



College Of Engineering and Technology, Akola 444104

Research and Development Cell

“TECHNICAL NEWS LETTER”

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FROM PRINCIPAL DESK

It gives me an immense pleasure to congratulate the editorial board which is publishing the 8th issue of technical news letter for period july-sept.2016.

This news letter has comprised many achievements such as conference attended by teaching faculty member and students, competitions won by students and innovative projects carried out by students with guidance of teaching staff. Also many other research projects undertaken jointly with research organization, industry and universities.

I warmly welcome to the newly admitted students in our college and wish them memorable, meaningful stay to transform themselves into world class engineer. I also wish welcome to the parents and people to see our well equipped laboratories, computer centers, library and green campus.

I wish all the best to the technical news letter.

DR.SK.DESHMUKH
PRINCIPAL



FUZZY LOGIC IN THE REALWORLD

The theory of fuzzy logic is based on the notion of relative graded membership, as inspired by the processes of human perception and cognition. Lotfi A. Zadeh published his first famous research paper on fuzzy sets in 1965. Fuzzy logic can deal with information arising from computational perception and cognition, that is, uncertain, imprecise, vague, partially true, or without sharp boundaries. Fuzzy logic allows for the inclusion of vague human assessments in computing problems. Also, it provides an effective means for conflict resolution of multiple criteria and better assessment of options. New computing methods based on fuzzy logic can be used in the development of intelligent systems for decision making, identification, pattern recognition, optimization, and control.

Fuzzy logic is extremely useful for many people involved in research and development including engineers (electrical, mechanical, civil, chemical, aerospace, agricultural, biomedical, computer, environmental, geological, industrial, and mechatronics), mathematicians, computer software developers and researchers, natural scientists (biology, chemistry, earth science, and physics), medical researchers, social scientists (economics, management, political science, and psychology), public policy analysts, business analysts, and jurists.

Indeed, the applications of fuzzy logic, once thought to be an obscure mathematical curiosity, can be found in many engineering and scientific works. Fuzzy logic has been used in numerous applications such as facial pattern recognition, air conditioners, washing machines, vacuum cleaners, antiskid braking systems, transmission systems, control of subway systems and unmanned helicopters, knowledge-based systems for multi-objective optimization of power systems, weather forecasting systems, models for new product pricing or project risk assessment, medical diagnosis and treatment plans, and stock trading. Fuzzy logic has been successfully used in numerous fields such as control systems engineering, image processing, power engineering, industrial automation, robotics, consumer electronics, and optimization. This branch of mathematics has instilled new life into scientific fields that have been dormant for a long time.

Thousands of researchers are working with fuzzy logic and producing patents and research papers. According to Zadeh's report on the impact of fuzzy logic as of March 4, 2013, there are 26 research journals on theory or applications of fuzzy logic, there are 89,365 publications on theory or applications of fuzzy logic in the INSPEC database, there are 22,657 publications on theory or applications of fuzzy logic in the MathSciNet database, there are 16,898 patent applications and patents issued related to fuzzy logic in the USA, and there are 7149 patent applications and patents issued related to fuzzy logic in Japan. The number of

research contributions is growing daily and is growing at an increasing rate. Zadeh started the Berkeley Initiative in Soft Computing (BISC), a famous research laboratory at University of California, Berkeley, to advance theory and applications of fuzzy logic and soft computing.

Fuzzy logic is used in large number of real-life applications and commercial products in a variety of fields. Although fuzzy logic has applications in a number of different areas, it is not yet known to people unfamiliar with intelligent systems how it can be applied in different products that are currently available in the market. For many people, the engineering and scientific meaning of the word fuzzy is still fuzzy. It is important that these people understand where and how fuzzy logic can be used.

Almost any control system can be replaced with a fuzzy logic based control system. This may be overkill in many places however it simplifies the design of many more complicated cases. So fuzzy logic is not the answer to everything, it must be used when appropriate to provide better control. If a simple closed loop or PID controller works fine then there is no need for a fuzzy controller. There are many cases when tuning a PID controller or designing a control system for a complicated system is overwhelming, this is where fuzzy logic gets its chance to shine.

