



CERTIFICATE PROGRAM

Digital Documentation of Built Heritage

(Batch-02)

11th -15th July, 2023

CPP | CEPT
UNIVERSITY

CEPT PROFESSIONAL PROGRAMS

CEPT Professional Programs (CPP) aims to bridge the gap between academics, practice, policy-making, and implementation through short certificate programs. The mission of CPP is to support individual and organizational learning by creating opportunities to acquire new skills and capabilities, thus allowing professionals to stay relevant in the current knowledge based global context. It will achieve this by offering professional development, continuing education, and up-skilling opportunities for professionals and in-service persons across disciplines concerned with urban development and the built habitat.

CPP draws from the expertise and capacity of the accomplished faculty at CEPT University, enhanced further by experts and practitioners from the field. Its programmes are built on deep research, vast consultancy projects and innovative pedagogies. CPP offers a repertoire of short programs and topic focused programs across disciplines of architecture, design, planning, and management with immersive learning approaches combining interactive lectures, case studies, and peer-to-peer exchanges.

ABOUT THE PROGRAM

This 5-day certificate program is designed for participants to develop the skills required for digital documentation of historic buildings and structures through hands-on engagement. Methodical documentation is a prerequisite for scientific conservation processes. Digital methods of documentation are emerging as primary tools to record detailed and accurate information on heritage places within relatively shorter time spans.

The program will be held at CEPT University and the site for digital documentation will be the 'Ahmedabad Textile Mill Owners' Association (ATMA)' building in Ahmedabad. The building designed by Le Corbusier is an architectural masterpiece and an important example of 20th century heritage.

Participants will gain an exposure to documentation principles, digital tools and techniques through fieldwork. Subject experts will give an introduction to the use of GIS mapping, architectural photography, photogrammetry, and 3D LiDAR scanning for documentation of built heritage.

The program is developed and curated by Centre for Heritage Conservation (CHC), CRDF in consultation with CEPT Professional Programs (CPP), CEPT University. The program will be supported by ATMA House.

PROGRAM STRUCTURE

The program is structured as four independent yet interlinked topics –

1. Principles and methods of documenting historic built environments for architectural conservation
2. Application of GIS in documentation
3. Architectural photography and photogrammetry and
4. 3D LiDAR scanning and data visualization

Session 1 : Introduction to the site and overview of the documentation process

The opening day will be an introduction to the site. A brief overview of manual and digital documentation methods and key considerations for engaging with historic built environment. The introductory session will be followed by a discussion on the prerequisites of the documentation process and the selection of a tool or combination of tools as per the site situations. An input session and hands-on exercise on GIS will be organized.

Session 2 : Architectural Photography and Photogrammetric Processes

Day two will be dedicated to systematic documentation of the built heritage through photography, informing participants about selecting appropriate cameras, lenses and settings, understanding light conditions as per the site situations, and capturing information in different formats as per the output requirements.

After understanding the fundamental principles of architectural photography and demonstrating the same on-site, the next stage will be capturing photographs for generating photogrammetric output. The demonstration will continue for the processing of the captured data in the prescribed software.

PROGRAM STRUCTURE

Session 3 : Architectural Photography and Photogrammetric Processes

The photogrammetric explorations, post-processing and refining workflow will continue on day three.

Session 4 : Demonstration of recording with 3D LiDAR Scanner

Day four will focus on the recording technique of 3D LiDAR Scanning. The demonstration will consist of understanding the scanner and its interface, planning for data collection as per the site conditions, and managing the quantity and quality during field data collection. The session will conclude with the demonstration of data transfer, registration and creation of a base model for vectorisation and quantification.

Session 5 : Post-processing of data captured

Day five will reflect upon the fieldwork carried out during the first four days. All the data will be collated to understand the advantages and limitations of each method. The aim is to gain insights for optimising the time and efforts required for the documentation of historic built environment while improving the accuracy and quality of the record.



PROGRAM FACULTY



Mrudula Mane
Program Faculty

Mrudula Mane is a Conservation Architect and expert in digital documentation techniques at Center for Heritage Conservation, CEPT Research and Development Foundation. She holds an MA in Conservation of Historic Buildings from the University of York, UK. Her expertise is in 3D Lidar Scanning, and she has experience in working from building to settlement level documentation. Mrudula has conducted and coordinated a series of workshops on Digital Documentation from CHC and CEPT. She is presently pursuing a PhD from CEPT University with a focus on challenges in conserving military heritage in Western Maharashtra. Today, technological advancements redefine how we perceive, document, analyse and interpret structures and spaces of yore, which we consider heritage assets. In this context, Mrudula is investigating how technology can improve the management and conservation of heritage assets situated in complex topography.



