



4th INTERNATIONAL CONFERENCE ON

**Civil Engineering Trends and Challenges for
Sustainability (CTCS -2022)**

**(Under the Aegis of ICETE 2022 Multi-Conference
Platform)**

**December 22nd - 23rd , 2022
Organized by**

Department of Civil Engineering



NITTE
(Deemed to be University)

**NMAM INSTITUTE
OF TECHNOLOGY**

Off-Campus Centre, Nitte – 574 110, Karnataka, India
Karkala Taluk, Udupi District, Karnataka, India
ISO 9001:2015 Certified, Accredited by NAAC with ‘A’ Grade
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Website: www.nmamit.nitte.edu.in/

<http://www.icete-nitte.in/>

<http://www.ctcs2022.in/>

About NITTE (Deemed to be University)

Nitte (Deemed-to-be University) has its roots in a group of Institutions established by the Nitte Education Trust. The Trust was established in 1979 by one of India's respected Statesman, Late Justice KS Hegde, Supreme Court Judge and Speaker of Lok Sabha, with the mission of empowering rural youth through quality education and healthcare. The Trust has established 36 institutions spread in three campuses at Nitte, Mangaluru and Bengaluru. It offers education in diverse areas of learning including health professions education, engineering, management, humanities, general education, vocational training, and school/pre-university education.

The University offers a total of 98 programs in the disciplines of engineering, medicine, allied health sciences, dentistry, pharmacy, nursing, physiotherapy, speech and audiology, biological sciences, media & communication, commerce, science, management and Architecture. It has 10,000+ students, over 875 faculty members and over 2475 support staff on roll. The University campuses are spread over 52 acres in Deralakatte-Paneer areas of Mangaluru and 110 acres in Nitte.

The University received A+ Grading in NAAC accreditation in 2021. It has been consistently placed in the Top 70-80 rank band in NIRF. The University is placed in the 401 to 450 Rank Band in the QS Rankings for Asia Region. It has received Diamond rating in the QS I-Gauge India Ratings. The Constituent colleges of the university have good standing in their disciplines in the NIRF rankings. In 2021, the dental college was ranked 6th and the medical college and pharmacy colleges were ranked 45th in NIRF. All the Undergraduate Programs of NMAMIT are accredited by NBA. Further, the BPharm program of the University is accredited by NBA. The teaching hospital is accredited by both NABH and NABL.

About the Institute

Nitte Mahalinga Adyanthaya Memorial Institute of Technology (NMAMIT), is an off-campus Institution located at Nitte, Karkala offering UG, PG and Doctoral programs of Nitte (Deemed to be University). It currently offers 10 UG programs in engineering, 8 M.Tech programs, MBA and MCA programs. All the UG programs are accredited by NBA, New Delhi. The Institute is ISO 9001:2015 certified and is also accredited by NAAC, with 'A' grade. The institute is ranked 138 in the NIRF ranking (Engg. Institutes)-2021, Govt. of India. The Institute has been awarded "Diamond" rating by QS I-GAUGE Indian Institute Ratings. The college has signed MoU with reputed industries, research organizations, and foreign universities to promote close interaction in areas of recent technologies, research & development, and skill development programs.

About the Organizing Department

The Civil Engineering department started in 1987 with a UG Programme with an intake of 60. Annual Intake has been increased to 120 from the academic year 2012-13. Two year Post Graduation degree programme M.Tech in Construction Technology was started in 2010 with an intake of 18 and M.Tech in Structural Engineering in the year 2017 with an intake of 24. It is also recognized as a Research Centre offering M.Sc. (Engg.) and Ph.D. programmes. Presently 12 research scholars are pursuing their Ph.D. in the department. The department has been accredited by NBA for 3 years. In addition to this, the Departmental Students Association (OCEAN) organizes seminars, workshops, educational tours, design competitions for civil engineering students. The department is undertaking consultancy in quality control and structural design. The department is recognized as IIRS (ISRO) Outreach Centre. The department has taken up Karnataka State Council for Science & Technology (KSCST) funded projects. Department is also working on Development of Masonry blocks and Paver blocks using Industrial waste materials under Karnataka New Age Incubation Centre, NMAMIT funded by Dept. of IT, BT, S & T, Govt. of Karnataka.

