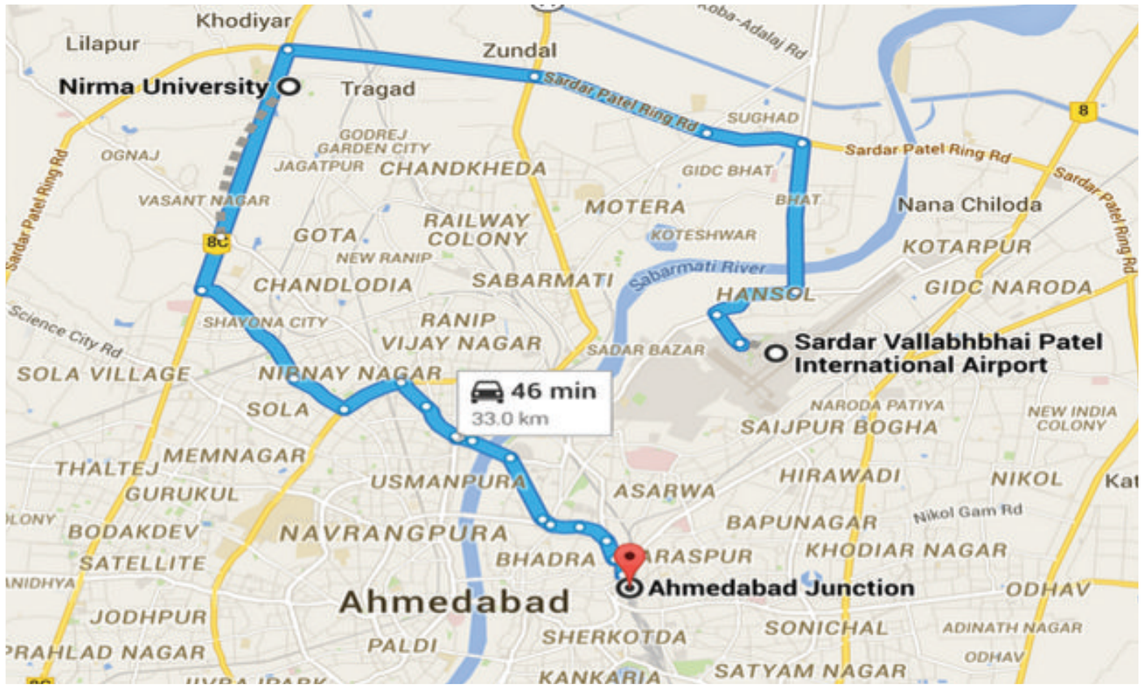
CONFERENCE LOCATION

The Nirma University is located in peaceful and sylvan surroundings, on Sarkhej Gandhinagar highway (about 17 km from Ahmedabad railway station and 10 km from the Ahmedabad airport) in Ahmedabad, Gujarat state of India.

Ahmedabad, one of the liveliest cities and a major industrial hub in India, had often been called the 'Manchester of the East'. It is the largest city in Gujarat with a population of about 5 million. The city has developed itself into a leading industrial centre and has become the economic capital of Gujarat. Vibrant Gujarat is an example to prove this. The city has many places to visit, like Science City, Akshardham Temple, Gandhi Ashram, Adalaj Vav (step well) etc. The weather of Ahmedabad is very pleasant during the month of November.



NIRMA UNIVERSITY
INSTITUTE OF TECHNOLOGY
NAAC ACCREDITED 'A' GRADE

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NUiCONE 2019

NIRMA UNIVERSITY
INSTITUTE OF TECHNOLOGY
NAAC ACCREDITED 'A' GRADE

7th Nirma University International Conference on Engineering

Conference Theme : Technologies for Sustainable Development

(November 21-22, 2019)

Technical Co-Sponsors

CRC Press / Balkema
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ISA · ASHRAE Western India Chapter · SAE INDIA · ISGF India Smart Grid Forum · GBCI · SPE · NVIDIA · Synoptek

ABOUT NIRMA UNIVERSITY

Nirma University is one of India's leading universities based in Ahmedabad (Gujarat). The University was established in the year 2003 as a Statutory University under a special act passed by the Gujarat State Legislative Assembly. It is recognised by the University Grants Commission (UGC) under Section 2 (f) of the UGC Act. The University is duly accredited by National Assessment and Accreditation Council (NAAC). The University is a member of Association of Indian Universities (AIU) and the Association of Commonwealth Universities (ACU). Nirma University is one among the top 100 in National Institutional Ranking Framework (NIRF) ranking consistently for last three years. Our University is the top most private University, in the state of Gujarat as adjudged by Gujarat State Institutional Ranking Framework (GSIRF) for the year 2017-2018.

