SCET Multi-Disciplinary Conference on Engineering & Technology
(SMDCET-2017)
A Report on

NATIONAL CONFERENCE
ON
Recent Advances in Automation, Control and Power Engineering (RAACPE 2017)

March 25 - 26, 2017

Organized by

Electrical Engineering Department

Instrumentation & Control Engineering Department

(Accredited by National Board of Accreditation, New-Delhi for 3 years w.e.f. July 2016)

Technically supported by

International Society of Automation (ISA) **Indian Society for Technical Education (ISTE)**

SCET **M**ulti-**D**isciplinary **C**onference on **E**ngineering and **T**echnology (SMDCET), an initiative taken by SCET in this part of state, aims to gather technocrats from different states of India on a common platform, and to promote research activities in most of the fields of Engineering & Technology. **Recent Advances in Automation, Control and Power Engineering 2017** (RAACPE-2017) is one of the parts of **SMDCET-2017.** The motivation of the program is to enrich students and faculties of this region with this knowledge so that it will benefit community at large. The Conferences will include keynote addresses, expert talks, workshops and scholar sessions apart from technical paper presentation sessions.

About RAACPE-17

RAACPE-17 seeks to address and capture highly innovative and state of the art research/survey and work in the electrical, control and automation engineering. The scope of the conference includes a wide range of technical challenges in view of the growing interest for recent trends. RAACPE-17 was organized with aim to bring together researchers, engineers, developers and practitioners from academia and industry working in all major areas like Control, Computing and Applications, Modern Sensors and Instrumentation, Industrial Automation, Power Electronics and Drives, Distributed Generation and Smart Grid, Power Systems Operation and Control to share their experience, and exchange and cross-fertilize their ideas.

Schedule of RAACPE

Saturday 25th March,2017		
Timing	**Event**	**Venue**
9:30 AM-10:00AM	Registration	EL Dept., Computer Lab. , Ground Floor
10:00 AM-11:00 AM	Inauguration of SMDCET 2017	TIFAC
11:00 AM-12:30 PM	Plenary Talk by **Dr. U. B. Desai (IIT, Hyderabad)**	TIFAC
12:45 PM-01:00 PM	RAACPE 2017 Inauguration by **Mr. Jagdish Shukla (CEO, Survilink Systems, Vadodara)**	TIFAC
01:00 PM-01:30 PM	Invited Talk by Mr. Jagdish Shukla	TIFAC
01:30 PM-02:15 PM	Lunch Break	
02:15 PM-04:00 PM	Expert Talk by **Dr.Ragavan,IIT Ghandhinagar on 1."***Selection of motors for electric vehicles***", 2."***Grid Connected wind energy conversion system"*	TIFAC
04:00 PM-04:15 PM	Tea Break	
04:15 PM-05:30 PM	Technical Session - 1*	EL dept. ME-II Class Room (1st Floor)
Sunday 26th March,2017		
Timing	**Event**	**Venue**
10.00 AM-10:30 AM	Registration	
10:30 AM-01:00 PM	Technical Session -2 & 3*	EL dept. ME-II Class Room (1st Floor)
12:00 PM-12:30 PM	Scholar Session & Jury Visit	IC, Dept
12:30 PM-01:30 PM	Lunch Break	
01:30 PM-03:30 PM	Tutorial Session (3D Printing)	III cell , IC dept 1st floor
03:30 PM-03:45 PM	Tea Break	
03:45 PM-04:45 PM	Continued..Tutorial Session (3D Printing)	III cell , IC dept 1st floor

Inauguration of SMDCET 2017

On the day of inauguration of SMDCET, Dr. S R Gandhi, Director SVNIT was invited as chief guest. Dr. U B Desai, Director, IIT Hyderabad and Shri Rajiv Bhatnagar, Director, Hazira facility, ESSAR Steel have grace the occasion as guest of honour. SCET also invited, Shri Yatish Parekh Chairman of SES, Shri C.S Jariwala Vice Chairman 1 of SES, Shri Kamlesh Yagnik Vice Chairman 2 of SES and Shri Sudhirchandra Desai Chairman's representative, SCET as dignitaries for the ceremony.

