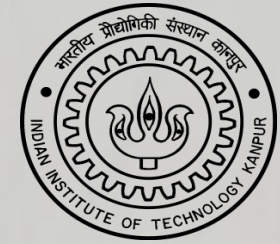




# BOEING & IIT KANPUR



JOINTLY LAUNCH

## ABHYAST PHASE - III

The office of Research & Development at IIT Kanpur calls for research proposals from Under Graduate students from all the disciplines for the formulation of a completely autonomous robotic system for difficult and rugged terrains.

### GENERAL INFORMATION:

**Project Duration:** one year

**Team Size:** Team sizes should be between 3 to 6 members.

**Team Requirements:** Each team should have representatives who have expertise in

- (a) Sensory systems track,
- (b) Actuation system track
- (c) System integration track

**Presentation:** Each team should submit a hard copy of the written proposal, signed by individual members, to Dr. Shantanu Bhattacharya (office address enclosed below), with their name, roll no & email ids. They should also submit a soft copy in pdf format to [bhattacs@iitk.ac.in](mailto:bhattacs@iitk.ac.in) latest by 04:30pm of October 18, 2011. They will have to make a presentation of maximum duration **20** minutes in front of a selection committee on October 19, 2011 (05:30PM onwards in FB370)

**Judgement:** Presentations will be judged by a selection committee comprising of faculty members from different disciplines at IITK.

**Results:** The selected teams will be informed about the further details of the project.



### TENTATIVE SCHEDULE

Date of Announcement	October 10, 2011
Last Date for Receiving of Proposals	October 18, 2011
Date of Presentation	October 19, 2011
Announcement of Results	October 19, 2011
Official Start of the Project	October 24, 2011

### REQUIREMENTS OF THE ROBOT:

The vehicle

- Should be contained in a space of size 30cm x 30cm x 30cm
- Should be able to traverse successfully on rough terrain in an unknown environment.
- Should be equipped with suitable sensors which can detect the oncoming surface irregularities (Sensory module)
- Should be able to perform all kinds of mechanical motions, including a *frog-like-jump* (Actuator module)
- Should be able to execute the jump over an obstacle of height 1ft or over a crater of diameter 1ft without any disfunctionality.
- Should have a completely integrable and well packaged design
- Should be able to carry a payload of up to 500 grams
- Should not exceed 2.5Kg in total weight (*including payload*).

### SPECIAL BENEFITS

- Selected team members will be funded with a *monthly stipend*.
- Selected team members will get opportunities to present their project work and skills to nationwide community by participating in workshops and competitions.
- The students will also be able to interact with national and international experts from Boeing Company and faculty members at IITK.

In case of any queries, please Contact: Dr. Shantanu Bhattacharya, NL-115, Manufacturing Sciences Laboratory, Department of Mechanical Engineering,

Indian Institute of Technology, Kanpur, email-id: [bhattacs@iitk.ac.in](mailto:bhattacs@iitk.ac.in).