One of the most famous applications of fuzzy logic is that of the Sendai Subway system in Sendai, Japan. This control of the Nanboku line, developed by Hitachi, used a fuzzy controller to run the train all day long. This made the line one of the smoothest running subway systems in the world and increased efficiency as well as stopping time. This is also an example of the earlier acceptance of fuzzy logic in the east since the subway went into operation in 1988.

The most tangible applications of fuzzy logic control have appeared commercial appliances. Specifically, but not limited to heating ventilation and air conditioning (HVAC) systems. These systems use fuzzy logic thermostats to control the heating and cooling, this saves energy by making the system more efficient. It also keeps the temperature more steady than a traditional thermostat. Another significant area of application of fuzzy control is in industrial automation. Fuzzy logic based PLCs have been developed by companies like Moeller. These PLCs, as well as other implementations of fuzzy logic, can be used to control any number of industrial processes.

As a final example of fuzzy logic, it can be used in areas other than simply control. Fuzzy logic can be used in any decision making process such as signal processing or data analysis. An example of this is a fuzzy logic system that analyzes a power system and diagnoses any harmonic disturbance issues. The system analyzes the fundamental voltage, as well as third, fifth and seventh harmonics as well as the temperature to determine if there is cause for concern in the operation of the system.

Dr. S.L. Satarkar

H. O. D

Computer Science & Engineering



FROM EDITORIAL DESK

It is with great enthusiasm that I will be taking over the editorial responsibility to work on Technical News Letter July-Sept. 2016.

As we all know, a news letter is nothing but the mirror for Colleges' Vision and Mission. It exhorts the events, departmental activities and academic strength and achievements.

In this edition, I have tried to capture last three month activities of various departments. I strongly hope that this news letter will encourage faculty, students to use it as a platform to express themselves.

Any suggestion for improvement will be highly appreciated.

Sincerely

Dr.S.N.Nemade

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ARCHITECTURE



Architecture is an expression of values. - Norman Foster

EXPERT TALK AND INDUSTRIAL VISIT

- The Expert lecture with power point presentation was organised on 30-07-2016 in the Visvesvarayya hall of our college on the topic of “MODERN ARCHITECTURE”, by Dr. Abir Bandopadhyay, HOD, deptt. Of Architecture, N.I.T. Raipur. All the staff and students were participated in this research and development activities
- The musical Event was organised at school of Architecture on 23-07-2016 and students were participated in Guitar competition
- The “MRUDA” workshop based on Clay Modelling was organised on 27-08-2016 by an expert presentation by an Artist Ravikrishnan. All the Staff, First to Eighth semester students were participated in the research and development activities.
- The Industrial visit to 5th semester students to M.I.D.C. Akola for Building Construction and Architectural Design subjects on dated 30-08-2016. The students visited the M. R. Furniture Mall and manufacturing process of Furniture, Equipments and other details to understand the materials and techniques. The students has prepared the power point presentation on the topic of Children Hospital furniture and space requirements
- The students of Fifth sem. B.Arch. visited the Dr. Rathi’s “SMILE HOSPITAL”, Akola on 04-09-2016 to understand the Children Hospital space requirements, planning , designing, materials and techniques used in the existing children Hospital.
- The “SAHAJ MARG MEDITATION” event was organised at school of Architecture on 10-09-2016 by an expert Brigadier Suhas Kulkarni and all the students were participated in the Meditation Process.

- The students of Fifth sem. B.Arch. visited the Dr. Thete's and Dr. Mahajan's Childrens Hospitals at Khamgao, to understand the practical corelationship of various activities required in Childrens Hospital so that it will be useful for Architectural Design project of Fifth semester B. Arch.



The photograph of Hospital visit

- The Faculties and students of Fifth sem. B.Arch. visited the Jain Hills Industrial location at Jalgaon on 13 & 14 September 2016 to understand the use of various cost effective “Steel Trusses”, “Solar Panels”, “Contour sites”, “Landscape developments”, “Road Network”, “Indoor and Outdoor Space requirements”, etc; for planning and Designing the built and unbuilt spaces.



