

Presentation

on the progress of TEQIP-II funded

**Centre of Excellence (CoE) in the area of
Geoinformatics (Remote Sensing, GPS & GIS)**

at

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL

Presented by

Dr. S. K. Katiyar

Professor in Civil Engg. Deptt. & Project Coordinator

OUTLINE OF PRESENTATION

- *Introduction*
- *Project Objectives*
- *Academic & Research Activities*
- *Consultancy works*
- *Training Pedagogy*

INTRODUCTION

- Modern ground surveying & analysis techniques [GPS](#), [Remote Sensing](#) and [GIS](#) are known by single name *Geoinformatics or Geomatics*.
- With the advancement of technology and availability of high spatial resolution remote sensing satellite data, the works related to mapping for city level planning, infrastructure development and management, disaster management, farming, environmental studies and impact assessment, natural resource management and many more applications can be carried out in a more efficient manner using remote sensing, GPS and GIS techniques

INTRODUCTION

- Because of computerization Geoinformatics techniques are very useful in the decision support system for various type engineering projects and e-governance, hence used for diversified applications.
- In our country a very few academic institutes are having facilities for the [manpower training, research and consultancy](#) activities in the area of Geoinformatics.
- The MANIT Bhopal CoE in Geoinformatics has focus on the above mentioned activities.

PROJECT OBJECTIVES

- The Centre will be an interdisciplinary Centre of Competence for Geoinformatics, serving the geospatial community.
- By integrating basic and applied research with graduate/post-graduate education and outreach activities, we will be contributing for the application of new technologies and developing methodology.
- Geographic Information Systems (GIS) can serve as an important interface between the real and the virtual worlds. The concept of 'Digital Earth' addresses public participation and 'spatially thinking citizens', including education and learning across all disciplines and levels.
- The centre is planning to foster through academic & outreach programmes, the above mentioned needs.

PARTICIPATING DEPARTMENTS AND FACULTY

- The Civil, Mechanical, Electrical, Electronics & Computer Science & Architecture & Planning Department faculty and students will participate in the proposed centre activities.
- At this stage we have identified some of faculty members from various departments as below:
- Dr. S. K. Katiyar, Professor in Civil Engg. Deptt. has completed his M.Tech. & Ph.D. Qulaification in the area of Geoinformatics from IIT Kanpur and working as Centre Coordinator.

PARTICIPATING DEPARTMENTS AND FACULTY

- Following faculty members CV was included at the time of project submission :
- Dr. A. M. Shandilya, Professor, in Electrical Engg.
(Target application area: R.S., GIS & GPS based Power distribution system,smart grid concept)
- Dr. Siraj Ahmad, Professor, in Mechanical Engg.
(Target application area: Wind Energy site selection using R.S., GIS & GPS)
- Dr. R. N. Yadav, Associate Professor, in Electronics .
(Target application area: Artificial intelligence tools for mapping from satellite images)
- Dr. Deepak Singh Tomar, Assistant Professor, in Computer Science and Engineering .
(Target application area: GIS database applications, data mining, Web based GIS data applications and security related issues.

PARTICIPATING DEPARTMENTS AND FACULTY

- Following faculty members of Civil Engg. Deptt. have been associated by the Director:
- Mr. M. K. Choudhary , Associate Professor, Civil Engg.
(specialized in Water Resources)
- Dr. Jyoti Sarup, Associate Professor, Civil Engg.
(specialized in Geology & Remote Sensing)
- Mrs. Priyanka Dhurvey, Assistant Professor, Civil Engg.
(specialized in Applied Mechanics)

ACADEMIC & RESEARCH ACTIVITIES

In the institute students are working for their UG and PG projects in the area of Geoinformatics. The PG course titled M.Tech. in Geoinformatics & its Applications is running in the institute and the facilities developed through this project will strengthen quality of academics, research and consultancy activities.

4 Ph.D. students are doing Ph.D. in the area of Geoinformatics techniques under the guidance of Dr. S. K. Katiyar

2 Ph.D. students are doing Ph.D. in the area of Geoinformatics techniques under the guidance of Dr. Jyoti Sarup

ACADEMIC & RESEARCH ACTIVITIES

One research project titled **“Performance Evaluation of Automatic Registration and Resampling Techniques for IRS Imagery”** from ISRO under respond scheme for an amount of Rs. 18.1 Lakhs sanction letter has been received and for this Dr. S. K. Katiyar is project investigator ([proof](#))

One research project titled **DEVELOPMENT OF TECHNIQUES FOR FEATURE EXTRACTION FROM HIGH RESOLUTION REMOTE SENSING IMAGERY AND GIS TOOLS FOR DISASTER MITIGATION AND FACILITY MANAGEMENT APPLICATIONS** has been submitted to Bhabha Atomic Research Centre (BARC) for funding under BRNS scheme & under active consideration and hopeful for getting its approval very soon.

ACADEMIC & RESEARCH ACTIVITIES

We are interacting with NASA ,USA for the sanction of research project titled [Geointelligence framework for Astrobiological Researches](#) and discussion is going for the sanction of project. [\(proof\)](#)

Another collaborative Research work offer from NASA, USA has been received for [climate change studies by developing satellite data centre at Bhutan](#) (Dr. S. K. Katiyar as Principal Investigator) [proof](#)

ACADEMIC & RESEARCH ACTIVITIES

Following numbers of research papers have been published by the faculty and students

International Journals: 07 published and 02 under review

National Journals: 01

International Conference: 01 (Abstract accepted)

National Conference: 01

[\(Details\)](#)

CONSULTANCY WORKS

- Rs. 1.94 Crore amount consultancy projects are going on in the institute as per details given ([enclosure](#))
- MANIT Bhopal has been recognized as the agency for the consultancy services to Chattisgarh state govt. mining deptt. for DGPS survey of mining areas ([enclosure](#))

TRAINING AND PEDAGOGY

- In the coming months Training workshops have been planned on the [DGPS Technology & GPRS based](#) remote sensing applications
- Expert lecture on GIS applications was delivered by Dr. P. K. Garg Professor, IIT Kanpur
- After developing the proposed centre facilities need based training courses will be organised.

Thank You