INTELLIGENT TECHNOLOGIES FOR BETTER TOMORROW

Engineers and Technologies have to play major role for sustainable development. The technical education and the research have to bring in intelligent innovations to enter into the new era. The fast changing world puts up tremendous pressure to change and to innovate. It is no time to wait and watch. We have to think globally and act locally.

Gulzar Group of Institutes, Ludhiana (Punjab) organized 46th ISTE Annual National Convention and National Conference during 10-12 February, 2017 with an appropriate theme befitting the vision for the future as **Intelligent Technologies for better Tomorrow**. The highlights of the proceedings are presented here as under.

1. Preamble

There is a remarkable progress day-in and day-out in terms of the development of technologies. The future is bright as there is a trend for new intelligent technologies emerging in the forefront of the developments. Fostering environment friendly technologies is the need of the day. The entry of computers and IT has made prominent change of scenario in technological development and technical education. The technologies pertaining to green chemistry, the renewable resource and nanotechnology are some of the prominent issues which will attract our attention for innovations in the future.

The outcome of the presentation and deliberations during the conference is interesting and impressive. The important excerpts and observations of the learned participants and delegates are summarized to cover the highlights of the proceedings.

2. The Technologies at the door step : An overview

It is observed that the technological changes in the world are remarkable in various fields and the mode of living of average human beings. Rapid growth in application of computers and communication including IT is evidently observed in our digital dealings or otherwise.

The emergence of IT has brought about ongoing revolutions in the are of technical education. Nanotechnology has also entered in the scenario. It comes with a promise to be a technology of the future. Nanotechnology has a potential for most exciting and wide area of research which may lead to the greatest technological advancement of the coming century.

It has a field which can enhance entry of novel materials and devices in the nano-range including small electronic circuits and their applications. Green technology is also advancing fast, India is committed to decrease the CO_2 emission per person in years to come. Technological developments with emphasis on sensors, transducers, data acquisition, computers and internet are taking positions in day-to-day affairs.

Awareness for innovative teaching and learning is on increase. We know that the present technological drive is the result of innovations of our scientists and technocrats. It is now time that we need to bring intelligence in action of technologies. Robots can be solution to a certain extent. It will look like intelligent action but still much needs to be achieved. Innovation and intelligence must work hand- in- hand and together.

(Courtesy : The Presidential Address : Dr P K Desai)

3. Technology and Sustainable Development

The biodiversity, climate change, disaster mitigation and adequate consumption of production of resources are some of the challenges which the present technology is facing. They require to be attended intelligently by technology.. For this a paradigm shift to tackle the new sets of sustainable development will be necessary.

Technical education and research can play an effective role to meet with the challenges of sustainable development through intelligent approach to technological innovations by useful interventions.

FORTHCOMING EVENTS

- International Conference on **Gender Equality through the Strategy of Gender Mainstreaming**, September 6-7, 2018, organised by Presidency University, Bengaluru in collaboration with UN Information Centre for India and Bhutan. For details contact : **Prof. Sapna S.**, Conference Chairperson. Email : sapnas@ presidencyuniversity.in; Website : www. presidencyuniversity.in.

- International Conference on **Manufacturing Advanced Computing, Reneweable Energy and Communication**, 19th - 20th July, 2018, organised by HMR Institute of Technology and Management, New Delhi. For details contact : **Ms. Anuradha Tomar**, Convener (MARC 2018). Phone : 09560508119, 011-27724114. Email : support_ marc2018@hmritm.ac.in. Website : www.hmritm.ac.in/marc2018.

- National Board of Accreditation announces 4th World Summit on **Accreditation**, 7th to 9th September, 2018 at Dr. Ambedkar International Centre, Janpath, New Delhi. The summit will be inaugurated by the Hon'ble Vice President of India, Shri M. Venkaiah Naidu. For details please get in touch with the Organising Secretary **Dr. A.K. Nassa** and also the WOSA Secretariat at wosa.2018@nbaind.org. Phone : 011-40159589.