The plenary talk was given by Dr. U. B. Desai, Director of IIT Hyderabad and is the Mentor Director for IIT Bhilai and IIIT Chittoor. He has given a talk on the topic of Role of Sensors in Smart Cities. Dr. Desai emphasized on the state-of-the-art sensors and their use in various applications, especially used in smart cities development program visualised by central government. Sophisticated sensors used in agriculture sector could do miracle things in order to save crops from insect attacks, to improve yield and even to forecast disease to prevent huge loss of crop. Moreover, automated collection of wet and dry waste-garbage system to be adopted and its handling was described well by him. He also insisted to develop such intelligent sensors indigenously which reduces the cost of final product and makes country independent of import expenditure and subsequently improves economy of nation dramatically.

Dignitaries of Inaugural ceremony

Dr. U B Desai delivered a keynote address on "No Smart cities without sensors"

Experts Talk:

Mr. Jagdish Shukla, VP D 14 and owner of Servilink Systems Limited was invited as a guest of honour for the inaugural ceremony of RAACPE -2017. His talk was centred around the IoT-Internet of Things. He has discussed how fast devices, gadgets, equipments and appliances are getting connected to the network and the controllability of them, and the scope of data collection and analysis. He has also spoke about the need of automation in the industry and cloud computing.

After lunch, an expert talk was delivered by Dr. Ragavan K. ,Associate Professor, IIT-Gandhinagar and visiting professor at IIT-Mumbai. He started his presentation with fundamentals of electrical motors and gradually let the audience, mainly pre-final and final year students to brushless motors specially used as driving members in electrical vehicles. His presentation was very much appreciated by students and even faculty members of electrical and Inst.&Control engg. Depts.

Invitee Mr. Jagdish Shukla talked on "Internet of Things"

Expert talk on "Motors for Electric Vehicle" by Dr. Ragavan K.

Technical Paper Presentation Event

Papers were invited in six different tracks from various institutes across the country. The various tracks that cover major area of electrical and instrumentation & control engineering domain are:

A. Control, Computing and Applications
B. Modern Sensors and Instrumentation
C. Industrial Automation
D. Power Electronics and Drives
E. Distributed Generation and Smart Grid
F. Power Systems Operation and Control

The total number of received papers was 28 from different tracks. The submitted papers were reviewed extensively by the assigned reviewers having expertise in relevant field(s). Based on the comments and suggestions of reviewers, 14 papers were selected for presentation during the technical paper presentation session of conference. In order to maintain the quality of technical papers, all of the submitted papers were checked for plagiarism, the tool link provided by General Program Chair, Dr. Keyur Rana, thoroughly and no paper having plagiarised content higher than 25% was accepted for publication. The selected paper's authors were informed well in advanced about the presentation schedule. One of the authors of all selected papers has to register for presentation in the conference. The letter of appreciation has already been sent to each honourable reviewer for extending their service for this knowledge sharing event.

The venue for technical paper presentation session was M.E.-II Class Room, Electrical Engineering Dept.). The presentation of papers was distributed in three different sessions for three tracks. In session-1 Power Systems Operations and Control papers were included, and was scheduled on 25th March, 2017. Dr Hitesh Jariwala, Associate Professor and HOD, Electrical Dept, SVNIT, Surat has accepted our invitation as a session Chair. From his vast experience in the domain of power system, he gave valuable inputs to the author(s) of each paper during presentation for further improvement and modification for strengthening the research work. The comments given would definitely be beneficial to all presenters. The session was interactive and enjoyed by the participants as well as other attendees.

Second and third sessions were scheduled on 26th March, 10:30 am to 12:30 pm. The papers related to Power Electronics and Devices track are included in second session and the papers in the Distributed Generation and Smart Grid track are included in third session. Dr. R. Chudamani, Associate Professor, SVNIT, Surat has accepted our invitation to become a session chair for second and third session. Both sessions on second day were interactive and valuable inputs were provided by the session chair for strengthening the research work presented by each authors. The letters of appreciation as well as mementos were given to Session chairs by the program Co-chair Dr. Shabbir Bohra.

