VISION

To be a Centre of Excellence in Civil Engineering education with a global perspective, creating ethically strong engineers for the service of society

MISSION

To provide Engineering Education which can create exemplary professional Civil Engineers of high ethics with strong conceptual foundation coupled with practical insight, to serve the industry and community.

ABOUT THE PROGRAMME

3D laser scanning technology or popularly known as LIDAR is a Light Detection and Ranging Technology that helps to create an accurate 3D representation of any given earth structure such as buildings, dams, roads, forest, etc. The ground-based LIDAR system can be used for various civil engineering applications like capturing existing buildings exterior, interior, preservation of heritage buildings, area volume calculations, highway asset management, identifying structural deformation, slope instability analysis, etc.

A lidar instrument principally consists of a laser, a scanner, and a specialized GPS receiver. Two types of lidar are topographic and bathymetric. Topographic lidar typically uses a near-infrared laser to map the land, while bathymetric lidar uses water-penetrating green light to also measure seafloor and riverbed elevations.3D laser scanners create point clouds of data by scanning over objects with laser light.

The participants of this Faculty Development Programme will be able to,

- Apply QGIS in various civil engineering applications.
- Understand LIDAR technology and its practical applications.
- Analyse LIDAR point cloud data.
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ABOUT THE INSTITUTION

Mar Baselios College of Engineering and Technology (MBCET), Thiruvananthapuram, Kerala was established in the year 2002 by the Major Archdiocese of Trivandrum with the noble objective of providing quality technical and skill education based on fundamental human values. As a proud part of the Mar Ivanios Vidyanagar on the blessed Bethany Hills, deriving the inner strength of truth and goodness from the visionary Patrons, MBCET inspires the aspirations of generations of knowledge-seekers. Dedicated to mould morally upright, socially committed and intellectually trained Engineers, the College strives to realize its dreams. MBCET offers 7 Undergraduate programmes and 7 Postgraduate programmes in Engineering. The institution is an approved research centre of APJ Abdul Kalam Kerala Technological University. Five B.Tech programmes (CE, CSE, ECE, EEE and ME) are accredited by NBA since 2016. The institution is also accredited by the NAAC with A grade (CGPA 3.13) since 2016. The institution was conferred with the "Autonomous" status by the University Grant Commission (UGC) in the year 2020.

DEPARTMENT OF CIVIL ENGINEERING

The Civil Engineering branch was started in Mar Baselios College of Engineering and Technology in 2005. The department currently offers an undergraduate program in Civil Engineering leading to a B. Tech degree and two graduate programs leading to M.Tech in Structural Engineering (SE) and Transportation Engineering (TE). The Department has well-experienced faculties, skilled technical staff, and well-equipped laboratories.

The strong and dedicated group of faculty takes up consultancy activities in various streams of Civil Engineering. The Civil Engineering Students Association (CESA) regularly organizes technical sessions and other activities along with the student chapters of IPA, IGS, and ASCE.

FIVE-DAY FACULTY DEVELOPEMENT PROGRAM ON

LIDAR APPLICATIONS IN ADVANCED SURVEYING

### 8-12 January, 2024

Department of Civil Engineering

MAR BASELIOS
COLLEGE OF ENGINEERING AND TECHNOLOGY
— AUTONOMOUS —

Mar Ivanios Vidyanagar, Nalanchira, Thiruvananthapuram - 695015, Kerala, India
ph: 0471 2545868

