

**Nirma University
Institute of Technology**

Report on NUiCONE 2010

December 09-11, 2010

Institute of Technology, Nirma University, had organizing its 1st International Conference on Engineering on “Current Trends in Technology”, NUiCONE2010 from December 9-11, 2010. NUiCONE 2010 assembled postgraduate students, Ph.D. students, and faculty members from various educational institutions, practicing engineers, researchers, and professionals of matching interests on a common platform to share their valuable experience, expertise and knowledge. The University’s national Conference on Engineering, named “NUCONE”, with the similar theme started in the year 2006. Since last four years this national level multidisciplinary conference has been organized. Continual progress is what has always been aimed for. In the light of this fact, it was planned to make the NUiCONE 2010 a bigger event by making it international with addition of **i** in the name of the conference. This conference has now grown to become a flagship event of the Institute of Technology.

NUiCONE 2010 focuses on specialized topics in each major discipline of Engineering & Technology. There are total eight tracks: Computer Science & Engineering, Concrete and Structural Engineering, Green Technologies for Chemical Process Industries, Instrumentation and Control Engineering, Mechanical Engineering, Power Electronics, Machines & Power Systems, Signal Processing & Communication Engineering and VLSI Design & Technology.

The technical collaborations from different institutes across India were made in order to disseminate the information about the conference to wider cross-section of Scientists, researchers and professionals, as well as to get quality papers. These institutes includes Institution of Engineers(India), International Society of Automation, Indian Concrete Institute, Indian Association of Structural Engineers, India Chapter of American Concrete Institute, Indian Institution of Chemical Engineers- Ahmedabad Regional Centre, SAE India Western Section, ASHRAE Western India Chapter, ISHRAE Ahmedabad Chapter, The Society of Power Engineers (India) (Vadodara Chapter), VLSI Society of India.

More than 620 delegates attended the conference, which included the professionals from industries and R&D, research scholars and PG students from abroad, India as well as from Nirma University.

The three day event was inaugurated in a graceful ceremony on 9th December 2010. Prof Anil K Gupta, Executive Vice-Chair, National Innovation Foundation unveiled the inaugural ceremony as the Chief Guest. In his inaugural address, Prof. Gupta highlighted a 10 step model of innovation in R&D. Prof Gupta sensitized the audience to develop a sense of feeling for others’ pain, only then R&D will be fruitful. He illustrated this idea to understand and feel the pain of others which will help the society in large by coming out with innovative ideas for problem solving. Dr N V Vasani, Director General, Nirma University and Chief Patron of NUiCONE 2010, presided over the function. In presidential address, Dr Vasani invited the audience to “Slow Down” in order to catch up with the pace of fast moving technology and to have “Can do Spirit” to mark innovation in R&D. The e-proceeding and souvenir of the conference were released. Dr Ketan Kotecha, Director, Institute of Technology Nirma

University and Patron of NUiCONE 2010 welcomed the august gathering with a brief note about the institute since inception.

The inaugural function was followed by track-wise nine concurrent technical sessions. More than 650 papers were received. After a very rigorous peer review, about 150 papers were selected for oral presentations from researchers of reputed institutes and organizations across the globe. The poster presentation was introduced for the first time in all tracks in this conference and 50 papers were selected for poster presentation by the delegates. Finally, more than 200 papers were presented by means of oral and poster presentations by the delegates. The papers presented in the technical sessions, in each of the tracks, were not only of a significantly high quality but also from diverse fields ranging from medicine and health to Satellite Broadcasting Systems. Of special mention was the commendable work done by a candidate on micro-strip patch antenna for Breast Cancer detection and another on design for laptop applications. Huge amount of interest and enthusiasm was observed during discussions in paper presentation sessions on all three days.



Inaugural Function: On the Dias (from left): Dr U V Dave (Organizing Secretary), Dr K Kotecha (Director, Institute of Technology), Prof Anil Gupta (Executive Vice-Chair, National Innovation Foundation as the Chief Guest), Prof. N. V. Vasani (Director, Nirma University), and Dr J P Ruparelia (Jt. Organizing Secretary)

The sessions were well attended and highly appreciated. The conference had various sessions in different disciplines, chaired by eminent experts from industry, research and academia. Dr. Leena Vachhani from IIT, Mumbai admired the quality of papers as 'excellent'. Mr. Samir Shroff considered the session as good and advised the participants to increase the data size and have depth in analysis to make the research more relevant and interesting. Dr. J. Benerjee, from SVNIT, Surat again appreciated the level of papers presented. Dr. Ram Iyengar urged the presenters to take lead in the development of steel for Nuclear Power plants. Where as Dr. Suman Mitra, DAIICT, Gandhinagar praised the enthusiasm exhibited by the number of young participants. Mr. Ramesh Ramanan, R & D Manager from Veeraval controls (P) Ltd. expressed satisfaction on the quality and content of the papers presented.