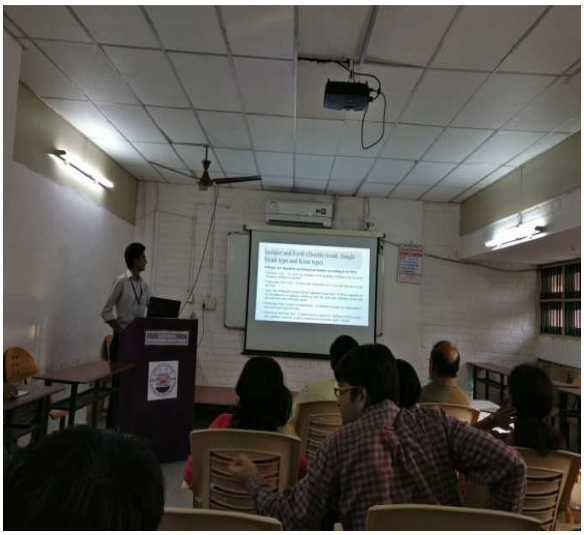
All the authors who have presented papers were given certificates and Publication Book on the spot after presenting the papers. The paper publication certificates were also given for the co-authors of selected papers. The paper has been published in the Conference Proceedings (ISBN: 978-81-933591-4-3).

The list of papers presented during two days in three sessions is as under:

Technical Session: I (4:15 pm to 5:30 pm) (25-12-2016) (M.E.-II Class Room, Electrical Engineering Dept.) (First Floor)				
Sr No	Paper ID	Title of the Paper	Track	Authors
1	RAACPE003	Assessment Of Impacts Of Bilateral Power Transaction On Line Flows	Power Systems Operation And Control	Yashvant Bhavsar, Saurabh Pandya
2	RAACPE006	A Review Comprehension: Guideline For Testing Of HV, EHV And UHV Substation Equipments as per IS and IEC standards	Power Systems Operation And Control	Pratik Thakkar, Praful Chudasama, Harshrajsinh Kosamia, Vishwajitsinh Sindha
3	RAACPE014	Effect Of Demand Response Programs On Gujarat Load Demand Curve By I/C And CAP programs	Power Systems Operation And Control	Sagar Valvi, A. B. Parmar
4	RAACPE017	Automatic Generation Control of Interconnected Power System with the Diverse Sources Using Superconducting Magnetic Energy Storage (SMES)	Power Systems Operation And Control	TUSHAR G. PATHAR, MAULIK V. PATEL
5	RAACPE019	Particle Swarm Optimization Algorithm For Voltage Stability Improvement Using SVC	Power Systems Operation And Control	Ladumor Dilip, Rajnikant Bhesdadiya, Indrajit Trivedi, Pradeep Jangir

Technical Session: II & III (10:00 am to 12:00 am) (26-12-2016) (M.E.-II Class Room, Electrical Engineering Dept.) (First Floor)				
Sr No	Paper ID	Title of the Paper	Track	Authors
1	RAACPE011	DSTATCOM For Unbalance Mitigation In 3-phase 4-wire Distribution System	Power Electronics And Drives	Odedra Khoda N. , Prof. S.N.Pandya, Dhaval P. Patel, Maheshwariba P. Zala
2	RAACPE012	SAPF Controlled By P-q And D-q Theory	Power Electronics And Drives	Dhaval P. Patel, Swati N. Purohit, Khoda N. Odedra, Ankit B. Patel
3	RAACPE016	Harmonic Analysis Of Distribution System Using Hybrid Filter With Fuzzy Logic Controller	Power Electronics And Drives	Urvesh Rameshbhai Rana
4	RAACPE021	A Comparative Study Of Direct Torque Control And Space Vector PWM Technique for Torque Ripple Minimization of Induction Motor	Power Electronics And Drives	Pravinkumar D. Patel, Dr. Saurabh N. Pandya
5	RAACPE004	Performance Of Standalone System Using P&O And INC MPPT Techniques	Distributed Generation And Smart Grid	Sonali Malik, Dr. B.R Parekh
6	RAACPE005	Design Of A Solar Agriculture Pump Using Brushless DC Motor Set	Distributed Generation And Smart Grid	Nishant Sharma, Harsh Prajapati, Akash Shah, Neel Patel, Praful Chudasama
7	RAACPE015	Demand Side Managing Prospective At Uka Tarsadia University	Distributed Generation And Smart Grid	URMIL DESAI, Jaynesh Patel, Ankur Rana, Darshan Vora

