QIP Short Term Course On 3D Reconstruction using Geospatial Data and Image Analysis for Situational Awareness in Hazardous Environment

A Continuing Education Programme of
Indian Institute of Technology
Kharagpur

16th May - 21th May 2016

Coordinator

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Organized by

Department of Mining Engineering
Indian Institute of Technology
Kharagpur – 721 302

OBJECTIVES AND INTRODUCTION

Understanding of the modern technologies, the underlying principles, their high application potentials and limitations of the geo-spatial, geo-imaging & remote sensing techniques including useful applications for understanding the digital databases & hazardous environments forms the basics of this course.

The Geo-spatial, Geo-imaging & Remote Sensing Division of the department has developed high level of expertise and experience in the applications of these modern technology and advanced information handling algorithms with the recent methods including digital photogrammetry, GIS and DGPS etc. in the past years. The proposed academic / executive development program will be offered for the academia and industry officials including the managerial executives, with the theoretical and practical hands-on exercises.

SCOPE

The aim of this course is to focus on the fundamentals and applications of geo-spatials, geo-imaging and remote sensing technologies. This will include lectures, tutorials and practical sessions covering almost all the aspects of the three broad areas mentioned above, as:

- Linear Algebra and Probability Theory
- Coordinate Systems & Reference Frames, Introductory Mathematics of Positioning and Satellite based Navigation
- Theory and mathematical concepts for GPS, DGPS, GNSS, Geo-ERM, Geo-Intelligence
- Localization Concepts & the Mathematical Methods for Image Based Localization
- Basics of Remote Sensing
- Theory and Hands-on exercises of Optical Remote Sensing; Radar Remote Sensing; InSAR, DInSAR, PSInSAR;
- Theory of 3D reconstruction
- Theory and Hands-on exercises of Stereo Imaging
- Data capture using Terrestrial Laser Scanner and its Processing

COURSE FACULTY

The entire course will be covered by the faculty members of IIT Kharagpur and / or a few experts from industry / other institutes.

WHO SHOULD ATTEND

Faculty members of University and AICTE approved colleges / engineering colleges who want a thorough guided tour on Theory and Applications of Geo-Spatial, Geo-Imaging & Remote Sensing Technology.

Practicing Field Engineers, Professionals, Functional managers, administrators and researchers in the positioning, mapping, and satellite based navigation and geo-imaging industry; may also join the course.

It is desirable the participants have their Laptop during the course.

ELIGIBILITY

B.E. / B.Tech / M.E / M.Tech or equivalent degree in relevant science / engineering disciplines. Science background students, having sufficient work experience in relevant field, may also apply.

REGISTRATION

Category of eligible participants / delegates:

(a) Teachers from AICTE Approved Engineering Colleges – No registration fee and AICTE, Govt. of India norms would be followed. However, a Demand Draft of ₹ 1,000/- should be enclosed with the application which will be refunded to the participants attending the course (*Filled Application/ Registration form should reach at the Department of Mining Engineering, IIT Kharagpur by **5th May, 2016**; total participants limited to **30**: selection of participants is on **first-come-first-serve** basis*).

(b) Scientists / Technologists / Engineers: Participants from Industry may also attend (limited no. of seats on first-come-first-serve basis): **should apply by 5th May, 2016 course fee ₹25,000/-.** (For Students participants course fee is **₹5000/-).** Self sponsored candidates will be provided course materials, working lunch, tea & snacks during the course hours. Traveling, boarding & lodging expenses should be borne by participants.

The registration fees to be paid through Bank Draft should be in favour of ***'CEP - STC, IIT, Kharagpur'*** payable at Kharagpur.

LOCATION

Kharagpur is an important Railway junction station about 116 km west of Kolkata. There are frequent train services from Howrah Railway Station and it is well connected to almost all parts of the country. The Institute is about 5 km away from Kharagpur Railway Station. Taxis, Auto-rickshaws, cycle rickshaws are available as transport.

ACCOMMODATION

Limited shared accommodation in the guest house is available. However, efforts will be made to book accommodation in the guest houses on receipt of confirmed request from the participants by 5th May, 2016.

Enquires should be addressed to:

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REGISTRATION FORM

Please complete the details below and mail it to the Course-Coordinator's address along with the registration fee. You may scan and email all the documents as an advance copy of your application.

1. Name : …….
2. Designation : …….....
3. Address (Office): ……
   : ……...
4. Phone (Mob.) : …….....
   Phone (Res.) : ……...
   E-mail (compulsory): ……..
5. Male/Female: ……..……
6. Highest academic qualification: …….....
7. Accommodation Required (Y/N): ……
8. Bank Draft No…….. Date……..
   Amounting ₹……drawn on……Bank

For QIP Sponsored Candidates [Category-(a)]
Recommended and forwarded

Date: Signature and Seal of the Head of the Organization

For others [Category-(b)]

1. Draft No. _____ dt. _____ amounting ₹ _____ drawn on _____ Bank.
2. Recommendation and forwarding letter from the organization where working.

Date: Signature of the Applicant

Place:

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