Vector Tech
magnitude & direction

EDITORIAL

Dear Reader,

With the prior experience of working as a Lecturer in English, I welcomed the opportunity to work as Editor-in-chief of **Vector-Tech**, a Newsletter of ITM, Gurgaon. I fervently believe in the importance of Newsletter to help students discover themselves as readers and to help them understand themselves in terms of the world in which they live. **Vector-Tech** brings forth the quality policy of ITM which is committed to seek excellence and academic activities and to improve the quality of life of prospective engineers. Students enter as adolescents, a stage when young people find themselves going through significant physical psychological and social changes which might not always be pleasant. Adolescence is a wild mixture of laughter, uncertainty, anxiety, dependence, independence tears, problem of all kinds and more. Many of them have short attention span and get board easily. Sometimes they have questions of self worth and future direction. In addition to personal problems, they are at an age when many start taking responsibilities. In today's society, it is not unusual for a woman to be the sole head of the family or a male to be the emotional supporter in the family.

Here, needless to mention, I must share ITM is providing its worth by providing a significant solution for ambitious adolescents. We, as teachers, have opportunity and a responsibility to help our students work out some of their problems. We may not be prepared to be their psychological advisor, but we can offer them **Vector-Tech** where they can see themselves. Through this **Vector-Tech** we offer them our experience that will enable them to assess situations and develop their decision-making skills.

The articles and information in this issue provide different voices and varying views to our readers. **Happy Reading!**

Dr. Sunil K. Mishra
(Editor-in-chief)
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VT is brought out under the aegis of Center of Academic Excellence & Planning, Coordinator: Dr. Jyoti Sinha

Inside...

INTERVIEW WITH THE CHAIRMAN

"Perfection is achieved, not when there is nothing more to add, but when there is nothing left to take away". This reminds us of none other than Shri Vijay D. Singh Honorable Chairman ITM, Gurgaon. With an unusual excellence and notable competence in governing skills, Shri Singh is an awe-inspiring embodiment of subtly profound, unparalleled managerial insight.

This is an excerpt of our tete-a-tete with him:

Q   How do you define success for any ITM student?
A   Basically, success is the food fortune that comes from aspiration, desperation, perspiration and inspiration. Success in ITM is defined by students' hard work in study and placement in better companies. To get success, there is no royal road; it needs constant attention and continuous study.

Q   What are those requirements of the students that must be looked into at present?
A   At present, we must develop the participation of the students in extra curricular activities like group discussion, debate, technical presentation seminar, essay competition, quiz etc.

Q   How do you see the growth of ITM in near future?
A   Really, ITM has different status from other engineering colleges. I hope, in future, ITM will not be just an excellent college but it will be changed into an excellent Deemed University. We are doing everything with zest and zeal in this direction.

Q   How do you visualize the role of Automobile Engg. in near future as a career option?
A   Automobile Engg. will play a great role in near future in itself. The big Automobile companies like Maruti, Sona Stearing, Mahindra and Mahindra will require a large number of engineers of this stream in future.

Q   ITM is No. 1 in NCR, Haryana, where do you find it personally?
A   Of course, ITM is No. 1 in NCR, Haryana in all aspects. Definitely ITM will get a Deemed University status.

Your Message: - Study harder and then Play harder.

NATIONAL SEMINAR ON INTELLIGENT TECHNOLOGY IN MECHANICAL AND AUTOMOTIVE ENGINEERING

Institute of Technology and Management, Gurgaon is emerging as a world class institution and has contributed substantially to the creation and development of the very high human resources required at bachelor and master level of Engineering and Technology. Our vision is to focus on building of science and technology capabilities for our country to serve tomorrow's technology intensive and innovation driven industries, which shall create the vital creative, competitive edge to India's economy. In the ever-growing pursuit of mankind to invent intelligent machines, which would be self-sustaining, achievement has been very little. The journey is a long one and needs the realization of full potential of human brain. Undoubtedly, artificial intelligence is a function of human intelligence at its core.

We at ITM, Gurgaon are a pool of human resource dedicated to the development of Human intelligence it with innovative technical education. On 5th and 6th January, 2007, ITM Gurgaon organized a National Seminar on *Intelligent Technologies in Mechanical and Automotive Engineering (NSITMAE), which* was really a valuable source of knowledge for the engineering community . A number of eminent engineers, academician, researchers and other professionals from different parts of India like Tamilnadu, Maharastra, Andhra Pradesh, Gujarat, Uttar Pradesh, Uttaranchal, Bihar, Haryana, Punjab and New Delhi exchanged very valuable views and information on Intelligent and Smart Systems, Robotics and Mechatronics, Computational and Experimental Techniques in Mechanical and Automotive Engineering. This two day National Seminar *(NSITMAE)* held by the Deptt. of Mechanical and Automobile Engg. & Centre for Academic Excellence & Planning (CAEP) at 32nd Milestone, NH-8, has proved its worth in the direction of true scientific research. This prestigious seminar NSITMAE with Dr. Jyoti Sinha, Coordinator CAEP who addressed the inaugural session followed by Chief Guest Prof. Neena Singh, DCDC, MDU, Rohtak, Guest of honor Prof. N.S. Gill, HoD (Comp. Sc.). Mentioning that ITM is pride of MDU, Prof. Neena stated "we should not be complacent about global Indian Diaspora, it is rooted in the Rig Veda. The world community has taken notice of India. We must start to scale where brand India should be synonymous with the chief industries of excellence." Prof. N.S. Gill said, "the exact advantage does not distinguish the disciplines in the knowledge based and economic driven technology, we have to comprehend whether the technology is adjusted or not. With people processing technology we should work on how technology can be used by everyone.

The man of knowledge must be able not only to love his enemies but also to hate his friends. – F. Nietzsche

FROM THE DEPARTMENTAL DESK

Deptt. of ECE & EI
HoD: Prof. Swaran Singh Ahuja

New Faculty Members: 1. Ms. Ashu **2.** Ms. Nitin Sachdeva **3.** Mr. Tarun Sachdeva **4.** Ms. Anita Jain **5.** Ms. Anita Sharma **6.** Ms. Savita Sondhi **7.** Mr. Arvind **8.** Ms. Pooja Mohindru **9.** Ms. Deepa **10.** Ms. Chetna **11.** Ms. Shilpi

- Departmental magazine **"LIVE WIRE" Issue 2, Vol. No II** was published in the month of November.
- Mr. A.K. Nigam promoted as Professor and Mr. Manoj Pandey as Associate Proff.
- Dr. Rakesh Ranjan published following papers:

a) **Optimal Conductor Selection of Radial Distribution Networks Using Fuzzy Adaptation of Evolutionary Programming**, International Journal of Power and Energy Systems, Vol. 26, No. 3, 2006

b) **A Novel Feedback Linearizing Statcom Controller for Power System Damping**, International Journal of Power and Energy Systems, Vol. 26, No. 3, 2006

- Dr. Manoj Pandey published following papers:

1) **A Fast and Robust Approach for Modeling of Nano Scale Compound Semiconductor for High-speed Digital Application**, Journal of Semiconductor science and Technology, vol 6, No. 3, September 2006

2) **Pearson-IV Type Doping Distribution Based DM DG SOI MOSFET**, Microwave and Optical Technology Letters, vol.48, no. 4, April 2007