8	RAACPE026	Enhancement Of Low Voltage Ride Through Capability Of Photovoltaic Inverter	Distributed Generation And Smart Grid	Payal M. Rana, Neha S. Shah, Hiren H. Patel
9	RAACPE027	Comparative Analysis Of Three Port DC-DC Convereters For Stand-Alone Photovoltaic System	Distributed Generation And Smart Grid	Rahulkumar I. Jadav, Prof. Hitesh K. Mehta




ANY
QUESTIONS?

Tutorial Session on 3D Printing

A tutorial session was conducted on “3-D Printing” by Mr. Hardik Prajapati from Vuro Division Of Sahajanad Technology Private Limited, Surat on 26/03/2017.The 3D Printing workshop was first of its kind in the arena of creativity & computerized manufacturing techniques designed especially for students to advance learners. Workshop session started with Introduction of 3D Printer Technology along with application of 3D Printing in Various fields. Topics related with different types of 3D printing technologies and processes were also covered.After break the available online open source software for 3D design was discussed. Demonstration of 3D Printing was also shown.

Total 68 participants have been benefited which includes students from various years and branches like EL,IC,EC, CO from SCET and surrounding colleges. All the participants were given certificates at the end of session.

Scholar Session

Scholar Session – RAACPE-17 was the part of SCET Multi Disciplinary Conferences on Engineering and Technology 2017. It had been an endeavor to provide a unique platform to the students of Electrical Engineering and Instrumentation & Control Engineering departments whereby they presented innovative ideas, honed their communication skills and learned to be a leader and a teamplayer. Scholar Session has come up with innovative events to inculcate inquisitiveness and broaden the horizon of knowledge.

There were two events:

A. **Poster Presentation**: Total students registered were 64 in total 16 teams.The students prepared and posters on technical topics and presented them before jury members.

B. **Technovanza:** Total students registered were 140 in 70 teams. There were three rounds. First two rounds were common for EL and IC students. Third round being more competitive, was different for students of these two branches. We received a very good response not only from our college but also from GEC, Surat, SASSIT, Surat, CKPCET, Surat etc.

Poster Presentation

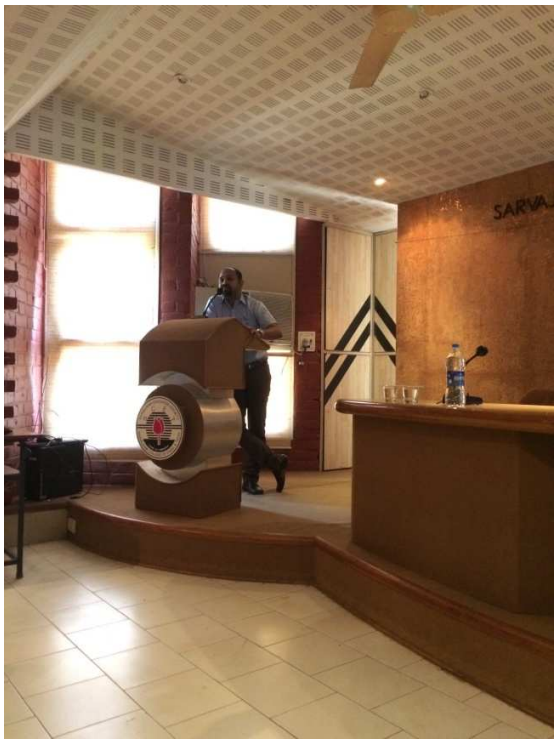
Jury memeber assesing poster

Technovanza

Pre Conference Event:

