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 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.

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 crate 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).

TENTATIVE SCHEDULE

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<td>October 18, 2011</td>
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<td>Date of Presentation</td>
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<tr>
<td>Announcement of Results</td>
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<td>Official Start of the Project</td>
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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.