- Following Faculty Members have successfully completed Masters Degree:
  i) Mr. Jitender Pathak **ii)** Ms. Savita Sondhi **iii)** Ms. Anita Sharma
- Mr. Nitin Malik & Ms. Roma Raina got enrolled in Ph.D. programme from Jamia Milia Islamia under the guidance of Prof. Rakesh Ranjan.
- Following New Labs have been set up in ECE & EI Deptt.:
  i) DSD Lab **ii)** Advanced Microprocessor Lab **iii)** Advanced Satellite Lab **iv)** Fuzzy Control & Optical Communication Labs are in progress.
- The department under the ISTE banner has organized many events. Every month there are departmental E-Quizzes, Group Discussions, and Debates etc.
- On 1st & 2nd Nov., a National Conference on Teaching Learning Methods Titled as Class Room Teaching and Educational Technolgoy was held .
- Academic/Career Achievements:
  i) Many students are among the top ten list of university rankers in Electronics & Instrumentation Branch. **ii)** Placement of students of batch 2007. ECE-39 placed till date. EI - 25 placed till date. Highest Salary offered 3.5 Lacs per annum.
- Mr. Jagdish Shivhare presented following papers:
  a) "High Temperature Super Conductive Devices" in Oct. 2006 at Rajasthan University. **b**) "The Role of Carbon Nanotubes in Design and Development of Microwave Nano Devices" in Nov. 2006 at IEEE conf. Hong Kong. **c**) "Nanotechnology - Our Gateway to Everything in 21st Century" in Nov. 2006 at IEEE conf. Hong Kong. **d**) "Nanotechnology"- A Reshaping Technology in 21st Century" at ISCA conference in Dec. 2006. **e**) "Carbon Nanotubes"- A Major Break Through in Nanotechnology" in Dec. 2006 at ISCA conf. He attended International conf. & EXPO-2006 organized by ISTE & By BES at N.D. He has also obtained Ph.D. from Belford University, Texas U.S.A. in Aug. 2006.
- ECE & EI Department have organized many events for students under the SEE activities. The events like Quiz, Debate, Technical Presentations, Brainteasers, Say Writing, Group Discussions etc. were organized.
- Educational Tour for ME students was organized.
- Value addition activities for 3rd year Students were conducted.

Deptt. of Applied Science & Humanities
HoD: Prof. A.P. Gupta

New Faculty Members: 1. Dr. Sunil Mishra **2**. Dr. Shukla Bhattacharya **3**. Ms. Medha Pahuja **4**. Dr. Sandeep Kumar **5**. Mr. Inderpal Singh **6**. Mr. Sumit Majumdar

Latest News in the Deptt.: One more Physics Lab has been established.

Research Papers Published by the Faculty: 1. "Vibration of Rectangular Orthotropic Quarter Elliptic Plates with Simply-Supported Curved Boundary and Other Complicated Effects" **2.** N. Bhardwaj, A. P. Gupta and K.K. ChoongTamkang Journal of Science and Engineering, Vol. 9, No. 1, pp. 1-18(2006) **3.** A paper by Rajesh K. Gupta "Exact Solutions of a Variant Boussinesq System" has been published in International Journal of Engineering, 44 (2006). **4.** Y.K. Mathur "Momentum Distribution Function with a Cutoff for Non-perturbative QGP and Dilepton Processes with Small Invariant Mass" International Jour. Modern Phys. D, Vol.12, 536-548(2006). **5.** Y.K. Mathur "Brane World Cosmology" Physical Review D, 0608179 (2006) **6.** Y.K. Mathur "Polarization of Particles as a Possible Signal for QGP" (Accepted for publication, to be published in March 2007 issue of Physical Review D) **7.** Inderjeet Kaur, M. Gangadharappa, Y. K. Mathur "Analysis of Channel Occupancy Time Distribution for Cellular Radio System" Proceedings of 2nd International Conf. on Wireless Communication & Sensor Networks (IIIT, Allahabad, Dec. 17-19, 2006) ed. M.D. Tiwari et.al.; Macmillan Advanced Research Series (IEEE) pp 47-57. **8.** Inderjeet Kaur, Y. K. Mathur" Geometric Representation for 3D Face Recognition" Proceedings International Conf. on Quality, Reliability and Infocom Technology" (ICQRIT2006), Indian National Science Academy, New Delhi, Dec. 02-04, 2006) pp.77.

Books Published by the Faculty: 1. A book written by Dr. Jyoti Sinha on Environmental Sciences, has been published by Galgotia Publications in 2006.: **2.** Three Books written by Dr. Neeraj Bhardwaj on Engineering and Medical Entrance Examinations.

Departmental Magazines/Journals : VANI

Deptt. of CSE\IT
HoD: Prof. Ranjit Biswas

Faculty Members: (i) Ms. Gurpreet Sudan **(ii)** Ms. Riju Sabharwal **(iii)** Ms. Smita Rajpal **(iv)** Mr. Lalit Gandhi **(v)** Madan Singh **(vi)** Mr. Pradeep Chauhan **(vii)** Ms. Gunjan Pahuja **(viii)** Ms. Suman Allawdhi **(ix)** Ms. Raminder Kaur **(x)** Ms. Shilpa Mahajan **(xi)** Ms. Pallavi Sharma **(xii)** Mr. Dinesh Sharma.

Conference Details: All Faculty members of CSE/IT Deptt. attended the National Conference on "Intelligent and Emerging Technologies on Mechanical and Automotive Engineering" conducted by the Mechanical Department, Institute of Technology & Management, Gurgaon during 5th-6th Jan, 2007.

Research Papers Published By Faculty: (i) Suman Allawadi has contributed paper "Interoperability-VPN & Firewall-Solution To Network Security" to be Published in International ITG-IEEE Workshop on Smart

Antennas 2007. **(ii)** Inderjeet Kaur, Yogesh Mathur "Geometric Representation For 3D Face Recognition": Proceedings in the 3rd International Conference on Quality Reliability and Infocom Technology (ICQRIT2006) (Indian National Science Academy, New Delhi Dec 02-04, 2006) **(iii)** Inderjeet Kaur, M. Gangadharappa, Yogesh Mathur "Analysis of Channel Occupancy Time Distribution For Cellular Radio Mobile System": proceedings in the 2nd International Conference on Wireless Communication & Sensor Networks (IIIM Allahabad Dec 17-19, 2006) editor M D Tiwari et al Macmillan Advanced Research Series pp 189-196.

Books Published by the Faculty: (i) Book entitled "Multimedia and Web : Khanna Publication" by Ms. Smita Rajpal. **(ii)**Book entitled "Theory of Computation: Galgotia Publication" by Ms. Smita Rajpal.

Departmental Magazines/Journals: VOYAGER - The Journal of Computer Science & Information Technology, Vol.4 is going to be published within 15 days.

Academic Achievement of Faculty: Ms. Gunjan Pahuja, Ms. Suman Allawadhi, Ms. Usha Arora, Mr. Lalit Gandhi & Mr. Madan Singh have completed their M.Tech. (CSE) Degree and promoted to Sr. Lecturer.

Events Organized by the Deptt.: (i) Faculty Development Program on Effective Lecture Design & Delivery Organized by the Center of Academic Excellence & Planning, Institute of Technology & Management, Gurgaon in July 2006. **(ii)** Faculty Development Program On "Artificial Intelligence and Introduction to Soft Computing Using MATLAB Toolbox" organized by the Center of Academic Excellence & Planning, Institute of Technology & Management, Gurgaon in December 2006.

Academic Involvement of Faculty: (i) Ms. Bhawna Saxena, Ms. Suman Chutani, Ms. Inderjeet Kaur, Mr. Varun Kumar participated in the workshop entitled "Effective Lecture & Delivery" **(ii)** Mr. Varun Kumar, Ms. Deepti Gaur, Ms. Bindu Singla & Ms. Suman Allawadhi participated in the workshop entitled "Artificial Intelligence and Introduction to Soft Computing Using MATLAB Toolbox".

Deptt. of Mechanical Engineering & Automobile
HoD: Prof. K.K. Chaudhary

Faculty Members: (i) Prof. B.C. Nakra **(ii)** Prof. A.S. Chhagar **(iii)** Dr. M.N. Deshmukh **(iv)** Mr. J.K. Gera **(v)** Mr. Prahlad Singh **(vi)** Mr R.K. Gupta **(vii)** Mr. Manoj Kumar **(viii)** Mr. Manish Jain **(ix)** Mr. Faruq Hafiz **(x)** Ms. Jolly Shah **(xi)** Mr. Anil Bisht **(xii)** Ms. Deepali **(xiii)** Ms. Swati **(xiv)** Ms. Sikha **(xv)** Mr. Ajay Verma **(xvi)** Mr. S. Zafar

Conference Details: National Conference on "Intelligent and Emerging Technologies on Mechanical & Automotive Engineering" conducted by the Mechanical Department, Institute of Technology & Management, Gurgaon during 5th-6th Jan, 2007.