About the Conference

The department of civil engineering, NMAMIT is organizing online International Conference on Emerging Trends in Engineering (ICETE 2022) on December 22nd & 23rd 2022, which is the 12th International Conference since 2011. For the year 2021, in order to focus on the specific issues associated with various Engineering disciplines, the idea of a Multi Conference Platform had been proposed.

International Conference on Emerging Trends in Engineering (ICETE 2022) - A Multi Conference Platform, will be a collection of several International Conferences with the themes specific to various engineering streams. Besides, there will be an opportunity for students and research scholars of various branches of Engineering & Technology, and industrial professionals to deliberate, present and discuss research papers. The conference is dedicated to driving innovation in nearly every aspect of civil engineering. The conference provides a platform for researchers, professionals, executives and practicing engineers from various research institutes, educational bodies and from industries to share and exchange their ideas on the theme of conference. A series of keynote presentations, technical paper presentations are planned to discuss the emerging trends, feasible solutions to pressing problems and to shape and enable the development of mankind.

Keynote Speakers

Eminent researchers, academicians and industrialists will be delivering keynote address on topics pertaining to the major themes of the conference. The list of keynote speakers and related details will be updated in the website.

Theme of the Conference and Thrust Areas

Civil Engineering Trends and Challenges for Sustainability (CTCS -2022) is focused on research and emphasizes the latest technological innovations. It showcases the commitment of NMAMIT in bringing together various disciplines, converge and amalgamate various new ideas, fields and technologies. The focus of the conference is to open a new paradigm to deliberate on eco-friendly and robust design use of materials with less environmental impact, use of fewer materials, optimal utilization of resources during manufacturing of construction material processes with zero defects. Also, produce less pollution, waste, reuse and recycling of materials. The emphasis is on application of newer technologies like Artificial Intelligence to enhance the productivity, safety and better management of the systems and processes. This conference is the fourth in the series.

Thrust Areas

- ◆ Sustainable Construction Technology & Building Materials
- ◆ Recent Advances in Structural Engineering and concrete technology
- ◆ Recent Advances in Transportation and Geo Technical Engineering
- ◆ Water resources, Earth Sciences, Environmental and RS & GIS

Sub Themes to be addressed in this conference include, but not limited to the following:

Sustainable Construction Technology & Building Materials

- ✚ Sustainable Construction & Building Materials
- ✚ Risk Analysis, Safety and Security, Masonry Structures, Sustainable construction practices,
- ✚ Sustainable construction materials,
- ✚ Composite and Smart Materials, Energy Engineering and Management,
- ✚ Advanced and Smart Manufacturing,
- ✚ Sustainable and Clean manufacturing process,

Recent Advances in Structural Engineering and concrete technology

- ✚ Recent Advances in Structural Engineering
- ✚ Structural Health and Monitoring, Coastal Engineering,
- ✚ Advances in precast and pre-stressed concrete engineering, Strengthening and repair, Composite structures,
- ✚ Integrated Design Systems Building Information Modelling
- ✚ Life cycle design,
- ✚ Advanced methods and innovative approaches in structural analysis and design,
- ✚ Artificial Intelligence in structural engineering applications.
- ✚ Earthquake Engineering,

- ✚ Sustainable Building technologies, and special concretes.

- ✚ Concrete
- ✚ Steel & Timber Structures,

Recent Advances in Transportation Engineering

- ✚ Pavement Materials,
- ✚ Highway design principles,
- ✚ Pavement design,
- ✚ Highway Drainage,
- ✚ Pavement Management systems,
- ✚ Traffic planning,
- ✚ Highway safety,
- ✚ Advances in urban transport,
- ✚ Bridge Engineering.
- ✚ Advances in Airport Engineering,
- ✚ Artificial Intelligence,
- ✚ Utilization of waste materials in pavement Construction,
- ✚ Tunnel Engineering,
- ✚ Railway Transit,
- ✚ Harbor and Port Engineering.