Proposals invited to host the ISTE National Annual Faculty & Students Conventions for the year 2018

As a regular annual feature, forty seven National Annual Conventions and twenty Students Convention of ISTE have been held so far in different States. The major impact of these Conventions are instrumental in providing an opportunity for the Teachers, Educational Planners and Administrators, Students and all other stakeholders who are involved in the field of technical education to get together and share their views and to contribute the development of technical education system.

In this regard, Institutions are welcome to send their proposals for hosting the 21st ISTE Annual Students Convention and 48th ISTE National Annual Faculty Convention, which will be organised during October and December 2018 respectively. Proposals received will be placed before the ISTE Executive Council in its meeting for consideration.

Interested institutions are requested to send their detailed profile alongwith their willingness letter for hosting the Conventions to the following address:

The Executive Secretary
Indian Society for Technical Education
Shaheed Jeet Singh Marg
Katwaria Sarai, New Delhi - 110 016
Phone   : 011-26513542, 26963431
Email   : istedhq@vsnl.net
Website : www.isteonline.in

QUOTE FOR THE MONTH

Challenges are what make life interesting and overcoming them is what makes life meaningful."

- Joshua J. Marine

WIT AND WISDOM

- The trust is you don't know what is going to happen tomorrow. Life is a crazy ride, and nothing is guaranteed.

  - Eminem

- Sometimes the smallest step in the right direction ends up being the biggest step of your life. Tip toe if you must, but take the step.

- Be honest when in trouble and simple when in wealth. Be polite when in authority and be silent when in anger. This is called the life management.

- We cannot change the behaviour, attitude or mindset of the people around us. But we can surely learn to change our way to react at their behavior.

- No matter what people tell you, words and ideas can change the world.

  - Robin Williams

- Discussions are always better than arguments, becuase an argument is to find our who is right, and a discussion is to find what is right.

- We do not talk about trees getting older. We say they are 'growing'. Let us use the same term for ourselves: we are just growing..! that is the spirit of living.

- Life is too precious to stress yourself out by worrying about everything. Relax, have fun and enjoy the learning process.

- Ego is the only requirement to destroy any relationship, so be a bigger person skip the E and let it GO.

  - Dr. APJ Abdul Kalam

- The mind is everything. What you think you become.

  – Buddha

- Understanding is much deeper than knowledge. There are many people who know us, but very few who understand us.

- Life is a compromise between your feelings and reality. At every stage you have to quit your feelings and accept the reality.

- If you have good thoughts they will shine out of your face like sunbeams and you will always look lovely.

ACTIVITY FOR THE MONTH

TOPIC FOR DISCUSSION
Global Employability

All the Chapters/Student Chapters may conduct Seminars/Workshops on the above topic and send the recommendations to the Headquarters for the needful.

NEWS FROM ISTE FACULTY CHAPTERS

GUJARAT

- **Nirma University, Ahmedabad** organised a seminar on **Essential Skills and Perspectives for Surviving and Prospering in the Era of Disruption and Exponential Growth** on 21-3-2018. The speakers of the topic were Dr. Ashutosh Khanna, Professor, International Management Institute, New Delhi and Mr. Rohit Swarup, Funder, Xplora Design School and they talked about the skill set required in this new era. More than 200 engineers attended this seminar.

Eminent speaker addressing the participants during the seminar.

KARNATAKA

- **A.P.S. College of Engineering, Bengaluru** conducted one day Faculty Development Program titled **Choice Based Credit System and Its Implications** on 16-2-2018. The program was inaugurated by the Chief Guest Dr. Venugopal K.R., Principal, UVCE, Bangalore; the Guest of Honor was Dr. Indumathi T.S., Hon. Treasurer, ISTE and the resource person was Dr. Prashanth C.R for the function.

Inauguration of one day FDP by the dignitaries on the dais.

Chief Guest Dr. K.R. Venugopal addressing the participants during the programme.