Around twenty four plenary talks by eminent personalities of the respective fields from within India as well abroad in different tracks were arranged as per following details.

Sr No	Name of Track	Details of Speakers	Topic
01	Computer Science & Engineering	1. Dr Kishor Trivedi, DUKE university, USA	Cloud Computing
		2. Dr Asim Banerjee, DAIICT, Gandhinagar	Audio, Video and Image Processing
		3. Dr Leena Vachhani, IIT, Bombay	CORDIC: Emerging trends
02	Concrete and Structural Engineering (CSE)	1. Prof. S.P. Shah, North Western University, USA	Application of Nanotechnology for Concrete
		2. Sh.V K Pandya, Jt. President (Tech. Services) Jaiprakash Associates Ltd. (Cement Div)	Developments in Cements and Concrete Technology
		3. Shri Satish Dhupelia, Consulting Structural Engineer, Mumbai	Design Issues in High Rise Buildings
		4. Prof Gajanan Sabnis, CEO, 21 SHM Ltd., Mumbai	Structural Health Monitoring
03	Green Technologies for Chemical Process Industries (GTCPI)	1. Dr. Zubin Varghese, Program Manager, Corporate Research & Technologies, Siemens Information Systems, Bangalore	Sustainable Technologies
		2. Mr A K Jindal, Chief Manager - Water Technologies, Larsen & Toubro Limited, Powai Campus, Mumbai	Green Engineering for Sustainable Development
		3. Dr S K Nema, Scientist, Institute of Plasma Research, Ahmedabad	Plasma technologies for process industries
04	Instrumentation & Control Engineering (ICE)	1. Dr. Jayesh J. Barve, Senior Engineer (ESC-EMCS Lab), GE India Technology Centre, Bangalore	Advances in Controls/Optimization
		2. Prof. M. Gopal, Professor, Electrical Engineering, IIT Delhi	Reinforcement Learning
05	Mechanical Engineering (ME)	1. Dr R K Shah- IIT Bombay	Microchannel Heat Exchangers
		2. Dr. Ram K. Iyengar, President, Technovations International Inc, USA	Recent Developments in Heat treating and Thermal Spray Surface Treatment of Steel Products
		3. Mr A R Srinivas SAC, ISRO, Ahmedabad	Computer Applications in Design and Manufacturing

Sr No	Name of Track	Details of Speakers	Topic
06	Power Electronics, Machines & Power Systems (PEMPS)	1. Shri G.V.Akre, Director, High Volt Trans. Ltd., Vadodara	Development of 1200 kV Transmission System: an Overview in Indian Context
		2. Dr. L.Umanand, CEDT, Indian Institute of Science, Banglore	Digital Controller Design for Power Electronic Applications
		3. Dr. SamsulEkram, , Global R&D Centre, Crompton Greaves Limited, Mumbai	Drives and Automation
07	Signal Processing & Communication Engineering (SPC)	1. Dr. S. C. Sahasrabudhe, Director of DA-IICT, Gandhinagar	Trends in Signal/Image Processing
		2. Dr. V. M. Gadre, Electrical Engg. Deptt., IIT Bombay	Scalable Video Coding
		3. Dr Nishit Pandya, Founder and CEO, NTice Technologies, Ahmedabad	Adaptive coding for software defined radio
08	VLSI Design & Technology (VDT)	1. Mr. T. V. S. Ram, Scientist, SAC, ISRO, Ahmedabad	On board Signal Processing for Satellites
		2. Mr. Sameer Shroff, CEO, SiBridge, Ahmedabad	Trends in FPGA Design and Technology
		3. Dr. D. J. Shah, Principal, LCIT, Bhandu.	Advanced Testing and Verification of SOC

The first day of the conference witnessed address from prominent experts. The presentations by Dr. R. K. Shah of IIT, Mumbai, Dr Asim Banerjee from DAIICT, Dr Sahastrabudhe from DAIICT and Mr TVS Ram from ISRO received an overwhelming response from the audience. Most of the other tracks had technical sessions wherein participants presented their papers and posters on current trends in technology which were highly appreciated.

It was also planned to give the award for the best paper for the PG scholars in each track to encourage the researchers for conducting more quality research in future. The paper presentations by students for award of best paper were conducted on first day.