The photograph of Industrial visit

Mega event

- The Event 3I- Imagine, Invent, Inspire on 24th sept, 2016 was organised by School Of Architecture on the occasion of International Conference “Innovations in Science & Technology: Opportunity & Challenges”.
Inauguration ceremony of project model competition / exhibition on the occasion of International Conference “Innovations in Science & Technology: Opportunity & Challenges” on dated 24th sept, 2016. The dignitaries are Dr. V.S. Sapkal, Ex. Vice Chancellors of R.S.T.M.Nagpur University;, Shri. Mahadeorao Bhubhar, Vice President, Shri shivaji Education Society, Amravati , Dr. S. K. Deshmukh, Principal, with other dignitaries.



Inauguration Ceremony

The student's exhibition for the Project Model competition

The student's exhibition for the Project Model competition / Exhibition at School of Architecture College of Engg. & Tech. Akola, on dated 24th sept, 2016.



Dr. Sapkal & Dr. S. K. Deshmukh at model exhibition

Winners Of Architecture:

First prize:

Topic- Redevelopment of Janata Bazar, Akola.

Names of Students:

1.Pratik BHarambhe 2. Lakhan Somani 3. Pawan Alseth 4. Sharayu Patil 5.Snehal Desai.

Second Prize: Topic- Innovative Buildings.

Names of Students:

1.Shubham Verulkar 2. Ritu Agrawal 3. Aishwarya Pali.

Winners Of Civil Engineering :

First prize:

Topic- Retrofitting of Columns.

Names of Students:

1.Shital Dongre 2. Ashwini Gawai 3. Pratik Umale 4. Pawan Wahane 5. Sankalp Jain.

Second Prize:

Topic- Water Treatment.

Names of Students:

1.Sanket Kale 2. Mohammad Adnan 3. Murtaza Hirani 4.Gajanan Korde 5. Abhijeet kakade

Winners Of Mechanical Engineering:

First prize:

Topic- Robotic Arm.

Names of Students:

1.Mohit Khasbage 2. Bablu Rathod 3. Buddhabhushan Gawai.

Second Prize:

Topic- Seed Planter.

1.Shubham Nahate 2. Rushikesh Gawande 3. Dnyanesh Tale 4. Vaishnavi Misal
5. Neha Kuthe.

Winners Of Computer Science and Engineering :

First prize:

Topic- POWER GEGENRATION CONCEPT

Name of students:

1. Kirti pagrut 2. Renuka arbat 3. Shruti asarkar 4. Anjali khadke 5. Bhavana Deshmukh

Second prize :

Topic: Robot exhibiton

Name of students:

1. Shreyash asarkar 2. Saurabh Ingole 3. Yash Satarkar 4. Kunal Raja 5. Rohan Mudaliar 6. Akshay Dhore

Winners Of Chemical Engineering :

First prize

Topic- Natural air conditioner

Names of students :

1. Tanmay dalvi 2. Manasi ponkshe 3. divya daf 4. sujay chaudhari 5. Rushikesh Godhkhe

Second prize

Topic- Pest Control

Names of students :

1. Sumedh wakalkar 2. pravin mohture 3. Neha bahadurkar 4. Lakshmi naitam 5. rajeshwari bhuse

FACULTY CORNER - Research paper published by the Faculties in the international journal and presented in the two day international conference. Details are given below:

- 01 R.M.SHAMBHARKAR has presented a paper on “ ORIGIN , CAUSES & IMPACT OF EARTHQUAKE” in International Conference On Innovation In Science & Technology :opportunities and challenges on 23&24/09/2016.
- 02 R.M.SHAMBHARKAR has presented a paper on “ ORIGIN, CAUSES & IMPACT OF EARTHQUAKE” in International Journal Of Pure & Applied Research In Engg. & Tech. on 24/09/2016
- 03 SUDHIR V DHOMANE has presented a paper on “GREEN YOUR CAMPUS ” in International Conference On Innovation In Science & Technology : opportunities and challenges on 23&24/09/2016.
- 04 SUDHIR V DHOMANE has presented a paper on “GREEN YOUR CAMPUS ”in International Journal Of Pure & Applied Research In Engg. & Tech. on 24/09/2016.
- 05 MALINI NATHE has presented a paper on“ ENERGY EFFICIENCY AND SUSTAINABILITY IN ARCHITECTURE ”in International Conference On Innovation In Science & Technology :opportunities and challenges on 23&24/09/2016.

