

**Summer Training Workshop / Course on Autonomous
Rescue Robotics and Intelligent Environment
Sensing**



ORGANISED BY

AGV, CERR

(AUTONOMOUS GROUND VEHICLE RESEARCH GROUP,

CENTER OF EXCELLENCE IN ROBOTICS RESEARCH)

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR, INDIA

OBJECTIVE OF THE COURSE

Exploration and search is a typical task for autonomous robots performing in rescue missions, specifically addressing the problem of exploring the environment and at the same time searching for interesting and critical features within the environment.

While autonomous exploration has been investigated in the past, we specifically focus on the problem of searching these features in the environment during the map building process. Such techniques and softwares are usually very complex and confusing for the uninitiated research students. The objective of this program is to make you aware of the various range of modules involved in the field of autonomous rescue robotics and some of their implementations for practical learning to foster interdisciplinary research in this upcoming field. This being multidisciplinary, several renowned and involved professors within the institute will be associate in conducting theory and Hands on sessions.

TOPICS TO BE COVERED:

The course has been divided into six broad modules starting from Microcontrollers to Machine Intelligence and Mapping, focused at rescue and situation awareness.

MODULES	TOPICS
MODULE 1	Microcontrollers and their Applications
MODULE 2	Robotic and operating systems (ROS)
MODULE 3	Image Processing
MODULE 4	Controls
MODULE 5	Machine Learning and Deep learning
MODULE 6	Localisation and Mapping

COURSE MATERIALS:

The program is theory as well as application oriented. Necessary course materials will be provided to the participants during the course.

WHO CAN ATTEND ?

The course is addressed to the BTech and MTech students of technical , engineering and science streams having interest in autonomy, robotics, computer vision, deep learning and SLAM. Number of seats being limited the course participants will be selected mainly on first come first serve basis, their CGPA and their fields of interest in robotics. Students with excellent academic records will be preferred for the course. Others having experience on working with related areas will also be considered. All

the participants are expected to possess their own laptops for this course. The required pre installations will be communicated to the selected participants at a later date.

HOW TO APPLY ?

Interested students have fill the following Google Form. Limited number of candidates will be selected for each of the phases according to the parameters stated above. The selected students will be informed by email about the further proceedings regarding registration and fee payment.

To apply for the course, fill your details in the google form :

<http://bit.ly/IITKGP-RoboticsShortTermCourse>

In case, someone finds any difficulty in registration, may directly contact on this email id or phone number :

Yash Goyal – goyalyash32@iitkgp.ac.in

Mobile No - 9602765070

IMPORTANT DATES:

The course duration is of 7 days (1 week time) . The classes will be conducted for 8 hours per day including 2 hours of hands on sessions.

The course will be conducted in 3 phases, 1 week each to accommodate the strength and timeline of different colleges as far as possible.

Phase	Duration	Last date for Registration	Date of Announcement of selected students
Phase I	12 th June – 18 th June 2017	4 th June 2017	6 th June 2017
Phase II	19 th June – 25 th June 2017	11 th June 2017	13 th June 2017
Phase III	26 th June – 2 nd July 2017	18 th June 2017	20 th June 2017

COURSE FEES:

The course fee for all the students is kept at a subsidised rate of INR **6000/- which includes accommodation (only for boys, however girls who can arrange for their own accommodation can register for this course), required course materials in**

soft copy, certificate and accessories for practical implementations. The students have to bear their travel cost and the living expenses on their own.

The details of the payment mode will be intimated to the selected students in due course of time on their Email addresses provided in the Google form.

NOTE:

In case of electronic money transfer, please submit a copy of money transfer record with details of bank, name of the account holder, amount, transaction number and date. The bank proof must be uploaded with the online registration form.

The Course Fees is Non – Refundable to ensure reservation of seats in favour of selected students (since the seats are limited). However, in genuine cases of emergency 50% of the fees will be refunded, if informed 2 days prior to the commencement of the course. The final decision on refund is left to the authority.

CERTIFICATE

Certificate will be issued to each participant from the Office of Dean (CEP), Indian Institute of Technology, Kharagpur only after successful completion of all the course hours and their evaluation.

COURSE COORDINATOR

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