Visit to Science city was arranged on the first day in the evening for the delegates.

The second day of the conference began with a soul-searching talk by Dr. Kishor Trivedi, from Duke University, Durham, NC who addressed the participants on Performability Analysis of Cloud Provided Services. In other parallel sessions Dr. Ram Iyengar, President Technical Innovations Inc, USA, Prof. Gajanan Sabnis, CEO, 21 SHM Ltd, Dr Leena Vachhani, IIT, Bombay, Dr. Zubin Varghese Program Manager, Siemens Information Systems, Bangalore, Dr. S.K. Nema, Senior Scientist- Institute of Plasma Research, Gandhinagar, Mr. G.V. Akre, Director, High Volt Trans. Ltd., Dr. V. M Gadre, EE Dept, IIT Bombay, Dr. Ajay Jindal, Chief Manager Water Technologies, L&T Mumbai delivered talks on innovation in their respective fields. Besides these, concurrent technical sessions were held in all eight tracks wherein research papers by scholars were presented and well appreciated by the participants.

The colorful cultural programme with different types of dances and music was arranged with the banquet dinner on the evening. The participants participated and enjoyed all the events of the programme in the evening.

The third day of the conference included the presentations by Prof M Gopal, IIT Delhi, Prof S P Shah, Northwestern university, Mr Satish Dhupelia, Structural Engineer, Mumbai, Shri V K Pandya, Jaypee cements, Mr A Srinivas SAC, ISRO, Dr Nishit Pandya, CEO Technologies etc. The participants were highly appreciative of knowledge sharing from the talks. Remaining paper presentations were completed on the third day.

The NUiCONE 2010 ended on December 11, 2010 on a high note with all categories of participants acknowledging that it went far beyond meeting its objectives and provided material for the next step in innovation. Dr. Gajanand Sabnis, Professor Emeritus, Howard University, Washington DC was the Chief Guest at the Valedictory function and Shri Ambubhai M. Patel, Vice President, NU presided over the function. Dr. Sabnis in his scholarly address discussed the objectives of the international conference and gave valuable inputs to make good pitch in the conference by holding it every 2 years, attracting participants from abroad, interacting with younger generation, working as a team and getting education, research and industry together. He also looked forward to more interdisciplinary research areas being worked upon and presented at such a conference. Dr K Kotecha, Director, Institute of Technology, delivered the remarks, in which he recalled the purpose and need of organizing such multi disciplinary conference. He also announced the dates of NUiCONE 2011. Best paper awards per theme were given away to student delegates by the chief guest and the president. Participants expressed their views about the conference during the function. They appreciated all the aspect of the conference.



Chief Guest of the Valedictory Function, Prof Gajanand Sabnis, Emeritus Professor, Howard University, USA, addressing the participants. On the Dias (from left): Dr U V Dave (Organizing Secretary), Dr K Kotecha (Director, Institute of Technology), Shri Ambubhai Patel (Vice President, Nirma University), and Dr J P Ruparelia (Jt. Organizing Secretary)

The overall feedback for various tracks had been very encouraging and motivating. The deliberations during the conference were fruitful and it is firmly believed that these interactions would benefit all individual and to the society as a whole. We are quite confident that this conference will ignite the minds of the younger generation and will induce them towards undertaking research for technology up gradation.

The successful organization of NUiCONE 2010 was due to contribution by authors, delegates, reviewers, faculty members, sponsors and student volunteers. We express our heartfelt thanks to all the keynote speakers, reviewers and authors of the selected papers for their exceptional contributions. We are also thankful to all the sponsors for their support. We are highly indebted to the management for their wholehearted support and guidance. Our special gratitude and appreciation are to the Chief Patron, Patrons and the members of advisory committee for their valuable guidance and suggestions for the betterment of the conference. We are also grateful to the members of the Organizing Committee for their support; members of the Technical Committee who have worked very hard to put in place the content of the technical programme, and the members of the Proceedings Committee for bringing out the proceedings, racing against time. We are also grateful to members of other committees: Printing, Registration & Communication, Accommodation & Transport, Venue Management and Academic Programme, Catering, Media & Publicity, Sponsorship, etc., as without their outstanding job and meticulous planning we could not have put up such an excellent conference site. It is indeed an honor for us to work as the Organizing and the Joint Organizing Secretary of NUiCONE2010.

Dr J P Ruparelia
Joint Organizing Secretary
NUiCONE 2010

Dr U V Dave
Organizing Secretary
NUiCONE 2010