Latest News in the Deptt.: Total intake capacity of Mechanical Engg. Deptt. increased from 60 to 120. New B.E. Course in Automobile Engg. started. M.E. Course in Mechanical Engg. started.

Research Papers Published by Faculty: (i) Ms. Jolly Shah & Mr. Ravi Sharma had jointly presented paper on "New Product Development-Rapid Prototyping Technology" at YMCA, Faridabad in Dec 2006. **(ii)** Ms. Jolly Shah & Mr. Ravi Sharma had jointly presented paper on "Application of Concerrent Engineering in Acedemia" at YMCA, Faridabad in Dec 2006. **(iii)** Ms. Jolly Shah had presented paper on "Position Control of 3-link Robot by using Metlab" at NSITMAE, ITM, Jan 2007. **(iv)** Dr. M.N. Desmukh & Mr. Farrukh Hafeez had jointly presented paper on "Prediction of Yield Strength using Miniature Specimen Techniques" at NSITMAE, ITM, Jan 2007. **(v)** Prof. K.K. Chaudhary had presented paper on "Performance of Predictive Techniques for Vehicular Exhaust Pollution Dispersion in an Isolated Street Canyon" at NSITMAE, ITM, Jan 2007. **(vii)** Prof. B.C.Nakra had delivered invited lecture on "Trends in Mechatronics" at NSITMAE, ITM , Jan 2007. **(viii)** Mr. Manish Jain had presented paper on "Issues in Enterprise Resource Planning" at NSITMAE, ITM, Jan 2007. **(ix)** Mr. J.K. Gera attended South Asia Conference on Renewable Energy-2006 **(x)** Mr. J.K. Gera attended 9th Assocham Energy Summit & 6th Assocham-Renewable Energy Summit-2006. **(xi)** Mr. J.K. Gera attended SAE Interactive Study along with students. **(xi)** Mr. J.K. Gera attended SAE Annual Lecture given by President along with students **(xii)** Mr. Farrukh Hafeez had presented paper on "Analysis of Air-foil Bearing on Elastic Foundation for Polygon Foil." at JNTU College of Engineering, Hydrabad, May 2006.

Departmental Magazines/Journals: IMPULSE - The Journal of Mechanical & Automobile Engineering, Vol. 2 was published last month.

Academic Achievements of Faculty: Dr. M.N. Desmukh was awarded the Ph.D. Degree and promoted to the post of Associate Professor. Ms. Deepali has promoted to Lecturer.

Events Organized by the Department: National Conference on "Intelligent and Emerging Technologies on Mechanical & Automotive Engineering" conducted by the Mechanical Department, Institute of Technology & Management, Gurgaon during 5th-6th Jan, 2007.

Academic Involvement of Faculty: (i) Mr. R.K. Gupta, Ms. Jolly Shah participated in the Faculty Development Program on "Artificial Intelligence and Introduction to Soft Computing Using MATLAB Toolbox". **(ii)** Mr. Farrukh Hafeez, Dr. M.N. Desmukh participated in the Faculty Development Program on "Effective Lecture Design & Delivery." **(iii)** Prof. K.K. Chaudhry delivered lecture on "Creativity and Innovative Skill in Teaching" in Faculty Development Program on "Effective Lecture Design & Delivery." **(iv)** Prof. B.C. Nakra delivered lecture on "Motivation for Learning" in Faculty Development Program on "Effective Lecture Design & Delivery." **(v)** Presently Ms. Dr. Seema Awasthi who worked for her Ph.D. under the supervision of Prof. K.K. Chaudhary has been awarded Ph.D. from IIT, Delhi.

SOCIETY OF ELECTRONICS ENGINEERS (SEE) ITM, GURGAON

Mr Jagdish Shivhare, renowned Faculty of ITM and famous as "Student's Teacher" is Chairman of SEE. Before joining ITM, he worked as Senior Scientist/ Engg-ISRO. He is actively in link with National and International R & D Projects. He has presented many technical papers in International Conference held in USA, Sweden, Japan etc. Now with all his experience and energy he is putting his best for overall development of ITM students.

SEE is a departmental professional society of ECE & EI Deptt., ITM. All students of this department are members of this society. The main objective of this society is to develop abilities among students in the technical as well as non technical fields. It organizes many events and activities such as Educational Tours, Technical Presentations, Seminars, Lecture Series, Group Discussion, Technical Non-technical Quiz, Debates, Essay Writing, Brain Teasers, Technical Film Shows etc. through out year.

Genius without education is like silver in the mine – *Benjamin Franklin*

MOMENTUM

ITM's annual cultural extravaganza- **'Momentum'** was held in October 2006. It was a five-day event with the first three days dedicated to sports events and the next two to cultural events. The fest was a successful show and it saw large participation from within and outside the college. Colleges from across the NCR were invited to participate in the kaleidoscopic activities.

Though the festival was officially 5 days long, the preparations had begun long ago. The entire college had been in a festive mood throughout the month leading to the fest. There were many sponsors to cover the cost of the fest; among them, most notably, were Pepsi, Career Launcher, and Gesture Jeansworxx etc.

The sports day saw the finals of the athletics and cricket and the football tournaments, the preceding rounds of which had already been conducted. The cultural part of the fest was divided into onstage and the offstage events.

The fest was officially kicked off with the inauguration ceremony held on the morning of the first day. Professor Rakesh Ranjan, the Principal of the Institute, inaugurated the event. He performed the lighting of the lamp ceremony and the fest was officially initiated. There was an inauguration song and an inauguration dance to start the proceedings.

The offstage events comprised various quizzes among other cultural events. Events like Group Discussions, Debates were held in the seminar hall. The General Quiz finals were held in the seminar hall and were conducted by Career Launcher. The sports and corporate quiz were major attractions. The cultural events like Rangoli, Poster Making and Face Painting were very popular among college students. The mass participation events were Nirmaan and Regatta. Nirmaan, as the name suggests, comprised of making models out of thermocol, chart paper, ice cream sticks and other crafty stuff. Regatta was the motorboat competition in which participants were required to make working boats within the given timeline and then they were raced in the college fountain. There was a lot of cheering during this event.

The onstage events comprised the solo and group dance competitions, the singing competitions, the stand up comedy acts and lots more of fun filled events. The participating teams had been selected beforehand through various auditions held during the days building up to the fest. The first day concluded with a rocking jam session, which lasted for nearly an hour. Mountain Dew, one of the sponsors, had set up a Mountain Dew Adventure Zone where they had some adventure games for the students like Spider Mountain, Roller Ball and lots of prizes. The Zone attracted a lot of student attention was very popular. However, the most popular amongst all the events was the Fashion Show. The event saw five rounds of various fashion trends. The play competition was also received well by all. The second day saw the finals of the events and also the result declarations. There was the prize distribution ceremony then. The prizes for both the onstage and offstage events were distributed along with those for the sports events. The Rock Show was then held which had the crowd swaying to the music.

The fest was concluded in style with the pop band Tantriks playing to a full house. The twilight, the lighting effects and the awesome combination of popular music had the mob dancing for a long time.

All in all, everyone had a good time during the five days of the fest and it was time that left us with good memories and richer experiences.

IEEE
(INDIAN SOCIETY FOR ELECTRONIC ENGINEERS)

The IEEE is a non-profitable, technical professional association of more than 3,60,000 individual members in 150 countries. The full name is the institute of Electrical and Electronics Engineers, Inc., although the organization is most popularly known and referred to by the letters I-E-E-E.

