L. D. College of Engineering Ahmedabad

Lalbhai Dalpatbhai College of Engineering endearingly known as **L.D.C.E** is State's premier engineering college situated at Ahmedabad city surrounded by elite organization Like **PRL, ATIRA, ISRO, IIM** and **CEPT**. Started in 1948 with an aim of imparting quality higher education in various fields of engineering, it has seen unprecedented growth. It is affiliated with Gujarat Technological University & administrated by Department of Technical Education, Government of Gujarat. Civil engineering is a professional engineering discipline which deals with the design, construction and maintenance of the physical and naturally built environment. It provides knowledge and skills to plan, analyze, design, estimate and execute projects using appropriate scientific, mathematical and engineering principles and concepts. The field is further broken into several sub-disciplines including water resources engineering, environmental pollution control, urban transportation planning, traffic engineering and pavement design, geotechnical engineering, advance structural mechanics.

OBJECTIVES OF THE FDP

The main purpose of this FDP is to provide the most fundamental knowledge to the Research Scholars, Academicians, Field Experts and other researchers so that they can understand about flow characteristics and turbulence statistics in alluvial channels. The basic aim is to understand measurement and analysis of flow characteristics and applicability of turbulence statistics in alluvial channels. The knowledge of turbulence statistics will be useful to understand process and behavior of scour around hydraulic structures. It will be useful in designing the scour protection devices around piers, spur dike, abutment etc.

PATRON

Dr. R. K. Gajjar, Principal, LDCE Ahmedabad.

CONVENER

Dr. R. B. Khasiya, H.O.D. (Civil), L.D.C.E-A'bad.

FDP COORDINATORS

Dr. Rajesh Jain, Professor, Civil Engineering Department, L.D.C.E. Ahmedabad.

FDP CO-COORDINATORS

Prof. Utkarsh Nigam, Asst. Professor, Civil Engineering Department, L.D.C.E. Ahmedabad.

Prof. Sudhanshu Dixit, Asst. Professor, Civil Engineering Department, L.D.C.E. Ahmedabad.

FDP ATTRACTION

It is a common knowledge gaining program to increase the basics and advanced level knowledge in the field of computational fluid dynamics. The experts from the eminent institutes such as IIT/NIT and other institutes of national repute in the fields of Hydraulics/ Water Resources/ will elaborate and explain the course content in details.

SPONSORSHIP

The 5-Days (One Week) Faculty Development Program (FDP) on **"Flow Characteristics and Turbulence Statistics in Alluvial Channels"** *will be Sponsored by AICTE- Training And Learning (ATAL) Academy.*

HOST AND ORGANISOR

Civil Engineering Department

[NBA Accredited Department]

L. D. College of Engineering, University Area, Ahmedabad

अखिल भारतीय तकनीकी शिक्षा परिषद्
All India Council for Technical Education

Directorate of Technical Education
Education Department - Government of Gujarat

L. D. College of Engineering
Ahmedabad, Gujarat, India

Organizing a

5-Days (One Week) ATAL Sponsored Faculty Development Program (FDP) on ***"Flow Characteristics and Turbulence Statistics in Alluvial Channels"*** at L.D. College of Engineering, Ahmedabad.

6th-10th December, 2021

Venue

Civil Engineering Department

L. D. College of Engineering Ahmedabad

Website: www.ldce.ac.in

OUTLINE OF THE CONTENTS

- Turbulence characteristics. Turbulence intensities, Reynold's stress, turbulent kinetic energy.
- Measurement of Turbulence data by acoustic Doppler velocimeter (ADV). ADV is a versatile, high-precision instrument used to measure 3D water velocity. The ADV is used in a wide range of environments including laboratories, rivers, estuaries, and the ocean.
- Quadrant Analysis. It is an quite useful tool in turbulence data-processing. It helps in identifying the turbulent burst events.
- Measurement and Quantification of flow turbulence in mobile bed channel.
- Near bed particle motion sediment laden flow.
- Near bed turbulence characteristics in sediment laden flow.
- Flow behavior in scour around piers. Turbulence statistics in scour zone around the pier will help in tracing the sediment transport and resulting in local scour around the pier
- Vector Analysis of flow pattern during scour around pier.
- Flow behavior in scour around spur dike. Turbulence statistics in scour zone around the spur dike.
- Turbulence statistics in degraded river bed.