MAHARASHTRA & GOA

- **M.E.S. College of Engineering, Pune** organised guest lecture on **Neuro Fuzzy Systems and Applications of ANFIS** on 28-3-2018. The session was conducted by Prof. M.N. Namewar.

Eminent speaker addressing the participants during the lecture.

RAJASTHAN

- **Jodhpur Institute of Engineering & Technology, Jodhpur** organised one week International workshop on **Computational Fluid Dynamics** on 19-3-2018 with the objective to enhance the knowledge about CFD.

Eminent speaker addressing the participants during the workshop

TAMIL NADU

- **PSG Institute of Technology and Applied Research, Coimbatore** organised a National Conference on **Innovative Practices, Recyclable Materials and Energy Efficient Methods in Civil Engineering** on 23rd to 24th March, 2018. The Conference was inaugurated by Dr. C. Antony Jeyasehar, Dean Academics, Annamalai University and released the proceedings. Delegates from various institutions all over India presented 102 research papers which were well observed and commented by the Chair and Co-Chair persons.

Dignitaries on the dais during the release of conference proceedings.

GUJARAT

- **Atmiya Institute of Technology and Science for Diploma Studies, Rajkot** organised one week workshop on **English Proficiency** for first year diploma engineering students from 16th to 21st April, 2018. The workshop was conducted by Dr. A.K. Shukla using Words Worth Software.

Student participants during the workshop.

- The Students Chapter also organised a three days workshop on **Campus to Corporate** for the students of Electronics and Comm. and Instrumentation and Control Engineering on 19-21 March, 2018. The guest of honor of the programme was Prof. Paresh Bhatt, Managing Director of Advise and Assist Company. Prof. Paresh Bhatt given detailed idea about the industrial expectation from the students and how to prepare for the interview and competitive. The Students Chapter further organised an expert session on **Bootstrap** on 4-4-2018. The guest of honor for the programme was Prof. Chirag Jagani, BCA Dept., Shree M&N Virani College, Rajkot. These programmes were conducted under the guidance of Principal Dr. G.D. Acharya, AITS.

Dignitaries on the dias during the inauguration of the workshop.

KARNATAKA

- **Aryabharathi Polytechnic, Tumakuru** conducted the technical seminar on **Data Communication and Networking** on 10-3-2018. Mr. Prabhakar P., Lecturer, Dept. of CSE has delivered the technical talk. The chapter also organised **World Consumer Rights Day-2018** jointly with Indian Red Cross Society and District Leagal Services Authority, Tumakuru on 15-5-2018. The programme was inaugurated by the Chief Guest Sri S.A. Mustafa Hussain, Hon'ble Additional District & Sessions Judge, Tumakuru. The chapter further organised one day workshop on **Solar Energy Protection and Environmental Ethics** on 16-3-2018. Dr. H. Naganagowda, Director, National Training Centre for Solar Technology, KPCL< Bangalore was the Resource Person for the workshop.

Technical Seminar at a glance.

Resource person addressing the participants during the workshop.

- **Sri Venkateshwara College of Engineering, Bengaluru** conducted three days workshop on **Python Programming and Network Simulators** from 16th to 18th April, 2018. Mr. Vadiraja A., Assistant Professor, JIT; Member of FSMK, Bengaluru and Dr. Gururaj Murtugudde, Programme Coordinator, Dept. of Information Science & Engg., SVCE and other faculty resource person and faculty coordinators of SVCE were participated in the workshop.

Dignitaries on the dais during the workshop.

Faculties and participants during the workshop.

MAHARASHTRA & GOA

- **Marathwada Mitra Mandal's College of Engineering, Pune** in association with The AVIONS Group organised an Aeromodelling workshop **The Science of Flight** under the guidance of Mr. Madhav Khare on 24-25, 2018. The purpose of this workshop was to teach basic aeromodelling and flight basics to the students through a hands on experience.

Aeromodeling workshop participants during workshop.

- The Students Chapter also organised an Elocution Competition on 24-3-2018. Mr. Sachin M. Rajurkar was the Guest of Honor for the function and he shared his delightful views to all the participants and explaning them the importance of self-confidence and personality development.