As a pre conference talk for the National Conference On Recent Advances in Automation Control and Power Engineering (RAACPE-2017), we had invited Prof. Dr. P.S. Godwin Anand. He is a Professor and Head of Applied Electronics and Instrumentation Department, Alternatively, Coordinator for LabVIEW Academy, SAINTGITS College of Engineering, Pathamuttam, Kottayam District, Kerala. He delivered his expert talk on "**ENGINEERING APPLICATIONS WITH LABVIEW**"

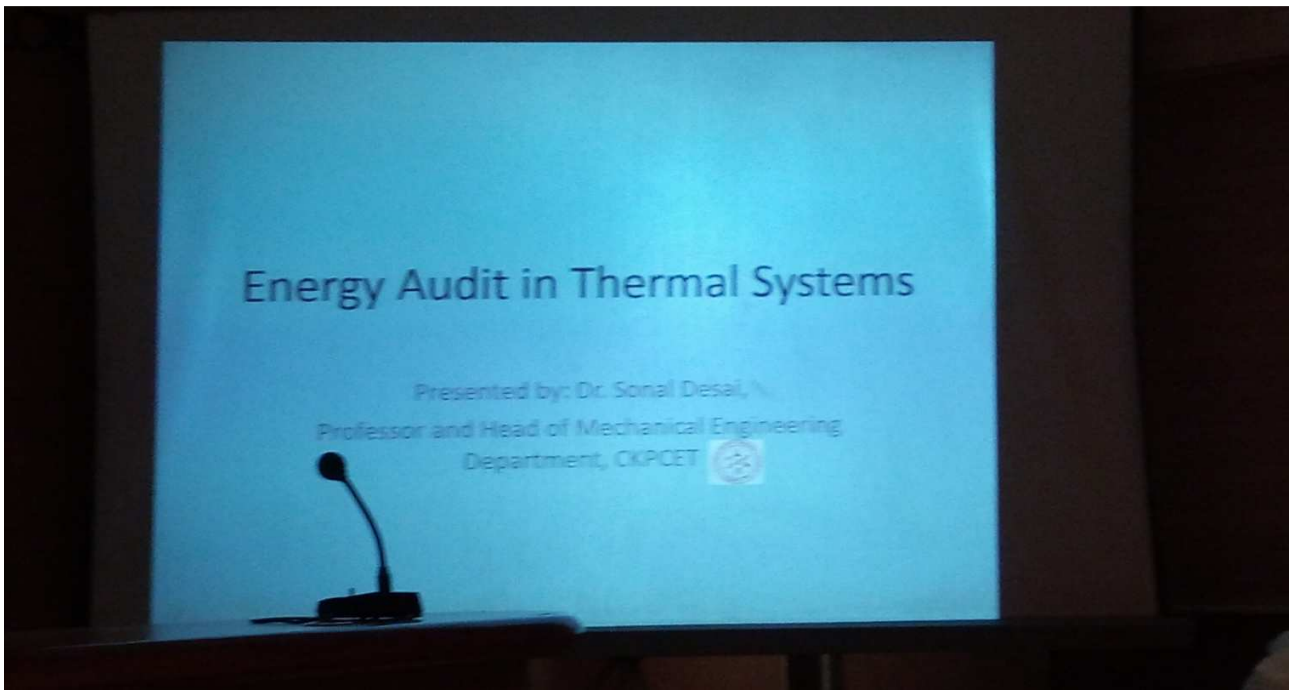
The talk was arranged at NJ Seminar Hall, SCET during 10.30 am to 12.30 pm on 24 March 2017. Dr. Anand had just started with very basic concepts to guide us how LABVIEW can be a powerful tool for technical computing and for real world hardware interaction. Even he demonstrated a simple data acquisition system and explained how the data can be published on web with simple techniques. Around 10 faculty members and 50 students were present. We can say that Dr. Anand had inspired us a lot to benefit the power of the software tool.