- 06 MALINI NATHE has presented a paper on“ENERGY EFFICIENCY AND SUSTAINABILITY IN ARCHITECTURE”in International Journal Of Pure & Applied Research In Engg. & Tech. on 24/09/2016.
 - 07 J. G. INGOLE has presented a paper on“ENHANCED ARCHITECTURAL ASPECTS FOR SEISMICALLY RESILIENT STRUCTURES”in International Conference On Innovation In Science &Technology: opportunities and challenges on 23&24/09/2016.
 - 08 J. G. INGOLE has presented a paper on“ENHANCED ARCHITECTURAL ASPECTS FOR SEISMICALLY RESILIENT STRUCTURES”in International Journal Of Pure & Applied Research In Engg. & Tech. on 24/09/2016.
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CHEMICAL ENGINEERING



I consider nature a vast chemical laboratory in which all kinds of composition and decompositions are formed. Antoine Lavoisier

INDUSTRIAL VISIT:

1. Department of Chemical Engineering and CESSCAA has jointly organized an Industrial Visit at Chintamani Pharma , M.I.D.C. Akola on date 03/09/2016.

2. Department of Chemical Engineering and CESSCAA has jointly organized an Industrial Visit at HI-TECH Parma, M.I.D.C. Akola on date 08/09/2016.

STUDENTS PARTICIPATION

- Total 21 students were participated in National Level Technical Paper & Poster Presentation Competition “Prakalp- 2016” held at M.I.T. Aalandi, Pune. During period 26-27 August 2016.
- Total 33 students were participated in 3-I Project & Model Competition held at C.O.E.T. Akola on 24/09/2016.
- Total 15 students had participated in Model presentation exhibition organized by SGBAU, Amravati held at Shri Shivaji Arts, Commerce, & Science College, Akola on date 25/09/2016.
- Total 49 students were participated in Training program of SEED INFOTECH LTD. PUNE. Held at College of Engineering and Technology, Akola during period of 14/09/2016 - 05/10/2016.

STUDENTS ACHIEVMENTS

- Ms. Neha Mudliar & Ms. Sneha Malode had received a Best Paper award in “PRAKALP-2016” in A National Level Paper Presentation Competition held at MIT, Aalandi, and Pune from 26-27 August 2016.
- Mr. Tanmay Dalvi, Mr. Rushikesh Ghodke, Ms. Mansi Pongshe, Ms. Divya Daf & Mr. Sujay Chaudhari had won First Prize in Project & Model Presentation Competition organized by C.O.E.&T.Akola on 24/09/2016
- Mr. Sumedh Wakalkar Mr.Pravin Mohture, Ms. Neha Bahadurkar Ms. Laxmi Naitam, Ms. Rajeshwari Bhuse had won Second Prize in Project & Model Presentation Competition organized by C.O.E.&T.Akola on 24/09/2016



Industrial Visit Of Chemical Engineering Students At Chintamani Pharma

EXPERT TALK

Department of Chemical Engineering organized Motivational Talk on topic “Action Talks” by Mr. Sachin Burghate, Director, Aspire Institute. On date 21 September 2016



Action Talk By Mr.Sachin Burghate, Director, Aspire Institute

COMPUTER SCIENCE AND ENGINEERING



“The computer was born to solve problems that did not exist before.”
– Bill Gates

Digital valuation centre:

Digital valuation center (DVC) of SGBAU was inaugurated at the hands of Dr. Vadate, Exam controller, SGBAU. Papers from Engineering, Architecture and Pharmacy streams were valued online at the center. It received a wide response from all the faculties.