Dignitaries on the dais during the inauguration of Elocution Competition.

- **K.K. Wagh Institute of Engineering, Education & Research, Nashik** organised **VIJIGISHA 17-18 - A Divisional Elocution Competition** on 3-2-2018. The chapter also organised **Master Students' Program 2017-18** on 16-3-2018. Every year Master Students program organised by the college and this year it was marked its 15th year of success. The program was inspired by a book called "Master Student" prepared by ISTE. The theme revolves around the development of technical and non-technical skills that an engineering student needs to inculcate in his life. The theme of this year's Master Students Program was **Engineer's Spectrum** introduced by the Principal Dr. K.N. Nandurkar. There were around 155 participants from all over the colleges attended the program. The Chief Guest for the valedictory function was Mr. Deepak Kulkarni, Plant Head of Siemens, Nashik. The event was coordinated by Prof. Vaishali Lele and Prof. Archana Mourya, Faculty Advisors and the committee members of ISTE Students Chapter.

> Only sharp and well focussed photographs with ISTE Logo and Banner in the background shall be considered for publication.
>
> **Editor**

Dignitaries and student participants on the dais during the competition.

MADHYA PRADESH

- **Acropolis Technical Campus, Indore** conducted workshop on **Fundamentals of Digital System Design using Xilinx 13.1 EDA Tool** on 26-3-2018. The workshop was coordinated by Prof. Vishal Pawar. During the workshop the students learned the designing of the simple digital electronics circuits. The workshop included theory sessions followed by hands on.

TELENGANA

- **MLR Institute of Technology, Hyderabad** organised Micro Project Contest on 20-4-2018.

Distribution of certificate to the student participants during the contest by the dignitaries on the dais.

TAMIL NADU

- **Sri Ramakrishna Polytechnic College, Coimbatore** organised one day seminar on **Highway Engineering** on 9-3-2018. The Chief Guest of the programme was Shri S. Loganayagan, Assistant Professor, Bannari Amman Institute of Technology.

Dignitaries on the dais during the seminar.

What is needed is cost effective solutions for water scarcity and security, self sufficiency in renewable energy, green economics and health awareness. The engineers have also to play useful role for biotech industry, solar and wind power plants. The important areas of sustainable development for rural India are health care technology, rural housings, bio-renewable carbon resources in place of fossil carbon resources.

Removal of poverty, quality education at the door step, affordable clean energy and adequate infrastructure for rural and urban areas are also challenges for sustainable development.

4. Auto Body for lowering Carbon Foot-print

In the advanced countries, it is estimated that road transport contributes around 20% of the total carbon dioxide emissions, with passenger cars responsible for around 12% of the total. Mitigation strategies aimed at reducing the environmental impacts associated with transport can be categorized into three broad categories:

Reducing the need for transportation, increasing the use of low-impact transport modes such as cycling and the third as improving technology and fuels. Within this third category, vehicle light-weighting is considered extremely important.

The light-weighted vehicles can result in a 6 to 8% fuel economy. Notwithstanding the development of new materials and their increasing use, the iron-base materials occupies the dominant position among the materials of construction of the auto-components and represent around 64% of the weight in which the share of steel is around 57% in a typical passenger car to-day. For steel, a variety of grades have been developed that possesses properties which can reduce mass (hence lower fuel consumption and reduce carbon –foot print) and increase the crash safety. Steel is therefore at the core of green economy.

The steel industry is clearly showing a sign of rejuvenation, displaying features of an ultra-modern material, able to meet the challenging demands of present-day automotive.

(Ref. Commemorative lecture : Prof. Omkar Nath Mohanty)

5. Mars Orbiter Mission (MOM)

MOM has been one of the most challenging missions. It was a mission aimed at orbiting a space craft around the planet of Mars. The final orbit-realization posed crucial challenge as compared to normal earth-bound satellite operations. One of the main challenges was to meet the final date of orbit establishment. It demanded a well proven and well tested hardware to be used on board the satellite.