Recent Advances in Geotechnical Engineering

- ✚ Soil stabilization material and methods,
- ✚ Computational Geo-techniques,
- ✚ Advances in soil and rock mechanics,
- ✚ Modelling and simulation,
- ✚ Reinforced earth structures and materials,
- ✚ Slope stability,
- ✚ Landslides and natural disaster mitigation,
- ✚ Sustainable Geo-techniques,
- ✚ Uncertainties,
- ✚ Risk and reliability in geotechnical engineering,
- ✚ Soil-structure interaction,
- ✚ Liquefaction,
- ✚ Design and Analysis of foundations,

Environmental geo-technology.

- ✚ Recent Advances in Environmental Engineering
- ✚ Waste Management,
- ✚ Reuse & Recycle technology,
- ✚ Water quality assessment and modelling,
- ✚ Urban water and drainage management,
- ✚ Environmental impact assessments,
- ✚ Pollution prevention technology,
- ✚ Sustainable Environment Management,
- ✚ Waste to Energy (WTE) Technology,
- ✚ Emerging Green Energy Technologies,
- ✚ Greening Urbanization and Settlements,
- ✚ Disaster Management,
- ✚ Energy and Health,
- ✚ Rural Development through Green Energy,
- ✚ Green economy,
 - ✚ Policy perspective on Sustainability.

Water Resources Engineering, RS & GIS

- ✚ Groundwater hydrology,
- ✚ Groundwater modelling and management,
- ✚ Hydraulic and hydropower structures,
- ✚ Hydrometeorology,
- ✚ Irrigation and drainage management,
- ✚ Reservoir operation and downstream issues,
- ✚ Remote sensing & Geographical Information system,
- ✚ Satellite image analysis & Aerial photometry,
- ✚ Infrastructure Management,
- ✚ Weather monitoring,
- ✚ Effects of Climate Change.
- ✚ Recent Advances in Earth Sciences
- ✚ Earth science,
- ✚ Geology, Oceanography and Marine Soil and Water Science,

Patron:**Sri N. Vinaya Hegde**

Chancellor, Nitte (Deemed to be University) & President, Nitte Education Trust, Mangalore

Steering Committee:**Sri. Vishal Hegde**, Pro-chancellor, Nitte (Deemed to be University)**Dr. N.R. Shetty**, Chancellor, Central University of Karnataka, Gulbarga, Karnataka**Dr. Takamoto Itoh**, Vice Dean- Mech Engg, Ritsumeikan University, Japan**Dr. Harish Kumar Madhyastha**, Professor, University of Miyazaki, Japan**Dr. Omid Ansary**, Senior Associate Dean & Professor, Penn State University, USA**Dr. Shripad T. Revankar**, Professor, Purdue University, U.S.A**Dr. Shuhaimi Mansor**, Professor, University Technology Malaysia, Malaysia**Mr. Michio Kaida**, Director, Chairman, NIDEC-READ Corp., Kyoto, Japan**Dr. Prasad Yarlagada**, Queensland University of Technology, Australia**Mr. Tomonari Kobayashi**, President, Kobayashi Create Co. Ltd., Aichi-Ken, Japan**General Chair:****Dr. Niranjana N. Chiplunkar**, Principal, NMAM Institute of Technology, Nitte**General Co-Chairs:****Dr. I. R. Mithanthaya**, Vice Principal & Dean (Academics), NMAM Institute of Technology, Nitte**Dr. Shrinivasa Rao B. R.**, Vice Principal & Controller of Examinations, NMAM Institute of Technology, Nitte**Organizing Secretary****Dr. Shriram Marathe**, Department of Civil Engineering, NMAMIT, Nitte**CTCS 2022 Chair:****Dr. Arun Kumar Bhat**, Prof. & Head, Department of Civil Engineering, NMAMIT, Nitte**Organizing Secretary:****Dr. Bhojaraja B. E**, Associate Professor., Dept. of Civil Engineering, NMAMIT, Nitte