Digital valuation center (DVC) Inaugurated By Hon'ble Principal Dr.S.K.Deshmukh

Workshop

A mega event was organized in August 2016. A two days workshop on underwater robotics was organized in association with Sakrobotics Lab, Orrisa and certification by Dr. Robot, Canada on 30 - 31 August 2016. It was a workshop followed by competition. Two technical experts from Sakrobotics lab Mr.Abhishek Thakur and Mr. Hegde guided the students on assembly of robots from very basic raw materials. There were mechanical parts like pvc pipes of specific size and dc motors in the assembly. Under water robots are of two types ROV (remotely operated vehicle) and AUV (autonomous underwater vehicle). Students prepared ROV type of robots in the workshop. On the next day a competition was organized for the participants in a 7' x 10' water tank. There were 72 participants in various groups. The team who covered the assigned path

in shortest time was declared winner. The event was covered by print media(like dainik bhaskar, sakal) and electronic media (ABP maza and Zee 24 Taas)



Underwater Robotics Competition

STUDENTS PARTICIPATION

- Total 54 students participated in 3-I Project & Model Competition held at C.O.E.T. Akola on 24/09/2016.
- Total 85 students were participated in Training program of SEED INFOTECH LTD. PUNE. Held at College of Engineering and Technology, Akola during period of 14/09/2016 - 05/10/2016.

CIVIL ENGINEERING



ENGINEERS

“The road to success is always under construction” Get it right....CIVIL

Expert talk

Department had arranged expert lectures for the students of Final and Third year

- Prof. A. P. Dange, Head of Civil Engineering Department, Rasoni College of Engg. Badnera Had instructed final year students for the subject Geotechnical Engineering - II. He had elaborated various topics of the subject with his experience of the field.(21/7/2016)
- Mr. V. S. Jamnekar, Deputy Engineer, Irrigation Department Amravati circle, engaged the classes of Third year Civil Engineering for the subject Reinforced Cement Concrete - II with design examples as a part of their curriculum.

Industrial visit

- Second year students visited the undergoing construction work of Science College at Babhulgaon under the guidance of Prof. A.T. Tathod and Prof. Ms. K. K. Ghogare on 04-Sep-2016. There students have been explained regarding the various aspects of construction materials and methods. As the construction is of framed structure, and is in progress students were guided about the reinforcement details, casting of concrete members, form work, scaffolding, and the equipments required for construction.
- Final year students visited Katepurna Dam and Water Treatment Plant at Mahan under the guidance of Prof. A.T. Tathod, Prof. Ms. A. R. Nikumbh & Prof. Ms. K. K. Ghogare to study the various components of dam. At water treatment plant students got the knowledge regarding the various treatment process involved in water treatment work.
- Third year student visited Shivani Airport at Akola and Shivani Shivapur Railway Station under the guidance of Prof. A.T. Tathod, Prof. Ms. A. R. Nikumbh and Prof. Ms. K. K. Ghogare to study the aspects of Transportation Engineering - II, At Shivani Airport, Mr. Ajay Shrivastava, Assistant Airport Manager, Nagpur interacted with the students and guided regarding various components of airport like Runway, Control Tower, Air Traffic Signal, Landing and Takeoff

operations etc. At Shivani Shivapur Railway Station, Mr. Vijay Telgote, Senior Technician, Southern Railway, interacted and guided to students about the various Track Operations, Signal systems, Level crossings, Loop line, Components of broad gauge track, Power backup to station etc.



Visit to Shivani Airport and Shivani Shivapur Railway Station at Akola

International conference and CESAA

- Civil Engineering Department played a vital role in organization of first International Conference on 23rd & 24th September. The conference was organized in collaboration with Indian society of technical education (ISTE) and Indian water works association (IWWA) Amravati chapter. All faculty members of the Department have presented their Research Papers in the Conference.
- Civil Engineering Student Academic Association (CESAA) Forum constituted for the year 2016-17 Prof. A. T. Tathod deputed as Faculty Coordinator for the forum and Mr. Nikhil Dewani final year student nominated as the President of the forum. Under this forum technical exhibition was organized on “Engineer’s day “. In this exhibition students prepared awesome working models in the civil engineering field. Five topper students of each class were felicitated at the hands of Hon’ble Principal and Head of the department in the function held on the same day.