HOW TO APPLY

The applicants are required to register by filling the registration form and mail it on *civilevent@ldce.ac.in* on or before 25th November 2021. Applicants have to also send the scanned copy of the filled registration form with sign and seal of the parent institution. Maximum seats are limited to 200 only and the Mode of all type of communication is digital only. The participants may contact Coordinators for any query/ problem. ***GEC/ GP Faculties need to apply through TNA, DTE.***

Address for Correspondence:

To, Civil Engineering Department,
L. D. College of Engineering, Ahmedabad
Pin Code: - 380015 GJ INDIA
Emai ld:- *civilevent@ldce.ac.in*

Course Registration Fee

No fee will be charged for participants.

DETAILS OF COORDINATORS

For further details, contact:
Dr. Rajesh Jain, Professor (Civil), LDCE
Email ID:- rajeshjain@ldce.ac.in

Prof. Utkarsh Nigam, Asst. Prof., LDCE
-7597832470.
Email ID: utkarsh.nigam99@gmail.com

Prof. Sudhanshu Dixit, Asst. Prof., LDCE
Email ID: sudhanshu.civil04@gmail.com

REGISTRATION FORM

Name:

Designation:

Branch:

Institute Name:

University:

Staff ID:

Mobile No.:

E-Mail ID:

Date:

Signature of the Applicant

Sign and Seal of Head of the Institution

Verification and sign of FDP Coordinator

Proposal for conduction of AICTE Training and Learning (ATAL) academy FDP (online)

Title: Flow characteristics and turbulence statistics in alluvial channels

Co-ordinator: Dr Rajesh Jain

Co-ordinator: 1. Prof. Utkarsh Nigam 2. Prof. Sudhanshu Dixit

Proposed date: 06/12/2021 to 10/12/2021

Day-1	Inauguration and welcome speech	Key note address by Dr. B.S. Majumdar, Professor (Retd.) Indian Statistical Institute, Kolkata and Visiting Professor, IIT Mumbai	Turbulence characteristics Dr Rajesh Jain Professor Department of Civil Engineering L.D. College of Engineering, Ahmedabad	Measurement of Turbulence data by ADV Prof. Sudhanshu Dixit Assistant Professor Department of Civil Engineering LDCE, Ahmedabad
Day-2	Quadrant analysis Dr Rajesh Jain Professor Department of Civil Engineering L.D. College of Engineering, Ahmedabad		Measurement and Quantification of flow turbulence in mobile bed channel Dr P. L. Patel Professor Department of Civil Engineering, SVNIT, Surat	Use of computational fluid dynamics in estimation of turbulence characteristics Dr. Manoj Langhi Assistant Professor IIT-RAM, Maninagar, Ahmedabad
Day-3	Near bed particle motion sediment laden flow Dr B. Ramesh Principal Saveetha School of Engineering, Thandalam, Chennai		Flow behaviour in scour around piers Dr Ashish Kumar Professor Department of Civil Engg. Jaypee University of IT, Waknaghat Distt Solan (H P)-	Flow behaviour in scour around spur dike Dr Ajay Singh Lodhi Assistant Professor College of Agriculture, Waraseoni Distt.- Balaghat (M.P.)
Day-4	Vector Analysis of flow pattern during scour around pier Dr Ashish Kumar Professor Department of Civil Engg. Jaypee University of IT, Waknaghat Distt Solan (H P)-		Turbulence statistics in degraded river bed Dr Rajesh Jain Professor Department of Civil Engineering L.D. College of Engineering, Ahmedabad	Near bed turbulence characteristics in sediment laden flow Dr B. Ramesh Principal Saveetha School of Engineering, Thandalam, Chennai
Day-5	Health, happiness and meditation Dr Rajesh Jain Professor Department of Civil Engineering L.D. College of Engineering, Ahmedabad		Hands on session on computation of turbulence characteristics in alluvial channel Prof. Utkarsh Nigam /Sudhanshu Dixit Assistant Professor Department of Civil Engineering LDCE, Ahmedabad	Feedback, online exam and Valedictory session