ABOUT THE INSTITUTE OF TECHNOLOGY

Institute of Technology, Nirma University, earlier known as Nirma Institute of Technology, started in 1995 by Nirma Education and Research Foundation (NERF), was the first self-financed engineering college in Gujarat. Institute of Technology has turned into a leading hub of education, offering multidisciplinary undergraduate, postgraduate and PhD programmes in engineering.

The institute is consistently ranked within top 25 self-financed engineering colleges of India in the survey conducted by various rating agencies. The persistent efforts of faculty members and students of the Institute win many prestigious awards and bring laurels to the institute.

The Institute is located in the peaceful and sylvan surroundings of Ahmedabad city in the heart of Gujarat. The Institute provides disciplined, serene and conducive environ for reflection, repose and research. The Campus is dotted with majestic buildings with lush green sun-dappled lawns.

The ardent pursuit of knowledge by the young aspirants leads to knowledge generation and innovative solutions for the community and society. And, to give wings to these aspirations, the Institute presently has more than 4500 students and 220 faculty members, making relentless efforts for making a mark with their presence globally. The campus vibrates with not only world-class curricular activities but also with myriad activities like international conventions, symposia, conferences, student competitions, conclaves, short-term industry-relevant programs and cultural activities.

The teaching philosophy of the Institute is Outcome-Based Education (OBE), Experiential Education (through Project Based Learning), research in thrust areas with translational impact, and the creation of engineers as leaders in the society.

It has dynamic curriculum, robust and talented pool of faculty members, and state of art infrastructure in all the departments. It is well known for imparting quality education, active research and also in nurturing students for holistic development.

ABOUT THE CONFERENCE

Nirma University International Conference on Engineering (NUiCONE) is a flagship event of the Institute of Technology, Nirma University. The conference follows the successful organization of four national conferences and six international conferences in previous years. This year the main theme of the conference is "Technologies for Sustainable Development" .

NUiCONE 2019 will be a multidisciplinary event encompassing themes related to various disciplines of Engineering & Technology. The objective of the conference is to bring professional engineers working relentlessly for the sustainable development technologies from industry, academics, research organizations, and research scholars of matching interests on a common platform to share new ideas, experiences and knowledge in various fields of Engineering and Technology.

NUiCONE 2019 is being organized in association with the stalwart of publication house CRC Press, Taylor & Francis. Selected papers will be published with CRC Press, Taylor & Francis.

The conference will ignite the minds of the participants and delegates for undertaking more interdisciplinary collaborative research for updating technology and creating a repository of knowledge.

The technical program will consist of peer-reviewed paper presentations in parallel technical sessions. In addition, keynote lectures, presentations by industry professionals, panel discussions, session-wise expert talks and poster presentations will be conducted during the conference. PhD Forum will be arranged where PhD students will present their work through a poster presentation. The best paper will be awarded the special prize.

CALL FOR PAPERS

Researchers, Academicians and Professionals are invited to submit a full length paper not exceeding five A4 size pages at the technical sessions of NUiCONE-2019. Author may increase the number of pages by paying additional charge of Rs.1500 per page.The format of the paper is available on the conference website: https://www.nuicone.org. Soft copies of the papers in specified format should be uploaded on the conference website. A poster session will also be organized. The papers selected for presentation will be included only in conference proceeding of NUiCONE-2019. The accepted papers will be recommended to CRC Press, Taylor & Francis. Please visit the conference website for more details.

INTERDISCIPLINARY THEMES

Researchers from industry and academia are invited to present their research work in the following areas.

DEPARTMENT OF CIVIL ENGINEERING

1. **Advances in Transportation Engineering:**

   Pavement materials, Pavement analysis and design, Traffic operations and management, Transportation economics, Road safety and traffic awareness, Accident analysis, Transportation planning and modelling, Intelligent transportation systems, Sustainable transportation system, Public transportation system, Road construction technology, Application of remote sensing & GIS in transportation engineering.

2. **Emerging Trends in Water Resources and Environmental Engineering**

   Impact of climate change on water resources, Groundwater modelling & management, Hydrological modelling & forecasting, Application of remote sensing & GIS in water resources, Irrigation planning & management, Reservoir operation & optimization, Sustainable development of water resources, Watershed management, Water quality monitoring & assessment, Environment hydraulics, Environmental impact assessment, Water and wastewater treatment, Solid waste management, Air and noise pollution, Recycle and reuse of waste, Application of remote sensing & GIS in environmental engineering.