Post Conference Event:

As a past conference event the Department of Electrical Engineering, has arranged one day workshop on **"Energy Conservation & Audit"** on 30thMarch-2017, 10:00 am to 5:00 pm at N J Seminar Hall.

The lecture was delivered on the topics of Energy audit on Thermal System, Electrical Energy Audit and Management, Audit of mechanical Utilities with different case studies. The eminent speakers are **Dr. Sonal Desai**, Author of book titled "Hand book of Energy Audit" and Mr. Govind Patel , CEO ener'G Consulting. . Around 10 faculty members and 70 students have participated.



RAACPE-2017 BROCHURE

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Registration Fees

Participants	CSI/IEEE /IE/ISA Members (INR)	Non CSI/IEEE /IE /ISA Members (INR)
Students	1500	1750
Faculties	2000	2500
Industrialists	2500	3000

The registration fees include conference-kit, breakfast, tea/coffee and lunch during the days of the conference.

Important Dates

Full Paper Submission : *February 7, 2017*
Notification of Acceptance: *February 27, 2017*
Camera Ready Copy with registration and copyright form: *March 3, 2017*

For registration, accommodation and paper submission visit the URL:
www.smdcet2017.scet.ac.in
E-mail: info.raacpe2017@scet.ac.in

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25-26th March, 2017

SARVAJANIK COLLEGE OF ENGINEERING & TECHNOLOGY (SCET), SURAT, INDIA

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About us

The Sarvajanik College of Engineering and Technology, established in 1995, is a leading institution in South Gujarat offering technical education in the field of engineering. The institute is AICTE approved and affiliated to the Gujarat Technological University (GTU), Ahmedabad.

The Sarvajanik College of Engineering and Technology (SCET) imparts technical education in nine different undergraduate and four different post graduate programs of engineering which encompasses—Civil, Chemical, Computer, Electrical, Electronics & Communication, Information Technology, Instrumentation and Control, Textile Processing & Textile Technology and Master of Computer Application.

About conference

RAACPE-2017 aims to gather experts in the field, researchers and practicing engineers from different states of India on a common platform, and to promote research activities in all the fields of electrical engineering. The research articles with innovative ideas and with simulation or experimental results for real world applications are expected. RAACPE-2017 will follow six tracks:

A. Control, computing and applications

B. Modern sensors and transducers

C. Applied automation

D. Power electronics and drives

E. Distributed generation and smart grid

F. Power systems operation and control

Call for papers

RAACPE-2017 welcomes original research paper contributions in the field of electrical, control and automation engineering. The submitted papers should be non-plagiarized and not submitted concurrently elsewhere.

As per the policy, please note that at least one author of all accepted papers will have to register and attend the conference.

Paper submission is to be done through the conference website. The submitted papers will be peer-reviewed on the basis of novelty, originality and technical quality. Paper length should not exceed 6 A4 size pages and should strictly conform to the IEEE conference format.

Accepted and presented papers will be published in the conference proceedings with ISBN

Key areas: The major thrust areas are enlisted but not restricted to the specified tracks.

A. Control, computing and applications

- Sliding mode control
- Multivariable control
- Discrete time control systems
- Robust, optimal and non-linear control
- Adaptive control

B. Modern sensors and instrumentation

- SMART sensors
- Estimation and measurement of variables
- Electronic instrumentation
- Medical and analytical instruments
- Virtual instrumentation

C. Industrial automation

- Specific applications of PLC and SCADA
- Case studies of DCS systems
- Building automation
- Automation system for power distribution
- Human-Machine Interfacing (HMI)
- Robotics

D. Power electronics and drives

- Power electronic converters and application
- Power quality
- Electrical machines and drives
- Modeling and analysis
- Electrical vehicle
- EMI and EMC issues

E. Distribution generation and smart grid

- Renewable energy
- Energy storage devices and systems
- Energy management and control
- Smart metering
- Communication protocols

F. Power systems operation and control

- Restructuring of power system
- Power system optimization
- FACTS
- High voltage engineering
- Security constraints in optimal power flow
- Transient stability
- Contingency analysis