	Name of the Project Investigator	Dr. Suril V. Shah
4.	Duration for initial appointment	01 Year
5.	Name of the Post	Research Associate
6.	Post	01
7.	Consolidate Pay	47,000/-
8.	Minimum Qualification and Experience	Eligibility: PhD in either Electrical Engineering/Mechanical Engineering/Aerospace Engineering or Computer Science & Engineering. Or M.E/M. Tech. either in Electrical Engineering/Mechanical Engineering/Aerospace Engineering or Computer Science & Engineering having 3 years of research, teaching and design and development experience with at least one research paper in Science Citation Indexed Journal Desirable : • The Candidate should possess hands-on experience in Autonomous mini helicopter, Sensor and Servo calibration and integration. • The candidate should possess some experience in ROS, Python, Matlab, C/C++, Arduino, Raspberry pi, Pix4D and basic experience of controlling and simulation of quadrotors. The candidate should have the knowledge of ROS Navigation Stack.

9.	Job Description	Data acquisition, Data processing, Develop SLAM and Navigation stack using ROS and get video feed from the camera mounted on rotary-wing vehicle to the remote PC. Sensors and RC Servo calibration and integration. LabView.
10.	Maximum Age	Below 35 Years
11.	Brief description of Project	Development of miniature autonomous hover capable flying vehicles with payload carrying capacity of 1kg. The development of such a mini flying vehicle is made possible with advancements in technological developments of small size but efficient gyros, accelerometers, magnetic sensors, servo controls, communication equipment, GPS, power plant and payloads comprising of the camera, IR sensor etc. These mini flying vehicles offer the advantage of portability. Hence, it can be carried near the mission area for its deployment and gather necessary information about surroundings terrain. Apart from surveillance, these autonomous flying vehicles with small payload capacity will be useful in law enforcement, defence applications, agricultural survey, forestry, environmental monitoring etc. The objective of this proposal is to design and develop an indigenous autopilot system and vision based navigations system for operation under GPS denied environment. The proposed project would systematically focus on structural optimization for payload integration, on-board controller and power management, vision-based flight, development of the portable ground station, and performance evaluation of the vehicle and payload sensor in outdoor environments.

The candidates possessing the requisite qualification and experience should apply through the ONLINE process up to **29 October 2020**. The candidates are advised to send a soft copy of the application with all relevant documents to ***office_rnd@iitj.ac.in*** ***(Please mention the advertisement number in the subject line of the email).No need to send a hard copy***.

General Instructions to Applicant(s)

1.	The post(s) is purely temporary and contractual for a period of 06 Months, and extension based on satisfactory performance, but co-terminus with the duration of the project
2.	Application which is incomplete, not in prescribed format, without photograph or unsigned will be summarily rejected.
3.	Certificate in support of experience should be in proper format i.e. it should be on the organizations letter head, bear the date of issue, specific period of work, name and designation of the issuing authority along with his signature.
4.	The Institute reserves the right to: (a) conduct written/trade tests for such posts wherever if the circumstances so warrant (b) not filling any of the advertised positions (c) fill consequential vacancies arising at the time of interview from available candidates. The number of positions is thus open to change.

5.	The Institute shall verify the antecedents or documents submitted by a candidate at the time of appointment or during the tenure of the service. In case, it is detected that the documents submitted by the candidates are fake or the candidate has a clandestine antecedents/background and has suppressed the said information, then his/her services shall be terminated.
6.	No TA/DA shall be paid to the candidates for attending the interview.
7.	No correspondence will be entertained from candidates regarding interview and reasons for not being called for interview.
8.	Canvassing in any form will be a disqualification.
9.	No interim correspondence will be entertained.
10.	No need to send hard copy.

Officer In-charge
Research & Development