The IEEE- through its members, the IEEE is a leading authority in technical area ranging from Computer Engineering, Biomedical Technology and Telecommunications, to Electric Power Aerospace and Consumer Electronics, among others.

The IEEE- through its technical publishing, conferences and consensus-based standards activities, the IEEE - product 30 percent of the world's published literature in electrical engineering, computers and control technology, holds annually more than 300 major conferences and has nearly 900 active standards with 700 under development.

IEEE Vision and Mission- VISION to advance global prosperity by fostering technological innovation, enabling members careers and promoting community world-wide.

IEEE's Mission- Mission the IEEE promotes the engineering process of creating. Developing, integrating, sharing, and applying knowledge about electro and information technologies and sciences for the benefit of humanity and the profession.

IEEE India Council- IEEE in India consists of the India Council and the Ten Sections & Two sub sections with a membership of 23000 and 267 Student Branches - Sections in India Delhi, UP, Calcutta, Khargpur, Gujarat, Bombay, Hyderabad, Bangalore, Madras and Kerala.

IEEE Student Activities Mission- To provide undergraduate and graduate students who have an interest in the Electrical, Electronics and Computer Engineering or related professions with opportunities for educational, technical and professional development emphasizing the value of continuing IEEE membership. There are over 1,100 IEEE Student Branches established and universities and colleges worldwide, 315 Student Branch Chapters affiliated with IEEE Technical Societies, 6 Women in Engineering Student Branch Affinity Groups. Student Membership - 68,953 Student members as of 31 January 2004.

The IEEE ITM Firmware student branch was begun as a student centric endeavor. The purpose of our branch is the systematic dissemination of knowledge of the theory and practice of all aspects of the electrical and computer engineering and allied branches of engineering as well as the furtherance of the professional development of its members. This branch has and will always cater to the needs- be they general or specific - of all its members. We intend to follow the IEEE Code of ethics religiously.

Our main goal is to develop a mutually productive relationship between IEEE and ITM student.
- We promote peer support by encouraging students to come forward and present papers on a myriad of topics ranging from MOSFET to state-of-the-art Internet technologies.
- We plan to make the non-members more aware of what they might be missing and as a consequence, promote the values and aims that IEEE stands for.
- We also aim to bring in more industry professionals to guide the member's vis-à-vis the current trends in the technical world.

THE CENTRE OF ACADEMIC EXCELLENCE & PLANNING

The Centre of Academic Excellence & Planning (CAEP), set up in August 2005, is a platform offering professional development services to all faculty, staff and students at the institute. It has Dr. Jyoti Sinha (Associate Prof.) as its chief coordinator. The CAEP seeks to cultivate knowledge and critical thinking through dialogue and collaboration. It is dedicated to create an environment for learning and discovery, which fosters personal growth and promotes each person's individuality and independence.

Aims of CAEP:
- To be a self sustaining center of excellence in technical education
- To become the brain of the institute in terms of ideas, creativity & innovation
- To promote Research & Development at ITM
- To arrange Guest lectures by industry personnel.
- To share knowledge in the field of science & technology inviting eminent academicians
- To organize certain specific programs like summer training, vocational courses from other institutions.
- To organize seminars, symposia and works.

The price of greatness is responsibility – *Sir Winston Churchill*

The I.S.T.E. is India's leading professional association for the advancement of technology. It consists of over twenty lakh members including the student member. ITM is proud to announce that it is now a part of the I.E.T. and I.S.T.E. family, one of the 1600 student branches. The society provides as valuable opportunities for the students to put forth their ideas in respect to technological innovations of current interest thus promoting their scientific temperament. Prof. S.C. Tripathy is the secretary, faculty chapter. I.S.T.E. has given the platform to enter into a new world. It has honed each students skills which are further required for life. I.S.T.E. has given the platform to enter into a new world.

Relevance & constant renewal define the pursuit of excellence in education and this is the tool for the same in technical education provided by I.S.T.E.

In view of rapid changes in technology it is essential, that every individual should be provided with opportunities to renew and update his knowledge periodically. This session has been great for I.S.T.E., it organized various events like debates, AD-MAD shows, extempore, group discussion, technical quizzes, technical paper presentation for the overall development of every student.

I.S.T.E. also organized a national conference on emerging topics; power, energy, electronics, communication, computer and control engineering. The event was co-sponsored by Institute of Engineering and Technology, Delhi which receive tremendous response from the students.

MAKING ELECTRONIC INK

Himanshu Gera
(04-EL-226)

With a world full of monitors and electronic displays made with liquid crystals, light-emitting diodes and gas plasma, you probably don't think of paper as being a revolutionary display technology, but the Chinese invention of paper in 105 A.D. forever changed the way the world communicates. Without it, books might still be printed on silk scrolls.

Look Around You: It would be nearly impossible to live one day without coming into contact with paper in some form.

For nearly 2,000 years, ink on paper was the only way to display words and images, and it still beats computer displays when it comes to portability and price. Paper also doesn't require an external power supply. Yet it does have some limitations: Once you've printed words on paper, those words cannot be changed without at least leaving some marks, and it is also difficult to carry around a large number of books.

Making Electronic Ink:
Three components of electronic inks that give them the ability to rearrange upon command:
- Millions of tiny **microcapsules** or cavities
- An **ink** or oily substance filling the microcapsules or cavities
- Pigmented chips or balls with a **negative charge** floating inside the microcapsule

Electronic ink can be applied to the same materials that regular ink can be printed on. In the case of a digital book, the pages would be made out of some kind of ultra-thin plastic. The ink would cover the entire page, separated by cells that resemble the cells on graph paper. Think of these cells as pixels on your computer screen, with each cell wired to **microelectronics** embedded in this plastic sheet. These microelectronics would then be used to apply a positive or negative **charge** to the microcapsules to create the desired text or images.

Xerox and E Ink are using different techniques to develop their electronic inks. Each of these beach balls is filled with hundreds of tiny, white ping-pong balls. And instead of air, the beach ball is filled with a blue dye. If you looked at the top of this beach ball, you would see the ping-pong balls floating in the liquid, and the beach ball would appear white. But if you looked at the bottom of the ball, it would appear blue.

Now, if you were to take thousands of these beach balls and lay them out on a field, and make the ping-pong balls move between the top and bottom of the beach balls, you could make the field change color. That's the principle behind E Ink's product.

In reality, these **microcapsules** are only 100 microns wide, and roughly 100,000 microcapsules can fit into a square inch of paper. In each of those microcapsules there are hundreds of smaller pigmented chips. In prototypes, E Ink is currently working with white chips and blue ink, but it is working to develop other color inks that could lead to **multicolor displays**.

When an **electrical charge** is applied to the microcapsules, the chips will either rise to the top or be pulled to the bottom. When pushed to the top, the chips make the capsules look white; when they are pulled to the bottom, the viewer only sees the dark ink. Patterns of white and dark can then be created to form words and sentences.

Xerox is working on its own version of electronic ink, called **electronic paper**, which it first developed in the 1970s. However, instead of using paint chips floating in a dark liquid, it has produced **microscopic balls** that are black on one side and white on the other. Similar to E Ink's technology, these microscopic balls respond to an electrical charge, which rotates the ball from black to white to produce patterns on a page. To produce pages for **digital books**, Xerox is developing rubber sheets in which these microscopic balls will be suspended in an oily liquid.

One of the obstacles in developing a digital book out of electronic ink has been wiring the pages to create an electrical charge while still maintaining a paper-thin page. In this aspect, E Ink has taken the lead in developing digital books by signing an agreement with Lucent Technologies that would give E Ink the rights to use **plastic transistors** developed by Lucent. These tiny transistors can be printed onto a page to provide the adequate charge needed to switch the E Ink chips from one color to another.