Shaily Gandhi
Program Faculty

Shaily Gandhi is a GIS expert with more than 10 years of experience. She has a Ph.D. from CEPT University in Geospatial Technology, and expertise in bridging the gap between GIS & governance. Shaily has been recently appointed as the Program Chair for the M.Tech programme in Geomatics (MGeo), at the Faculty of Technology. Shaily is an executive committee member for the Committee on Data of the International Science Council (ISC) and Joint Secretary of ISRS, Ahmedabad Chapter. She is an active member of IEEE, ISG, and ISRS societies. She contributes in important research projects as data scientist and is a GIS expert with different centers at CRDF. She works closely on projects with GIDB, ISRO, GIZ, CODATA, DST Nagoya. Shaily is keen on exploring the implementation of GIS and data science in the domain of Urban Analytics. Her core interest lies in exploring spatial technology for better decision making along with defining spatial data standards for data interoperability for building future cities.

PROGRAM FACULTY



Maniyarasan R
Program Faculty

Maniyarasan R, an architect and photographer, specialises in documenting built heritage. He works as an architectural photographer and visual documentation consultant. He works on projects related to aerial mapping, photogrammetry and technical imaging in architecture and conservation practice. He did B.Arch from SPA Delhi, PG Photography Design from NID Ahmedabad & UCA Farnham UK. He teaches Design and History at CARE School of Architecture, Trichy. An alumni of the Leon Levy Foundation Centre for Conservation, Maniyarasan works with various government and private organisations and has conducted workshops in heritage documentation with various institutions including CEPT. As a research scholar, architectural documentation was his primary area of research.



Zeus Pithawalla
Program Faculty

Zeus Pithawalla is a Conservation Architect at Center for Heritage Conservation, CEPT Research and Development Foundation. His experience extends to policy, design, and planning interventions for heritage sites through assessments, exhibitions, reports, publications, and short films. Zeus has been involved in the project '3D for Heritage India' within which he, along with M. Mane scanned the spine of Bela (a village in Kutch, Gujarat) along with the interiors of 18 houses in a span of 5 days. He has also processed and developed outputs for the 3D scans undertaken at Tankshal-ni-Pol Masjid in Ahmedabad. Zeus has been involved with teaching at the Faculty of Architecture, CEPT since 2020. He graduated with an M.Arch (Conservation and Regeneration) from CEPT. Zeus has worked with Flying Elephant Studio (Bangalore), Museum Art Conservation Center at CSMVS and Design Guidance (Mumbai), MCR FA CEPT (Ahmedabad), and engaged with projects as a freelance architect (Mumbai and Goa).

PROGRAM CALENDAR

The day-to-day schedule of the program will be shared with participants at the beginning of the program.

Days	Description	Contact hrs	Mode
Day1 11th July 2023	Introduction to the site and overview of the documentation process Faculty: Mrudula Mane The opening day will be an introduction to the site. A brief overview of manual and digital documentation methods and key considerations for engaging with historic built environment will be given. The introductory session will be followed by a discussion on the prerequisites of the documentation process and the selection of a tool or combination of tools as per the site situations.	2	On-site and On-campus
	Input session on GIS Faculty: Shaily Gandhi	3	
Day 2 12th July 2023	Architectural Photography and Photogrammetric Processes Faculty: Maniyarasan R. and Mrudula Mane Day two will be dedicated to systematic documentation of the built heritage through photography, informing participants about selecting appropriate cameras, lenses and settings, understanding light conditions as per the site situations, and capturing information in different formats as per the output requirements.	2	On-site and On-campus
	After understanding the fundamental principles of architectural photography and demonstrating the same on-site, the next stage will be capturing photographs for generating photogrammetric output. The demonstration will continue for the processing of the captured data in the prescribed software.	4	
Day 3 13th July 2023	Architectural Photography and Photogrammetric Processes Faculty: Maniyarasan R. and Mrudula Mane The photogrammetric explorations, post-processing and refining workflow will continue on day three.	4	On-site and On-campus

