



# Indian Institute of Technology Jodhpur

## Office of Research and Development

Advt. No.: IITJ/R&D/2020-21/26

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/ISRO/SVS/20190065
2.	Project Title	Reactionless Maneuvering and Visual Servoing for Space Flying Robot and Half Humanoid
3.	Name of the Project Investigator	Dr. Suril V. Shah
4.	Duration for initial appointment	06 Months
5.	Name of the Post	Junior Research Fellow
6.	Post	01
7.	Consolidate Pay	31,000/-
8.	Minimum Qualification and Experience	<p><u>Eligibility:</u> B.Tech./ B.E. in Mechanical Engineering or Aerospace Engineering with valid GATE score.</p> <p>Or</p> <p>M.Tech/M.E in Mechanical Engineering or Aerospace Engineering with GATE qualified.</p> <p><u>Desirable :</u></p> <ul style="list-style-type: none"><li>• The Candidate should possess good knowledge related Robot Kinematics and Dynamics.</li><li>• The person should know how to simulate Robotic arms in MATLAB.</li><li>• The Person should have knowledge of how to use ReDySim, RoboAnalyzer, and Robotic Toolbox for MATLAB.</li><li>• The candidate should know ROS and Python.</li></ul>
9.	Job Description	Design and Simulation of Robotic arm's kinematics, Dynamics using RedySim and MATLAB. Devise ROS programs for half humanoid robot for both simulation and real robot. Technical Documentation.
10.	Maximum Age	Below 35 Years
11.	Brief description of Project	In space environment, the motion of robotic manipulator mounted on a satellite base induces reactions on base due to dynamic coupling. The stationary attitude is desirable for

		<p>uninterrupted communication and manipulation accuracy. The combination of reactionless manipulation and visual servoing can provide benefit of both, i.e., reduced fuel consumption and robust control. The nano-satellite class robot affects the path planning strategies and hence requires the specific design and development plan. This motivates to investigate reactionless manipulation and visual servoing of multi-arm space flying robot and half-humanoid.</p> <p>The objectives of the project are framed as: Investigating strategies for Reactionless manipulation and visual servoing of multi-arm space flying robot and humanoid robot, respectively for SSR and Humanoid first flights, Development of Framework for Visual servoing of multi-arm space flying robot and half-humanoid with inclusion of secondary tasks, such as reactionless manipulation and other manipulation tasks for SSR and Humanoid follow-up flights, Design and development of Earth-based Experimental Test-bed of planar dual-arm robotic system for implementation of visual servoing and reactionless manipulation.</p>
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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](mailto: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