Uses for Electronic Ink:
The Holy Grail of electronic ink technology is a digital book that can typeset itself and that readers could leaf through just as if it were made of regular paper. Such a book could be programmed to display the text from Ernest Hemingway's "The Old Man and the Sea," and once you've finished that tale, you could automatically replace it by wirelessly downloading the latest "Harry Potter" book from a computer database. Xerox has introduced plans to insert a memory device into the spine of the book, which would allow users to alternate between up to 10 books stored on the device.

Just as electronic ink could radically change the way we read books, it could change the way you receive your daily newspaper. It could very well bring an end to newspaper delivery as we know it. Instead of delivery people tossing the paper from their bike or out their car window, a new high-tech breed of paper deliverers would simply press a button on their computer that would simultaneously update thousands of electronic newspapers each morning. Sure, it would look and feel like your old paper, but you wouldn't have to worry about the newsprint getting smudged on your fingers, and it would also eliminate the piles of old newspapers that need recycling.

Electronic ink displays would have several advantages over current display technology, including:
- Low power usage
- Flexibility
- Readability

We read books, it could change the way you receive your daily newspaper. It could very well bring an end to newspaper delivery as we know it. Instead of delivery people tossing the paper from their bike or out their car window, a new high-tech breed of paper deliverers would simply press a button on their computer that would simultaneously update thousands of electronic newspapers each morning. Sure, it would look and feel like your old paper, but you wouldn't have to worry about the newsprint getting smudged on your fingers, and it would also eliminate the piles of old newspapers that need recycling.

Another advantage electronic ink has over traditional computer displays is its readability. It looks more like printed text, so it's a lot easier on the eyes. However, both Xerox and E Ink have to improve the resolution of their products for them to be viable in book or other small-print publications. Xerox has already made a display that has a 200 dots per inch (dpi) resolution, which is more than twice the resolution of an average LCD display. Lucent's printable transistors should allow E Ink to increase the resolution of its products to resemble the resolution of a printed book.

THE NEW INDIAN BUSINESS ERA

Today, India is one of the most promising developing country and its all been due to some intellectual Indian minds fully backed by the support of the Govt. The takeover of Corus by TATA, Novelis Inc by Hindalco Industries and Hutch Essar by Vodafone are some of the recent big deals. Among these are two blockbuster deals one in the "old economy" and another in the 'new'. An Indian, Kumar Birla acquires a North American Aluminum Major, Novelis, for $19.3 Bn as he guns for global size. And, a transnational Giant, Vodafone, led by an Indian, Arun Sarin bids $ 19.3Bn for Hutch Essar in a do or die attempt to enter the world's fastest growing telecom market. Together, the deals are worth about $ 25Bn. That's bigger than India's Defence budget. Hindalco with a market capitalization of Rs. 20,094 Crore ranked 34th on the Indian stock markets. With Novelis in its fold, its market cap will go up Rs. 40,426 Crore, making it the 18th most valued company in India. After valuing Hutch Essar at $ 19.3Bn, the British telecom giant Vodafone, headed by, India born Arun Sarin will acquire 67% in the company. With this number, it outguns and Ambani's Reliance communications and the UK-based Hindiya's Both of whom had upped the ante in their race for the company. These deals have proved that India which was mainly known to the outer world because of its significant technical progress after independence has made a new mark to begin an "Indian Business Era".

These significant development in the field of business along with the technical development is soon going to make India occupy a position among the developed nations of the world.

Now every Indian has a reason to say "**I Proud To Be An INDIAN**".

A strong positive mental attitude will create more miracles than any wonder drug – Patricia Neal

OUR GALLANT ACHIEVERS

The bright budding talents of an alma mater do it proud through their crowning achievements. And ITM is justly proud to have a host of them. They consistently script a glorious success story with their prized placements and performance in different competitions and university examinations alike. The following students are the top rankers in the M D University, Examination, Dec 2006:

S.No.	Branch	Rank	Name
1	E&I	1	Manish Bhardwaj
2	E&I	5	Amit Aggarwal
3	CSE	3	Sunil
4	IT	12	Siddharth Singh

SAE COLLEGIATE CLUB, ITM GURGAON

Institute of Technology & Management, Gurgaon is a collegiate chapter of SAE (Society for Automobile Engineers) with 82 members from every engineering discipline who have interest in automotive engineering & want extra exposure beyond college activities with additional up-to date knowledge. This body was set up in September, 1998 at ITM and now is headed by Prof J.K. Gera. The objective of this body is to develop abilities among students to further advance the research, development, design, manufacture and utilization of vehicles. Given below is a brief account of the various events, activities and achievements of SAE ITM during the recent past.

- **Industrial Trips:** SAE ITM has been organizing industrial trips for its member students to facilitate student-industry interaction and help them become familiar with the industry needs and conditions. The first one was to **Maruti Udyog Ltd.**, Watching mere metal sheets get transformed into fully functional cars left every one spell bound. The special session involving the disassembly and assembly of maruti engine was the highlight of this trip. The next trip were to the **AUTOMAX** plant and **GROZ Tools** plant at Manesar. The other industry visited was **MARKAUTO**, Gurgaon.
- **Seminars:** A National Seminar on Intelligent Technologies In Mechanical And Automotive Engineering **(NSITMAE)** was held on 5th-6th January 2007. A CAD/CAM seminar cum workshop was organized in the college in November 2006, which highlighted the need for knowledge of the various designing softwares like **AutoCAD**, **ProE** and **CATIA** in the field of mechanical and automotive engineering. The seminar on **CONTROL SYSTEMS** by Dr. Ravi Shankar was also organized in October 2006.
- **Cerebration 2006:** The annual technical fest of Engineering branches of ITM was organized under the SAE banner from 23rd to 25th March 2006. The event was a runaway success with large number of entries from different colleges. Engine Assembly / Disassembly of MARUTI 800 was carried out in the premises of ITM. Events like **PROWESS** (The Technical Quiz), **Refuel** (The Automotive Quiz), **Rachnashastra** (CAD Designing Competition), **SAE ATV** (All Terrain Vehicle competition), **REGATTA** (Motor Boat Designing Competition), **FAST & FURIOS** (Robo Car Competition), **ACUMEN** (Case Study Competition) and **XPLODE-The Techno Fiesta** (Technical Paper Presentation) proved to be highly enlightening for the college students.
- **The Mini Baja Team:** Students of ITM Gurgaon launched their Mini Baja Project which aims at designing and fabricating a rugged and efficiently maneuverable All Terrain Vehicle (ATV). This is the first ever project of its kind at ITM Gurgaon and the students hope to participate in an international competition in December 2007.

THE RECIPROCAL ARRANGEMENT OF ARTS, LITERATURE, SCIENCE & TECHNOLOGY

Dr. Sunil Mishra
Sr. Lecturer, Humanities

The arts are emerging at the forefront of the scientific investigation of the mind. There is no surprise that the arts have remained out of bounds for scientific enquiry. Here I must say science is the skill of asking the questions that can be answered; while the flashlight of science may still be blinded by the fire of the arts, cognitive neuroscience is beginning to warm its fingers.

Science produces information about the world, about the relationship between certain modes of action and their results. This information gives rise to technology, which exploits these relations. Literature is closer to technology than it is to information, or science - it exploits a certain relation, a set of relations, rather than attempting to explain it. Aristotle was mistaken in claiming that literature is superior to history because history only deals with particulars-in the terms of cognitive neuroscience, it is episodic knowledge - while literature presents a general truth, or a semantic knowledge. That would turn literature into a kind of science. The defence never really worked; the "truths" of literature are too diverse to be systematized, too contradictory. It is clearly not a collection of useful information about the world as Sir Philip Sydney has pointed out, poetry makes no claims-it is neither true nor false.

Literature, then, is a technology, a set of techniques for exploiting certain relations between embodied minds, rather than a body of knowledge. Literature works. It doesn't simply transmit information, it acts in the psyche, moves us, moves on us like Hamlet's flute.