The space craft had an on-board autonomy feature and auto-execution and correction features. Accurate tracking was carried out using 37/70 m parabolic antennas.

It is an example of creating intelligent space technology which made such a challenging mission successful.

(Ref. Invited talk : Dr Nitin Ghatpande)

6. Future of Nanotechnology

The design, modeling and fabrication of nano-machines will occupy the future scenario for nanotechnology. Molecular devices and software machines will emerge in the world of nano-technology. All that is prevalent in present technological premises can easily be accommodated and accepted in it.

The range of molecular machines and the modeling will be cheap and easy. The development process is reduced substantially if the support of right nano-machine computational devices come forward.

The nanotechnology will be easily adopted with other branches of science because of its potential and unique applicability. It's basic characteristic is to work in a smarter way. The nanotechnology will bring higher efficiency, reduced production cost and ease in application. There is a possibility for researchers to explore high potential applications for nano-materials which will include energy biofuels, water, drug delivery and medicines.

7. Applications of Space-Technology

The Indian Space Research Organization (ISRO) is actively engaged in instituting several applications for all inclusive development of the society. The space technology applications available to-day are categorized ender the umbrella of satellite based communication, earth observation and navigation. Prominent applications are TV broadcast, telecommunications, urban and rural development, agriculture, weather forecasting, oceanography, resource and disaster management etc.

The space technology applications can effectively extend help for education, health and communication to masses located in remote, rural and inaccessible areas by overcoming geographical and cultural barriers. The intelligent applications can help to reach out to the grassroots propelling the overall development of the nation.

6. The future of Bio-engineering

The future of bio-engineering is promising. The biological processes provide indications and brings message to develop bio-compatible machines. It will be possible in future to develop machines which can work like fast and energy efficient computers like human brains, filtering device like kidney, a pump like heart, an air filter machine like the lungs and liver.

Intelligent technologies will take a lesson from biological phenomenon. The biology and technology will go hand-in-hand in future.

Dr. (Prof) S V Vaishnav
Honorary Fellow ISTE

MAHARASHTRA

- **Prof. Ram Meghe College of Engineering and Management, Badnera** Dept. of Computer Science & Engineering conducted AICTE-ISTE approved Induction/ Refresher Program on **Outcome Based Learning Teaching Process** from 23rd April to 28th April, 2018. The programme was inaugurated by Hon'ble Vinay Gohad, Vice President, VYWS alongwith other eminent dignitaries like Hon. Treasurer, YVWS Shri Pankaj Deshmukh; Dr. P.B. Patil, Executive Council Member, ISTE; Dr. Sachin R. Sakhare, HOD Computer Engg., VIIT Pune; Dr. M.S. Ali, Principal, PRMCEAM, Badnera; Dr. Priti A. Khodke, Program Coordinator and Prof. Kiran A. Dongre, Program Co-coordinator.

  Dr. Dileep Malkhede, Advisor-I, All India Council for Technical Education (AICTE), New Delhi was the Chief Guest for the program.

Inauguration of one week AICTE-ISTE Induction/Refresher program.

Felicitation to Dr. Dileep Malkhede, Advisor-I, AICTE by the dignitaries on the dais during the Valedictory Function of the program.

Diginiraries and the participants during the program.

- **Sipna College of Engineering and Technology, Amravati** oganised one week AICTE-ISTE sponsored Induction/Refresher Program on **Machine Learning and**

Research Methodologies in Engineering from 23rd to 28th April, 2018. The program was inaugurated by Dr. H.R. Deshmukh, ISTE Executive Council Member and Senate Member SGBAU, Amravati in the presence of Shri Jagadishji Gupta, Chairman, Sipna Shikshan Prasarak Mandal, Amravati; Dr. S.A. Ladhake, Principal, Sipna CET and Dr. Vinay S. Kulkarni was the Keynote Speaker. Dr. M.B. Kokare, Associate Professor, Dept. of Electronics and Telecommunication, SGGS Institute of Engg. & Technology, Nanded joined the session as a Resource Person. Dr. V.S. Gulhane, Professor (IT) was the Coordinator of the program.