Day 4	Demonstration of recording with 3D LiDAR Scanner	3	On-site and On-campus
14th July 2023	<p>Faculty: Mrudula Mane and Zeus Pithawalla</p> <p>Day four will cover the introduction to the recording technique of 3D LiDAR Scanning. The demonstration will consist of understanding the scanner and its interface, planning for data collection as per the site conditions, and managing the quantity and quality during data capture.</p>	3	
Day 5	Post-processing of data captured	4	On-campus
15th July 2023	<p>Faculty: Mrudula Mane and Zeus Pithawalla</p> <p>Day five will reflect upon the fieldwork carried out during the first four days. All the data will be collated to understand the advantages and limitations of each method. The aim is to gain insights for optimising the time and efforts required for the documentation of built heritage while improving the accuracy and quality of the record.</p>		

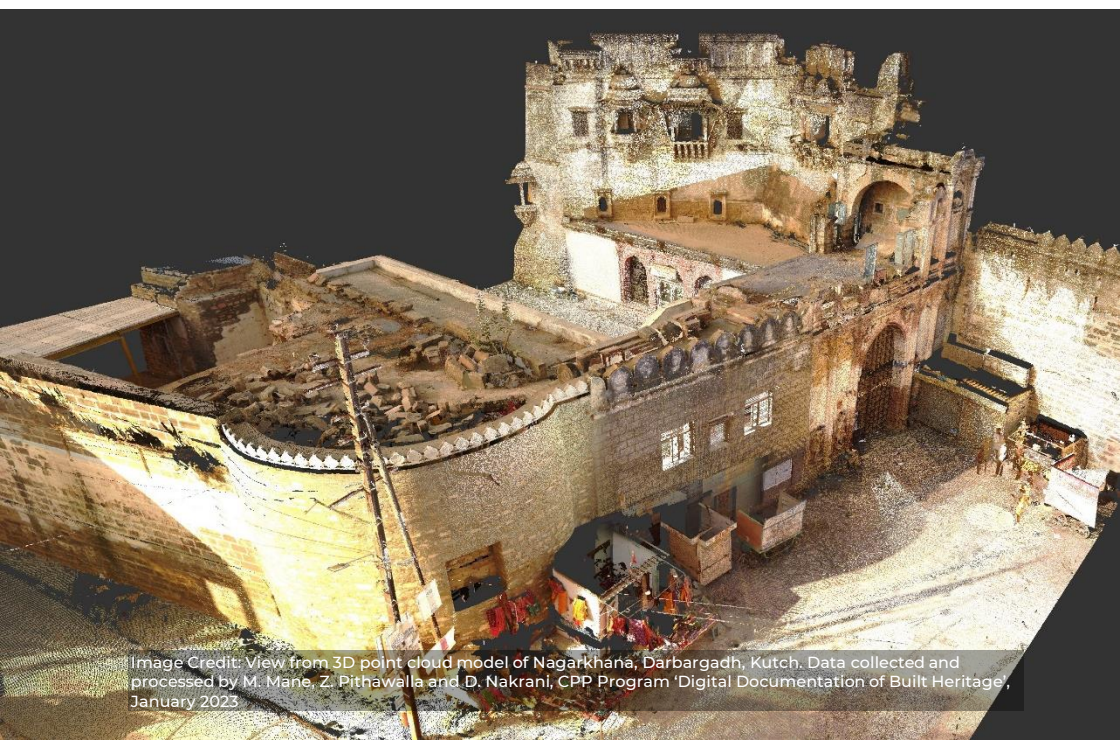


Image Credit: View from 3D point cloud model of Nagarkhana, Darbargadh, Kutch. Data collected and processed by M. Mane, Z. Pithawalla and D. Nakrani, CPP Program 'Digital Documentation of Built Heritage', January 2023

ADMISSIONS AND APPLICATIONS

Application Process Online applications have already commenced. To apply to the program visit the CPP website <http://cpp.cept.ac.in/> Applicants should complete the online form consisting of 250 words of interest statement for joining the program and must attach their CV/resume.

Application Deadline 1 July 2023
(The deadline for this program is indicative. All applications will be considered as they are received, and seats will be allotted on a first come first serve basis. Admissions will be closed once all seats are full)

Program Dates 11th – 15th July, 2023 (On-site and On-campus)

Who can Apply?

1. For students of architectural conservation, heritage management, architecture, design, civil and structural engineering or any other field allied to built-environment studies and heritage studies
2. Professionals with a background in the same fields of study and practice
3. Teachers and researchers in urban design and conservation

Fees INR 25,000/- + GST (The fee is inclusive of welcome kit and lunch on all days of the program and exclusive of travel cost and accommodation etc.)

Certificate Participants will receive a certificate from CEPT University on successful completion of the program.



Image Credit: M. Mane, CHC - CRDF




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