Although in ancient times scientific and technological knowledge was often presented in the form of poetry, modern scientists, engineers, and writers tend to think of their enterprises as fundamentally different and probably even diametrically opposed. Many critics of early twentieth century modernism now explain the narrative and representational experimentation of Picasso, Bracque, Joyce, Woolf and Faulkner as an attempt to come to terms with the theories of Einstein and Heisenberg. Although at least some major writers and critics see an intimate relationship among science, technology, and the arts, scientists tend to see their fields in complete isolation from art and culture. To them, science is a field unto itself, and if it has a language it is Mathematics. Similarly, historians of science have shown how pioneering researchers inevitably draw upon the cultures surrounding them their ideas and images. For example Gillian Beer in Darwin's Plots shows quite convincingly the way reading Victorian novels, particularly Charles Dickens influenced The Origin of Species.

The development of cinema, television, video and digital information technology has provided the kind of intellectual distance necessary for engineering students. Increasingly, literary, arts and cultural historians have discovered important relations among paper-making, print technology, mode of publications, economic factors ideas creativity, and the specific works of art and literature. The coming of computer-based information technologies with their emphasis upon process, system, and code has enabled students of literature and the arts to perceive that they, too, function as forms or subsets of information technology. Considering literature in terms of process, system, codes (or semiotics) reveals that on several levels it clearly functions as an Information Technology. Complex forms of argument and patterns of rhetoric thus appear to be a branch of information technology, as do literary kinds or genres such as the epic, the novel, tragedy, and so on. One of the most obvious and interesting forms of convergence between students of literature and computer science has come in the area of computer generated narratives: computer scientists working in artificial intelligence (AI) and folklorists, narratologists, and structuralists theoreticians of story telling, all break down stories into component parts of structures and attempt to show how meaningful narratives can be generated from these parts.

Since the coming of Romanticism in the late eighteenth century, many poets, such as W. Blake and J. Keats, have tended to oppose science and technology to the arts, choosing to see them as different, even antithetical modes of thought.

Throughout the twentieth century, writers, painters and photographers have rejected romantic attitudes towards science and technology, finding great beauty in machines, factories and the modern cities .At least as early as the 1930's, for example, photographers presented giant stream locomotives as object of aesthetic enjoyment. The idea, that art is separate from science and technology, is both novel and mistaken. On the contrary, art is a primary technology of culture. However, it is an intuitive technology - the walking, or digesting; one that we have no explicit knowledge of. What we are faced with a task of reverse engineering; of disassembling the functional whole into component parts to discover the information that lies at the basis of technology. It is the task of reverse engineering that literary and cognitive studies need to take on.

Art is a lie that makes us realize the truth – Pablo Picasso

SPORTS NEWS

ITMites are wont to prove themselves time and again in Sports as in academics. This year too was studded by commendable feats by them. In the Annual Sports Meet of ITM held during September - October 2006, Renu Bharadwaj (04EI426) & Mandeep Kumar (04EL300) were adjudged as the best Athletes of the year 2006. The winners & runners up are as follows:

Athletics
Boys:

100 m	- Varun
200 m	- Mandeep
400 m	- Sunil Yadav
1500 m	- Sunil Yadav
3000 m	- Sat Prakash
4*400 Relay	- Amit, Mandeep, Vijender, Sachin
Long Jump	- Sunil Yadav
High Jump	- Mandeep
Triple Jump	- Satender
Javellin Throw	- Navdeep
Shot Put	- Harish
Discuss Throw	- Mandeep
Power Lifting	- Arun
Arm Wrestling	- Anshuman
Best Athelete	- Mandeep

Girls:

Long Jump	- Renu Bhardwaj
High Jump	- Renu Bhardwaj
Discuss Throw	- Renu Bhardwaj
Shot Put	- Renu Bhardwaj
Arm Wrestling	- Shweta
Best Athlete	- Renu Bhardwaj
Mixed Dubbles (Carom)	- Rishabh, Ritdhwara

Team Sports:

Football (Boys)	- Winner: LSE & Runner up: IT
Volleyball	- Winner: CSE & Runner up: ECE
Cricket (Boys)	- Winner: CSE & Runner up: ECE
Tug of War (Boys)	- Winner: CSE & Runner up: ECE
Carom (Boys)	- Winner: ME & Runner up: IT
	- Winner: ECE & Runner up: IT
Table Tennis (Boys)	- Winner: ME & Runner up: IT
	- Winner: IT & Runner up: CSE
Chess (Boys)	- Winner: ECE & Runner up: CSE
	- Winner: ECE & Runner up: IT

IMPORTANT LINKS

ALL YOU CAN DO WITH BLU-RAY
"More than a Technology, it's a Revolution".

Divyan Salotra

A big step forward for a myriad of industries, Blue-Ray technology brings us what we had always dreamt. In simple words, it's a breakthrough that will be useful to everyone, from a 12-year old kid to a 50-year old executive.

A group of the world's leading consumer electronics, personal computer and media manufacturers form the Blu-Ray Disc Association (BDA), to create a format that offers more than five times the storage capacity of a traditional Digital Video Disc.

The format has been developed to enable recording, rewriting and playback of high-definition video (HD), as well as storing large amounts of data. The format has a storage capacity of 25GB on a single-layer disc and 50GB on a dual-layer disc. The name Blu-Ray is derived from the underlying technology, which utilizes a blue-violet laser to read and write data. The character 'e' was intentionally left out so the term could be registered as a trademark.

Who Supports Blu-Ray?
The BDA has more than 170 member companies from all over the world. The format also has broad support from the major movie studios as a successor to today's DVD format. Seven of the eight major movie studios have already announced titles for Blu-Ray, including Warner, Paramount, Fox, Disney, Sony, MGM and Lionsgate.

Why Use Blu Laser?
The simple answer is HDTV. If you have ever seen high-definition (HD) video then you know just how incredibly sharp the picture is and how vivid the colors are. The problem with today's DVD is that it only supports SD (standard definition) and does not have the necessary storage capacity to satisfy the needs of HD (high definition). Enter Blu-Ray, it offers up to 50GB of storage capacity and enables playback, recording and rewriting of HD in all of the HD resolutions.

Blu-Ray…Unique? - How?
HD-DVD (previously known as AOD) is the name of a competing next-generation optical disc format developed by Toshiba and NEC. The format of a High Definition DVD is quite different from Blu-Ray, but relies heavily on blue-laser technology as well. Supported by giants like Microsoft and Sun Microsystems it's sure to give Blu-Ray some stiff competition.

Why upgrade to Blu-Ray?
The benefit of using a blue-violet laser (405nm) rather than a previously used red laser (650nm), is that it has a shorter wavelength which makes it possible to focus the laser spot with even greater precision. This allows data to be packed more tightly and stored in less space, so it's possible to fit more data on the disc. This together with the change of numerical aperture to 0.85 is what enables Blu-Ray Discs to hold 25GB/50GB.

Blu-Ray technology has passed each test with flying colors; be it High Definition Recording, Camcorder Archiving, Gaming or Mass Data Storage.

Blu-Ray did leave us pondering over one question though, **'Is this just the beginning?'**

STAFF DEVELOPMENT PROGRAM - MATLAB
ARTIFICIAL INTELLIGENCE & MATLAB TOOLBOX

Institute of Technology & Management is world class institution center for Academic Excellence and Planning (CAEP) organized twelve day Staff Development Programs under the coordination of Dr. Jyoti Sinha. From management committee, Mr. V. Daulet Singh, Mr. Avdhesh Mishra and Mr. Shiv S. Mehra were the Chief Patrons. Prof. Rakesh Ranjan, Principal ITM and Prof. S. Ahuja, Dean ITM were patron for the programme. It had a great success with the support of Mr. Varun Kumar and Mr. Sandeep Singh.

This faculty development program is aimed at disseminating the knowledge gained through our curriculum and research so that teachers of engineering and technology can make comprehensive and cohesive presentation of ideas to their students with product as the target.