3. **Construction Technology and Management**

Advanced construction materials and technologies, Construction economics, Workplace management, Life cycle assessment, Construction laws, Construction productivity, Value engineering, Safety and health management, Management practices for construction equipment and materials, Innovation in construction, Construction waste management, building energy efficiency, BIM and life cycle project management, Contract management, sustainable construction material and methods.

4. **Concrete and Structural Engineering**

Advances in cement-based materials and concrete technology, Structural analysis & design of reinforced, steel and prestressed concrete, Repair, Rehabilitation and retrofitting of structural systems, Earthquake resistant design of structures, Computational techniques in structural engineering, Geotechnical investigations & design of structures, Smart material applications and structural health monitoring, Response measurement and control of structures, Sustainability in concrete and structural engineering.

DEPARTMENT OF ELECTRICAL ENGINEERING

5. **Futuristic Power System**

Smart grid, WAMS, Grid challenges, Grid stability and restructuring, Grid optimization, Transmission planning and design, Distributed generation – reliability and grid security, New frontiers in fault detection and mitigation, Developments in switchgear and relaying, Artificial intelligence applications in power systems, Issues and development in high voltage and insulation engineering, Renewable integration., PMU, Power System dynamics and stability, Condition monitoring.

6. **Control of Power Electronics Converters, Drives and E-mobility**

Modelling of power devices, Control strategies in power electronic systems, Topological advancements in power electronic converters, Multi-level converters for high power applications, Power quality improvement devices – active power filters, Front-end converters and unity power factor correctors, Power supplies, Lighting systems, EMI and EMC issues, Advances in drive control, Power electronics based renewable energy systems, Artificial intelligent controlled power electronic systems, HVDC transmission and FACTS, Power electronic converters & control for electric vehicles, Battery modelling, Battery chargers, Battery management systems, V2G and G2V technology, Electric propulsion systems for hybrid electric vehicles, Life cycle analysis, Traction systems.

7. **Advanced Electrical Machines and Smart Apparatus**

Design, modelling, and analysis of advanced (and conventional) electrical machines, Condition monitoring, fault analysis and protection of electrical machines, Testing and condition monitoring of electrical equipment, IOT based electrical equipment.

DEPARTMENT OF CHEMICAL ENGINEERING

8. **Chemical process development and design**

Modelling and simulation, Applications of nanotechnology, Catalysis and reaction engineering, Hydrocarbon processing, Fluid dynamics and multiphase flow, Process development and design.

9. **Technologies and Green Environment**

Cleaner Production, Waste Treatment Technologies, Bioprocesses and Biotechnology, Energy and Environment Management Practices, Applications of Nanotechnology, Sustainable Development Issues

DEPARTMENT OF MECHANICAL ENGINEERING

10. **Sustainable Manufacturing Processes**

Manufacturing processes and materials contributing to sustainable manufacturing processes.

11. **Design and Analysis of Machine and Mechanism**

Area of computational methods, experimental work and analytical solutions for design and analysis of machines and mechanisms.

12. **Energy Conservation and Management**

Area of production, utilization and conservation of energy.

DEPARTMENT OF INSTRUMENTATION AND CONTROL

13. **Control and Automation**

Area of process modelling, Simulation, Robot dynamics, Control algorithms, Vision-based control, Industrial automation, Control and optimization, Robotics, Fault detection and diagnosis, contemporary issues related to process industries along with the challenges and solutions of factory automation

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

14. **Electronic Communications**

Performance analysis, Experimental development and simulation in the areas of optical communication, Wired/wireless communication and networks, Ad Hoc Network, Sensor networks, Next generation networks, RF and antenna systems, Microwave communication, Satellite communication, Antenna design, Cognitive radio, Energy harvesting and green communication, Internet of Things (IoT), IoT in urban development, Intelligent transportation system, ICT applications in social upliftment, Navigation system.

15. **Electronics Circuits and System Design**

Embedded system design, Cyber-physical system (CPS), Health and medical electronics, Reconfigurable architecture, Device modelling and simulation, Advanced CMOS devices, Emerging memory devices, Analog and mixed-signal circuits, Circuit timing and power models, Low power and near/sub threshold circuit design, Logic and behavioral synthesis, Placement, Routing and floor planning, Design automation, Design verification, Test, Reliability and fault tolerance, Formal verification, Design for testability, Fault modelling, Post-silicon validation, Testing memories and regular logic arrays, Design for manufacturability and yield analysis, Device physics design and circuits using non-Silicon materials.