HIGHLIGHTS

- Introduction to Geographical Information System(GIS) and its software, QGIS.
- Applications and exposure to QGIS, in the field of watershed management/ land degradation.
- Introduction to LIDAR technology and its applications in Civil Engineering.
- LIDAR scan data post-processing and final 3D map preparation.
- Demonstration of laser scanners for data capture.
- Visit to Remote Sensing Laboratory, Indian Institute of Space Science and Technology, Valiyamala.
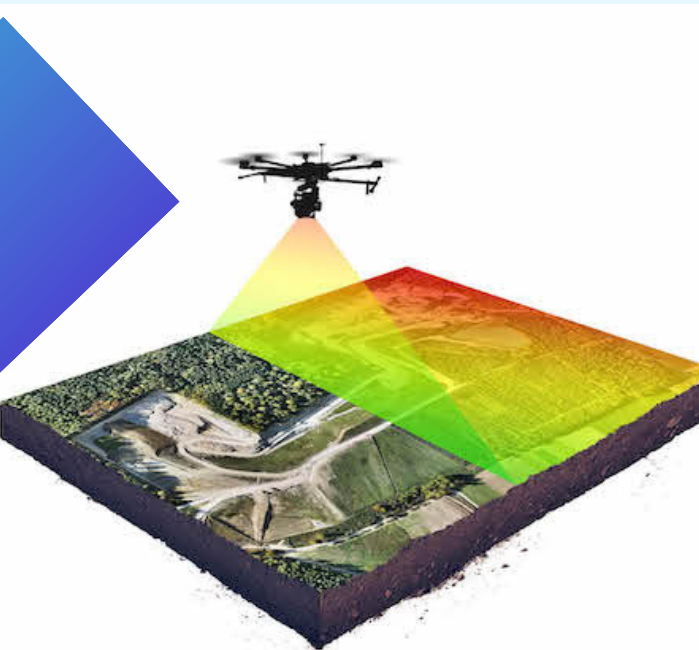
COORDINATORS

- **Ms. Akhila A. M**., Assitant Professor, MBCET.
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- **Mr. Nitin S.**, Assitant Professor, MBCET.
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RESOURCE PERSONS

Mr. B.K. Jayaprasad
Rtd. Scientist E, National Centre for Earth Science Studies (NCESS), Thiruvananthapuram, Former Cartographer, Sultanate of Oman

Dr. Rama Rao Nidamanuri
Professor & Head, Department of Earth and Space Sciences, Indian Institute of Space Science (IIST), Valiamala

Dr. Ramiya
Associate Professor, Department of Earth and Space Sciences, Indian Institute of Space Science (IIST), Valiamala

Dr. S. Kaliraj
Scientist D, Biogeochemistry Group (BgG), National Centre for Earth Science Studies (NCESS), Thiruvananthapuram

Sri. B. Thulasidharan Nair
Professor(Rtd.), College of Engineering, Trivandrum (CET)

Ms. Anoja Anoop
GIS ANALYST, Kerala Infrastructure Investment Fund Board (KIIFB), Thiruvananthapuram

Dr. Suja R. Nair
Associate Professor, Co-ordinator- Translational Research and Professional Leadership Centre, Govt. College of Engineering, Barton Hill, Thriuvananthapuram

Ms. Rajalakshmi C.R.
Assistant Professor, Translational Research and Professional Leadership Centre, Govt. Engineering College, Barton Hill, Thiruvananthapuram

TARGET PARTICIPANTS

- PG students and Research scholars
- Faculty members and Technical staff
- Officials from Government/Non-Government

REGISTRATION FEE

- Research Scholars & Technical Staff - Rs.850/-
- Faculty members - Rs.1000/-
- Govt./Non-Govt. officials - Rs.2000/-

Registration charges include course materials, snacks, and a working lunch. The number of participants is limited to 50, on a first come first serve basis.

Venue: Laurie Baker Hall (Ground floor), Nirmithi (G) Block, Department of Civil Engineering, MBCET, Thiruvananthapuram.

Date: 8 - 12 January, 2024

Time: 9.30 am - 4.30 pm

REGISTRATION

For registration, scan the QR code of the link below and submit it on or before **January 1st, 2024.**

Register Online using the link.
https://forms.gle/mpNHjXDGJpVV2m3c9

For payment of registration fees, scan the QR code below. Enter the transaction number in the registration form.

Registration QR Code

Payment QR Code