Artificial intelligence (AI) is a branch of computer science and engineering that deals with intelligent behavior, learning, and adaptation in machines. Research in AI is concerned with producing machines to automate tasks requiring intelligent behavior. Examples include control, planning and scheduling, the ability to answer diagnostic and consumer questions, handwriting, speech, and facial recognition. As such, it has become an engineering discipline, focused on providing solutions to real life problems, software applications, traditional strategy games like computer chess and other video games.

The name MATLAB stands for Matrix Laboratory. MATLAB was originally written to provide easy access to Matrix Software Developed by the LINPACK and EISPACK projects. MATLAB has evolved over a period of years with input from many users. In university environments, it is the standard instructional tool for introductory and advanced courses in mathematics, engineering, and science. In industry, MATLAB is the tool of choice for high-productivity research, development, and analysis.

MATLAB features a family of add-on application-specific solutions called toolboxes. Very important to most users of MATLAB, toolboxes allow you to learn and apply specialized technology. Toolboxes are comprehensive collections of MATLAB functions (M-files) that extend the MATLAB environment to solve particular classes of problems. Areas in which toolboxes are available include signal processing, control systems, neural networks, fuzzy logic, wavelets, simulation, and may others.

The program provides lectures and practicals on the topics mentioned below, which will provide a good understanding of issues relevant to artificial intelligence and MATLAB.
- ❑ Artificial Intelligence Basics.
- ❑ Branches of Artificial Intelligence.
- ❑ Introduction to MATLAB.
- ❑ Advance Concepts of MATLAB.
- ❑ Introduction to Toolboxes.
  - • Control Systems Toolbox
  - • Neural Network Toolbox
  - • Signal Processing Toolbox.
  - • Image Processing Toolbox
  - • Communication toolbox.
- ❑ SIMULINK Concepts.

DID YOU KNOW?
- ➢ Apples are more effective in keeping people awake in the morning than caffeine.
- ➢ Human heart creates enough pressure when it pumps out to the body to squirt blood 30 feet.
- ➢ The strongest muscle in the body is tongue.
- ➢ Chewing gum, while peeling onions will keep you from crying.
- ➢ Average person who stops smoking requires 1 hr less sleep at night.
- ➢ Your tongue is germ free only if it is pink. If its white there is thin film of bacteria on it.
- ➢ The pupil of the eye expands as much as 45% when a person looks at something pleasing.
- ➢ Your dead skin contributes to 65% of your house dust.

To climb steep hills requires a slow pace at first – *Shakespeare*

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2. Co-author of the book on Random Process and Queuing Theory, by Prentice Hall Malaysia. 2003, ISBN: 9832639743
3. Co-author of the book on Circuits and Signals, by Prentice Hall Malaysia. 2004, ISBN: 9832639921
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Dr. Manoj Pandey
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2. VLSI Technology by Manoj K. Pandey, Dhanpat Rai and Co.
3. Multimedia Systems by Manoj K Pandey, S.K. Kataria and Co.

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Dr. Hukum Singh
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Mr. Prahlad Singh
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3. "Theory and Application of Automatic Control" New Age International Publication, 1998, 2005

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2. Metricated "Vector Mechanics - Statics for Engineers" and Vector Mechanics - Dynamics for Engineers, Tata McGraw Hills 2004

Dr. R.B. Bajpai
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TECHNOLOGY IS MAKING TELEPATHY A REALITY : "TECLEPATHY"

Abhishek Kaushik
(04-IT-501)

It is a kind of news item that made the rounds among the cognoscenti of day, only to be forgotten the next. But it can stick with you for days afterwards.

Thanks to the rapid-fire nature provided by such things as email correspondence and instant messaging, conversations that used to take weeks or days now only take hours or minutes.

Exchange between Charles Darwin and his rival Louis Agassiz from the 19th Century, must have taken months if not years since their letters had to cross the Atlantic by boat. (Darwin lived in England while Agassiz was in the US.) Today when scientists converse, they debate, critique and collaborate at a breakneck speed.

Sitting outside a mall, you can notice a herd of pedestrians crossing the street-each and every one of them with a cell phone held tightly against their ear. These days, information transfer between people is nearly instantaneous, regardless of what they're doing and where they are.

Programs such as Messenger, ICQ and GAIM are immensely popular, changing the way in which people interact altogether. Family members converse with each other while in the same house (calling the kids down for dinner will never be the same again). Parents chat with their kids while at work. Co-workers, whether they're in the same building or offsite, can quickly exchange information and work in collaborative ways.

Social networking programs, such as Friendster, Tribe and Orkut, are also contributing to novel forms of communication. These programs are undoubtedly making the world a smaller place by steadily decreasing the number of so-called degrees of separation that exist between people. I'm continually stunned at the efficiency of how this works. I have only 20 immediate friends in my Friendster network, but it explodes out from there to 1,000 second-degree friends and 50,000 third-degree friends. I'm pretty much convinced that if you're on the Internet there's no less than four degrees of separation between you and anyone else on the Web, which is two complete degrees below the conventional six degrees of separation that is thought to exist for all people.

Needless to say, the communications revolution and the driving tendencies therein are not going to stop at cell phones, instant messaging and blogs. The work of research labs and universities around the world reveals that some of the most profound developments are still yet to come

A team at NASA developed a system that captures and converts nerve signals in the vocal chords into computerized speech. It is hoped that the technology will help those who have lost the ability to speak, as well as improve interface communications for people working in spacesuits and noisy environments. Similarly we have implant-systems that capture acoustic information and reroute it to brain for processing, overcoming hearing impairments. Both methods capitalize on the fact that neural signals provide a link to the analog environment in which we live.

The dream of mind-to-mind communication and the desire to transcend one's own consciousness is as old as language itself.

Many people are trying to tap the power of telepathy.

Several advances in communication technology and neuroscience are giving pause about the possibility of endowing us with "TechLepathy". As we continue to ride the wave of the communications revolution, and as the public demand for more sophisticated communications tools continues, it seems a veritable certainty that we are destined to become a species capable of mind-to-mind communication; a change that would irrevocably alter the nature of virtually all human relations and interactions.

The technology required to create a technologically endowed form of telepathy can be build by combining technology of converting neural to physical and physical to neural, implanted with a radio transmitter and a fancy neural data conversion device, we could create a form of communication that bypasses the acoustic realm altogether.

The technology required to create an implantable cell phone already exists-it's just a matter of someone getting around to doing it. Such a device has the potential to be one of the first widely used nonmedical implants, will be the world's first "killer app" implant.

The next progressive step as far as techlepathy goes, is to tap into the brain's language centers, specifically the part of the motor cortex responsible for output for the region of the throat and mouth. With such a system in place muscular movement wouldn't be required at all to generate a neural signal. Instead, sheer thought alone will produce the desired language output.

Our Telepathic Future:
Signals other than thoughts or language will also be transferable as well. Humans will eventually be able to communicate all sorts of signals, such

as "whether you are feeling bad, as well as where you are." He believes that the body produces an array of information that can be picked out and made to use in a variety of ways.

The first generation of telepathic devices will likely be of the subvocal variety in which communication travels one way, much like a normal conversation. The second phase will also involve unidirectional transmission, but consciousness (i.e. language center output) will be output instead of subvocalized speech. And the third phase will likely involve the seamless bidirectional transference of consciousness and emotions to one or more receiving persons-in other words, telepathy in the truest sense. It's highly probable that the medium of exchange for such communication will be the Internet, or its future form, the global mind or Noosophere.

Changes in communication and language have largely captured the human story, giving rise to not only technology and civilization, but also to our enhanced moral capacity and our ability to empathize. Undoubtedly, it is through communication that we learn to relate and understand one another, effective communications have historically been the crucial key for humanity's ongoing survival and progress.

There's no reason to believe that techlepathy won't have a similar impact on individuals, social groups and society as a whole. Moreover, imagine how it will further strengthen the bonds of interpersonal communication and intimacy. As we all live alone in our own minds-forced to live near-solipsistic existences-I cannot think of anything more powerful than the prospect of sharing someone else's thoughts and experiences.