Dignitaries on the dais during the inauguration of the program.

Gilmpses of the events of one week AICTE-ISTE sponsored Program.

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NEWS FROM ISTE SECTION

TAMIL NADU

- The 17th ISTE Engineering Students' Convention of ISTE Tamil Nadu Section was held at Tagore Engineering College, Chennai on 10-4-2018. The theme of the Convention was **Transforming Students into Industry Ready Professionals - Provision of Learning Spaces to Bridge the Gap between Academia and Industry**. Over 700 student participants all over Tamil Nadu participated in various technical events like paper presentation, technical quiz, circuit debugging programming and project expo. During the Convention, 99 students were presented with Best ISTE Student Award, three colleges with ISTE Best Students Chapter and two colleges awarded with ISTE best Chapter Awards. Dr. S. Lakshmi, Principal, TEC delivered the welcome address. Mr. Stanley George, Vice President, Hexaware Technologies was the Chief Guest of the Convention. Dr. A.K. Natesan, Chairman, ISTE Tamil Nadu Section was the Guest of Honor for the function. Dr. K. Ganesan, Secretary, ISTE TN Section briefed about the ISTE Student convention and deliberated the concept of ISTE Awards given to students, chapters and student chapters. Dr. K. Manivannan,Vice President, ISTE also presented on this occasion and pointed out the need to increase the emphasis on skills or applying knowledge to meet the demands of current student generation. Dr. Chinnaraj, ISTE EC Member; Dr. P. Ramachandran, Treasurer, ISTE TN Section graced the occasion with their presence. Ms. K. Kumuthapriya, ISTE Coordinator delivered the vote of thanks.

Prof. (Dr.) P. Baskaran, former and first Director, Center for Aerospace Rsearch, Madras Institute of Technology was the Chief Guest of the Valedictory Function. Dr. P. Baskaran has a strong passion for research and had done many projects worth around several crores under various government agencies. One of his finest project was **Design of Artificial Limb** was monitored and appreciated by our former President Dr. APJ Abdul Kalam.

Dignitaries on the dais during the release of Convention proceedings.

INAUGURATION OF ISTE FACULTY CHAPTER

MADHYA PRADESH

- **Patel College of Science & Technology, Bhopal** ISTE Faculty Chapter was inaugurated on 24-3-2018. The guests on this ocasion were Dr. Sunil Kumar Gupta, Hon'ble Vice Chancellor, Rajiv Gandhi Proudyogiki Vishwavidhyalaya; Mr. Kamleshwar Patel, Chairman, VSSS, Secretary, AICC and MLA Sihawal and Mrs. Preeti Patel, Chairperson, Patel Group of Institutions and Chancellor, Madhyanchal Professional University. Dr. G.F. Ansari, Chairman, ISTE Faculty Chapter briefed the mandate and activities planned to be conducted under ISTE Faculty Chapter and he introduced the members of PCST Chapter. The Vice Chancellor, RGPV handed over the Chapter and Students Chapter certificates to the Members of PCST. Dr. Sunil Kumar, Vice Chancellor, RGPV delivered lecture on **The Role of Professional Bodies in Technical Education** on this occasion. Dr. Ashish Dongre, Chairman, ISTE Madhya Pradesh Section also gave his wishes and congratulated all the members.

Dignitaries on the dais during the inauguration of ISTE Faculty and Students Chapter.

MAHARASHTRA

- **Dr. D.Y. Patil Institute of Engineering, Management and Research, Akrudi, Pune** ISTE Faculty Chapter and ISTE Students Chapter was inaugurated by Prof. Pratapsinh K. Desai, President, ISTE. Dr. Yashwant Kolekar, ISTE EC Member also present on this occasion.

Dignitaries during the inauguration of ISTE Staff and Students Chapter.