16. **Signal Processing:**

Signal processing for communications, Image and video signal processing, Multimedia applications, DSP algorithms and architectures, Speech and speaker identification, Biomedical applications, Language identification, Machine learning, Pattern recognition and classification, Applications in astronomy/ astrophysics, Radar and sonar signal processing.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

17. **Advances in Networking Technologies**

Areas including but not limited to Wired network, Wireless and ad-hoc networks, Software defined networks, Wireless sensor networks, Vehicular networks, Body area networks, Delay tolerant networks, Mobile social networks, and the Internet of things. Protocols and algorithms for communication, performance enhancement, QoS provisioning and security in these and other networks.

18. **Machine Intelligence / Computational Intelligence**

Optimization, Artificial intelligence, Machine learning methods/algorithms, Data mining and big data, Pattern analysis, Soft computing, Bio-inspired computing, Image processing, Computer vision, Biometric security, Speech analysis, Signal processing theory and methods, and applications of human brain interactions are invited. Other theories/applications of machine learning and signal processing techniques.

19. **Autonomic Computing**

Cluster and grid computing, cloud as a service, applications and infrastructure, edge computing, fog computing, enterprise software and services, multicore systems, computing in Internet of things and embedded systems, design issues addressing architectural challenges of autonomic computing and its solutions, algorithms, theory and foundations of autonomic computing, applications, security and current trends.

DEPARTMENT OF MATHS AND HUMANITIES

20. **Recent Trends in Applied Mathematics**

Graph theory, Modelling and simulation, Bio-mathematics, Statistical computation/optimization, Fuzzy logic, Algebra, Number theory

21. **Recent Trends in Teaching-Learning in Engineering Education**

Innovative methods in curriculum design and delivery, Social media and teaching-learning, Blended learning/MOOCs in engineering education, Assessing the assessment, Futuristic trends in engineering education, Entrepreneurship and innovation.

SUBMISSION OF RESEARCH PAPERS

1. The papers submitted to various themes will be recommended for publication as conference proceedings with CRC Press, Taylor & Francis subject to strictly meeting and complying with Taylor & Francis guidelines and signing of copy-right transfer form.
2. The format of the paper is given on the conference website: http://www.nuicone.org.
3. Soft copies of the papers in specified format should be uploaded on the conference website. Maximum number of pages per paper should be five only. However, author may increase the number of pages by paying additional charge of Rs.1500 per page.
4. For the final selection, all the papers will be reviewed and scrutinized by a Technical Committee comprising of subject experts after plagiarism checks for the originality of paper.
5. Along with the final submission of the selected paper, authors are required to submit an undertaking form which states that, the paper has not been published previously, is not under consideration for publication elsewhere, and if accepted it will not be published elsewhere in the same form.
6. One of the authors must register for the conference and present the paper, otherwise the paper will not be published in the conference souvenir and proceedings.

Important dates

- **Receipt of Full Paper : May 15, 2019**
- **Intimation of Acceptance : August 16, 2019**
- **Submission of Camera Ready Copy : September 01,2019**

REGISTRATION

Registration and presentation by at least one of the authors is must to consider the paper as included and published in the conference souvenir and proceedings. The registration process will be online from the conference website

a. Indian Delegate (First author) : Rs. 8000 + 18% GST
b. Student : Rs. 3000 + 18% GST
c. Research Scholar : Rs. 4000 + 18% GST
d. Foreign delegates : $ 200 + 18% GST
e. Industry delegate : Rs. 10000 + 18% GST

Accommodation is not included in registration fee but the organizing committee may help the delegates in arranging suitable accommodation in the Nirma University guest house (limited numbers) and nearby hotels/hostels on the payment basis:

- One full registration is compulsory for submitting paper/presenting paper in conference.
- The delegate fee includes day time hospitality during conference days, proceedings, and kit.
- Dully filled online registration form should be supported by a bona fide certificate for Students and Research Scholar.
- The Indian authors should pay the registration fees through NEFT/RTGS along with the duly filled registration form, bona fide certificate (if applicable) and signed copy-right form.
- For foreign delegates, the account details for transferring registration fee is available on the conference website.
- Non-author delegates are also welcome to register for the conference.

For any details, please send your email to nuicone@nirmauni.ac.in or contact 079-30642214, 079-30642525

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