Many people complain about the dehumanizing and depersonalizing effects of technology. But we can not neglect the fact that usage of communications technology has only resulted in increased interactivity with the rest of the world. On the surface humanity appears to be spreading outward, venturing across continents and into space. Yet in actuality we are journeying towards one another. Our globe has never appeared smaller and our proximity to each other has never been closer. This trend shows no signs of slowing down, pointing the way to a remarkable interconnected future.

So be ready to say, bye-bye to this 6-page newsletter because in near future, we will transmit 4-D VECT-TEC, directly from our brain to your one, using "TecLepathy".

SECURITY AT YOUR FINGERTIPS

Divey Jyoti
04-IT-517

BIOMETRICS is an intriguing technology that has grown by leaps and bounds and has grabbed the attention world wide. It has changed way to perceive security and has turned out to be vital tool to minimize security breaches.

What Happens in Biometric Verification?
Physical characteristic of person are stored in a database and whenever an individual tries to gain access the unique features are then compared with those stored in database.

Finger Print & IRIS Technique is very common but now we have highly accurate identifying traits like heart beat signatures, facial contours, hand grips & even vein patterns.

In India, a Pune based company AXIS SOFTWARE launched BIOATM that uses PIN as well as FINGURE PRINT or IRIS based authentication.

BIOMAIL by MICROSOFT OUTLOOK brings a safe, secure & un-crackable email Communication. It combines fingerprint security & encryption.

The most common after fingerprint and IRIS based authentication is FACIAL RECOGNITION. It measures overall face structure and compares with retained database when one stands before a camera.

PALM VEIN authentication is a next step forward and is used in Japan in ATM's, Laptops and Libraries. Since human vascular is unique and has large hidden patterns this technique ensures high level security.

Next is biometric HEART BASED authentication that uses BIO DYNAMIC READER. This device measures several factors in your heartbeat to record your biodynamic signature or BDS.

GRIP RECOGNITION is yet another emerging technology that has found its application in SMART GUNS. The sensors and microprocessors in gun analyze complex interplay of bones & muscles and locks gun if seized by unauthorized person.

In Hollywood movies like Men In Black, Mission Impossible, Diamonds Are Forever we see how protagonist fools biometric based system is working. However there are some loopholes that has led its market expanding confidently.

Happiness depends more on the inward disposition of mind than on outward circumstances – E. Franklin

VT

"POETRY"
It's The Journey
That's Important...

Life, sometimes so wearying
Is worth its weight in gold
The experience of traveling
Lends a wisdom that is old
Beyond our 'living memory'
A softly spoken prayer:
"It's the journey that's important,
Not the getting there!"

Ins and outs and ups and downs
Life's road meanders aimlessly?
Or so it seems, but somehow
Leads us where we need to be,
And being simply human
We oft question and compare....
"Is the journey so important
Or the getting there?"

And thus it's always been
That question pondered down the ages
By simple men with simple ways
To wise and ancient sages....
How sweet then, quietly knowing
Reaching destination fair:
"It's the journey that's important,
Not the getting there!"

FROM THE PLACEMENT DESK

ITM's Career Services Department provides a comprehensive range of programs to students, including career education counseling and job search assistance .ITM provides different value added courses like Business English Certificates (BEC), SPEC which are beyond M D University syllabi. These courses are really boon for prospective engineers. It helps the students for the placement in MNCs and other companies. The Placement Cell's mission is to help the students identify career options and develop effective plans to succeed in an increasingly competitive environment. The efforts on the part of the Placement Cell have resulted in recruitment of 96% (thus far) in many industries and organizations. Nearly 96% of the competent students have been placed till Feb. 07. In this way the sky -rocketing percentage of the placement, in ITM, is increasing every year. Branch wise placement in different organizations:

CSE	IT	ECE	E&I	MECH	TOTAL
79	50	42	35	32	238

The average remuneration offered is around 2.75 lakh per annum. Undoubtedly it is a healthy start for any graduate fresher.

Needless to mention, the trend continues. For the batch 2004-08 also in ITM Gurgaon the placement is at a creditable peak ahead. Here it is important to say that 51% students are already placed in Infosys, MBT, Birla soft, NEC HCL, i-Flex, Accenture, Polaris, Wipro, L&T Infotech.

Really the credit of this high placement in ITM goes to our Career Services Department which helps the students for the industry and ensures ample opportunities for best possible career breaks for them.

AIDS............NO FEAR............NEW HOPE!

"I have AIDS" these words are enough to make someone go a metre away from you. But no more------- and thanks to the researchers of National Institute of Allergy an Infectious Disease (NIAISD) in US who captured a 3-D X-Ray image of a key area of a HIV surface protein which unlike the rest of the constantly mutating virus remains stable. This stable section is vulnerable to attach from a specified antibody known as b12, that is capable of destroying the virus. This revelation of HIV's long sought "site of vulnerability" will gradually help in the design of the elusive AIDS vaccine. Such vaccine is expected to prevent initial infection. This is reason for some celebration as researchers point out that HIV is so deadly, precisely because the virus is coated with slippery surface proteins that are constantly changing as the infection spreads. So antibodies-immune system protein that destroys virus and bacteria entering our body are unable to recognize and penetrate it. This is what makes the virus evade our immune system so effectively. With this finding, scientists now know how to get past the formidable defense of the AIDS virus and where exactly to hit it. What they have to find now is a way to get the human body to produce lots of b12 antibodies before the onset of infection. The lead researcher in this field is Per knowledge. According to Dr. Suniti Solomon who first discovered HIV in India, the virus' constant mutation has made vaccine research against HIV very difficult. The new finding relates to the HIV protein cooled up gp 120. During infection gp 120 latches onto a protein found in the human immune system called CD 4 and destroys it.

Thus in short, time has come when people no more have to get afraid of this dreadful disease and the new discovery would act as ray of hope to the existing AIDS patient.

Kashish Jhamb
ECE, 2nd year

RENEWABLE ENERGY CLUB

Renewable Energy is the fastest, cleanest and cheapest source of power. Fortunately, India being a tropical county is abundantly endowed with renewable energy sources in the form of solar, wind, biomass and small hydro. The importance of increasing use of renewable energy base was recognized in the mid of 1970s. India today is at the forefront in harnessing renewable energy resources and has one of the longest programs in non-conventional energy. It is the only country in the world to have a separate Ministry for non-conventional Energy Sources. This Ministry has been entrusted with the responsibility of providing a thrust and importance to the renewable energy sector.

We at ITM, have a Renewable Energy Club sponsored by Renewable Energy Department, Govt. of Haryana under the co-ordination of Dr. Jyoti Sinha. Our members of Governing Body Mr. V. Daulet Singh, Mr. Avadhesh Mishra, Mr. Shiv S. Mehra are its chief patrons. Our Principal Dr. Rakesh Ranjan and Dean Prof. S. Ahuja are patrons. In this club as members, we have eminent scholars like Dr. K.K. Chaudhary, Prof. H.P. Garg, Prof. D.P. Kothari, Mr. K.B. Sehgal, Mr. Manoj Kumar, Dr. Rashmi Tyagi, Dr. Veer Singh, Ms. Shrutimita Mehta, Ms. Jolly Shah, Ms. Rakhi Sharma, Mr. Anil Kumar Bisht.

Our Aim:
- To promote the implementation of renewable energy innovations.
- To promote research into the development and operation of Renewable Energy Applications.
- Use of Wind Energy, Biomass Energy, Solar Energy etc.
- Small Hydropower Projects.
- To facilitate sustainable development through the use of the Renewable Energy.
- To discuss environment issues related to energy conversion and energy efficiency
- To assist private industries in producing, marketing and utilizing Renewable Energy.
- Our activities: Different projects like Solar Cookers, Bio-Diesel, Wind Mills, Solar Concentrators.
- Poster Competition
- Quiz Energy Competition

Work spares us from three evils: boredom, vice and need – Voltaire