



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

DEPARTMENT OF CIVIL ENGINEERING



REPORT OF

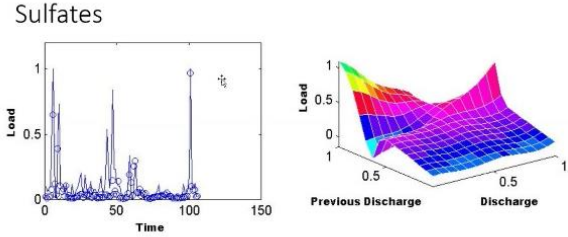
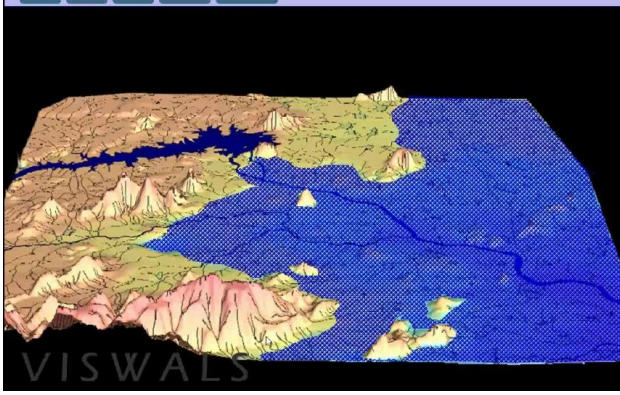

Online Two Day FDP On

Advanced Topics in Water Resources and Environmental Engineering

Event Type	Online Faculty Development Program
Date / Duration	01-12-2021 to 02-12-2021
Resource Team	1. Dr.M.Chandrasekhar , Professor, Department of Civil Engineering, NIT Warangal. 2. Dr. K. B. Chari , Scientist, GIS Labs, Hyderabad.
Name of Coordinator	1. P. Mohana Gangaraju, Assistant Professor. 2. P. Keerthi, Assistant Professor.
Target Audience	Faculty members of Civil, Research scholars and M.Tech students
Total no of Participants	68 (Internal - 10, External – 58)
Objective of the event	<ul style="list-style-type: none">• Water quality monitoring & its applications, Fuzzy sets• Adaptive Neuro Fuzzy Inference system (ANFIS)• Recent research areas• Overview of Disaster Management• Various Geospatial applications for disaster management• Case study on real time flood mapping & monitoring using GIS
Outcome of event	<ul style="list-style-type: none">➤ Faculty can take up research in local regions & guide/ supervise students for dissertation or project work.➤ It enables the participants to appreciate the role of geospatial technologies in the risk management and mitigation of disasters.
Feedback / Suggestions	Faculty and research scholars gave positive feedback on the webinar and requested to conduct more webinars and FDPs in similar domain.

Photographs:

	
Welcome address by HOD Dr V. Ramakrishna	Inaugural address by Principal Dr K. Appa Rao

 <p>Sulfates</p>	<h3>Major Water Quality Issues</h3> <p>Common issues of Surface and Ground water</p> <ul style="list-style-type: none"> • Pathogenic (Bacteriological) Pollution • Salinity • Toxicity (micro-pollutants and other industrial pollutants) <table border="1"> <tr> <td data-bbox="884 344 1106 506"> <p>Surface Water</p> <ul style="list-style-type: none"> • Eutrophication • Oxygen depletion • Ecological health </td> <td data-bbox="1110 344 1315 506"> <p>Ground Water</p> <ul style="list-style-type: none"> • Fluoride • Nitrate • Arsenic • Iron • Sea water intrusion </td> </tr> </table>	<p>Surface Water</p> <ul style="list-style-type: none"> • Eutrophication • Oxygen depletion • Ecological health 	<p>Ground Water</p> <ul style="list-style-type: none"> • Fluoride • Nitrate • Arsenic • Iron • Sea water intrusion
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<p>Presentation by Dr. M. Chandrasekhar, Professor, Department of Civil Engineering, NITW</p> 	<p>Presentation By Dr. M. Chandrasekhar, Professor, Department of Civil Engineering, NITW</p> 		
<p>Presentation by Dr. K. B. Chari, Scientist, GIS Labs, Hyderabad</p>	<p>Copy of Participation certificate</p>		

Press Clippings: Nil

REPORT

The Department of Civil Engineering, Lakireddy Bali Reddy College of Engineering (A), Mylavaram, organized a two day online Faculty Development Program during December 1-2, 2021 on “**Advanced Topics in Water Resources and Environmental Engineering**” through Microsoft Teams. The FDP was inaugurated on 01st December 2021 by the Principal Dr Appa Rao garu. Two topics were delivered on this occasion.

Resource persons:

1. **Dr. M. Chandrasekhar**, Professor, Department of Civil Engineering, NIT Warangal.
2. **Dr. K. B. Chari**, Scientist, GIS Labs, Hyderabad.

Topic-1: ANFIS Approach for Water Quality Modeling by *Dr. M. Chandrasekhar*

Water quality describes the condition of water, including chemical, physical and biological characteristics, usually with respect to its suitability for a particular purpose such as drinking or domestic use. Models are mathematical tools to express the mechanisms of the process that cause changes on water quality and lead to establish the relationship among the related parameters.

ANFIS model is a very powerful tool in modeling out the desired parameters of water quality. The cut off limits between high and low, and the related concentrations can be analyzed and mapped to visualize the impacts of each parameter concerned. The impacts of the scenarios can be evaluated and concluded for the impacts created on environment. The application of model is discussed using a river quality problem and the obtained results are discussed.

Topic-2: Geospatial Applications for Disaster and Risk Management *by Dr K. B. Chari*

Disasters strike during unforeseen circumstances. The after effects of disasters should be analyzed and understood for mitigation and reduction of impacts during disasters. Geospatial technologies can help in understanding the spatial distribution of the problem and the potential damages that can be caused. Models developed in this technology can help analyze and forecast the problems to a greater extent. Urban flooding is turning out to be a serious problem everywhere and is causing disaster to the environment. Study of urban flooding requires some hydrological parameters that should be mapped with the GIS data to predict and analyze the impacts. A case study of urban flooding is considered in the presentation and the results are illustrated using different 3D models developed for the purpose.