MECHANICAL ENGINEERING



If you change the way you look at thing, the things you look at change

INDUSTRIAL VISIT :

Department of mechanical engineering organized the industrial visit to

- Parle Biscuit Factory, khamgaon for the students of final year mechanical engineering on 27/08/2016 for the benefit of introducing the practical knowledge regarding the subjects like automation and mechatronics. Parle biscuit khamgaon involved in production of biscuit with famous brand of Parle G and production of cream biscuit.



Visit at Parle Biscuit Factory, khamgaon

- Yash enterprises, khamgaon for the students of final year mechanical engineering on 27/08/2016. Yash enterprises is copacker of Hindustan unilever khamgaon for the famous brands of soap like “ PEARS” and “DOVE”. Along with the famous brands laundry soap production also carried out.



Visit at Yash enterprises, khamgaon

- Jain irrigation system limited was organized on 13/09/2016 for the benefit of introducing the practical knowledge regarding the subjects “ NON CONVENTIONAL ENERGY SOURCES” this visit was very informative as it involved 8 MW solar power plant, visit to biogas plant, visit to solar water heater division and solar water pumping unit. Visit to Gandhi research foundation was integral part of this visit.
- STATE TRANSPORT WORKSHOP Akola :This visit was organized for the benefit of introducing the practical knowledge regarding the subjects “AUTOMOBILE ENGINEERING”

Discover and determine!

MODEL EXHIBITION ORGANISED BY THE DEPARTMENT ON THE OCCASION OF ENGINEERS DAY,
27/09/2016



Inauguration Of Model Competition With Hands Of Hon'ble Principal Dr.S.K.Deshmukh



Inauguration Of Website Of MESAA and S.A.E Club With Hands Of Hon'ble Principal Dr.S.K.Deshmukh

Departmental website i.e. mechanical engineers students association (MESAA) and society of automotive engineers S.A.E was inaugurated by Dr.S.K.Deshmukh (principal), Prof.S.C.Makwana (HOD,MECH), Prof.C.V.Deshmukh (HOD,PROD) and other professors. Prof.R.D.Bhagat and Prof. M.S.lande highlighted the various activities related to the club.

TRAINING AND PLACEMENT CELL

Department of Training & Placement is involved to fulfill the demand of corporate world in terms of providing overall developed students as per their requirement. In View of this, T & P has done MOU with Seed Infotech Ltd. Pune to inculcate the knowledge of soft skill, aptitude & corporate etiquettes in final year. So that they can withstand in competition.

Department of training and placement had organized 36 hours “Campus Recruitment Training Programmed (CRTP)” of seed InfoTech pune, for final year students.

- Total 220 students had registered for CRTP .
- Soft skill sessions were conducted for first, second and third year students
- Aptitude training module was conducted for third year student
- CRTP had carried from 14th sept. To 5th oct.2016
- Soft skill sessions were conducted for Architecture.



Inauguration Of Campus Recruitment Training Programme (CRTP)” Of Seed InfoTech Pune With Hands Of Hon’ble Principal Dr.S.K.Deshmukh



Inauguration Of Campus Recruitment Training Program me(CRTP)" Of Seed InfoTech Pune in Presence Of Hon'ble Principal, Training and placement Officer and All Heads Of Department.

FROM EDITORIAL TEAM'S

We are indeed enthusiastic to publish the Eighth Issue of Technical News Letter. Meticulous efforts have been put forward to consolidate, capture all the events of various departments. We strongly hope this newsletter would serve to be more informative for faculty and students. We express our sincere thanks to Dr.S.K.Deshmukh (Principal), Dr.S.N.Nemade (Overall Coordinator) who have given us the opportunity to work on this. Any Suggestions and feedback will be most welcome.

Prof.R.S.Jaiswal

Prof.S.B.Ingle

Editorial Team

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