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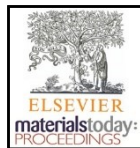
Dr. Lakshman Nandagiri, Professor, Department of water resources and ocean engineering, NITK Surathkal

Important Dates

Submission of Full-length manuscript – Open	: 01/03/2022
Last date to submit Full-length manuscript	: 01/08/2022 15/09/2022
Notification of acceptance	: 20/10/2022
Early Bird Registration Start	: 05/11/2022
Submission of Camera Ready Manuscript	: 20/11/2022
Early Bird Registration Close	: 20/11/2022
Late Registration	: 30/11/2022
Conference Dates	: Dec 22-23, 2022

Publication Partner

Materials Today Proceedings The journal is indexed in Scopus (Elsevier) and the CPCI (Conference Proceedings Citation Index, Clarivate)



Paper Submission

The research paper submitted should be an original work and should not have been submitted in any another conference or journal. The respective journal format should be followed for preparing the manuscript of the paper. To submit the paper login to conference website: <http://www.ctcs2022.in/>. Manuscript needs to be prepared by keeping plagiarism below 15%. Manuscripts in electronic format (.doc, .docx only) need to be submitted.

Registration Fees

Category	Registration Fees	Publication Charges
Academia/Researchers (UG/PG/PhD) / Industries Early Bird Registration	2500	Publication charges may apply as per the publishers.
Academia/Researchers (UG/PG/PhD)/ Industries Late Registration Fees	3500	
Foreign Delegates	US\$200	

Mode of Payment

Registration fee can be paid through NEFT as per the details given below:

Name : NITTE EDUCATION TRUST
Account Number : 0115 2200 033493
Type of account : Savings Bank
Bank : Canara Bank, Nitte
IFSC : CNRB 0010 115
MICR Code : 57602 5533

NOTE: Delegates must mention their NAME and CTCS-2022 without fail during online payment. The proof of online transfer (UTR No., date & time) need to be scanned and uploaded in the registration portal.

Accommodation

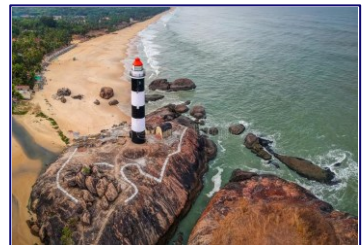
Limited accommodation on payment basis is available in hostel / guest house (twin sharing) on a first-cum first served basis. Accommodation can be arranged in Hotels in Nitte, Belman and Karkala on prior request.

Conference Location

Nitte is a village in Karkala taluk of Udupi district, in the Indian state of Karnataka. The village is on the way from Padubidri to Karkala. It is 8 km away from Karkala, 36 km from Udupi and 54 km from Mangalore. It is located on the foothills of the Western Ghat Mountains and receives very high rainfall. Nitte is well connected by road. There are frequent express and local buses to Mangalore, Udupi, Padubidri and Karkala. The state highway SH-1 cuts across Nitte which connects to the National Highway NH-66 at Padubidri and NH-13 near Karkala. There are buses to Mumbai and Bangalore on a daily basis. Every 10 minutes there is connectivity of buses to major cities like Mangalore and Udupi.

Famous places to visit nearby:

- Temples (Sri Krishna Math, Kollur, Kateel, Shringeri, Horanadu etc.)
- Malpe, Padubidri & Maravanthe Beach
- Thousand Pillar Temple, Moodbidri
- Karkala Gomateshwara & Chaturmukha Basadi, Karkala
- Attur Church, Karkala
- Light house, Kaup



Contact Us

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