P E S COLLEGE of Engineering

Mandya—571 401, Karnataka, Estd. In 1962
(An Autonomous Institution affiliated to VTU, Belagavi)
Approved by AICTE, New Delhi
Grant in Aid Institution (Govt. of Karnataka)
Accredited by NBA (six Programmes) & Accredited by NAAC
Secured Rank 161 by NIRF-2019 Rankings, Approved by MHRD, Govt. of India

TEQIP-3
Technical Education Quality Improvement Programme

Chairman-BoG: **Dr. Ramalingaiah,** Principal & Director **Dr. H V Ravindra**
TEQIP Coordinator & Editor: **Prof. B Dinesh Prabhu**

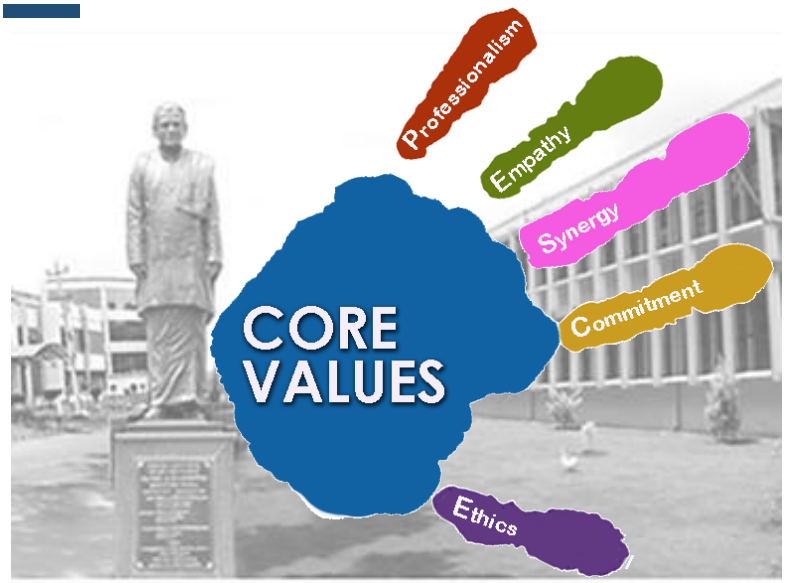
TEQIP-NEWS LETTER

Foreword

Vision:
"P.E.S.C.E. shall be a leading institution imparting quality engineering and management education developing creative and socially responsible professionals"

Mission:

- To provide state of the art infrastructure, motivate the faculty to be proficient in their field of specialization and adopt best teaching-learning practices.
- To impart engineering and managerial skills through competent and committed faculty, using outcome based educational curriculum.
- To inculcate professional ethics, leadership qualities and entrepreneurial skills to meet societal needs.
- To promote research, product development and industry-institution interaction.
- Highly committed to provide quality, concurrent technical education and continuously strive to meet expectations of stakeholders.



- The Project, Third phase of Technical Education Quality Improvement Programme (referred to as TEQIP-III) is fully integrated with the Twelfth Five-year Plan objectives for Technical Education as a key component for improving the quality of Engineering Education in existing institutions to improve their policy, academic and management practices.

Project Objectives:

- Improving quality and equity in engineering institutions in focus states
- System-level initiatives to strengthen sector governance and performance which include widening the scope of Affiliating Technical Universities (ATUs) to improve their policy, academic and management practices towards affiliated institutions, and
- Twinning Arrangements to Build Capacity and Improve Performance of institutions and ATUs participating in focus

Project Scope:

- Only the Government and Government aided AICTE approved Engineering Institutions/Engineering Faculty/ Engineering Teaching Department/Constituent Institutions of Universities / Deemed to be Universities and new centrally funded institutions in SCS will be the part of the project.
- An estimated 200 Government and Government funded engineering institutions, including Affiliating Technical Universities (ATUs), selected under different sub-components in one or two cycles.

Project Strategy:

- The project is implemented in alignment with the 12th Five Year Plan (2012- 17), based on faster, sustainable, and inclusive growth.

Project Design:

- TEQIP seeks to enhance quality and equity in participating engineering education institutions and improve the efficiency of the engineering education system in focus states.

1. TEQIP-III Assignments

The TEQIP Team and Institution Academic Team members assigned specific tasks related to the development of the Institution supported by TEQIP-3. This task may be a MoU with other elated institution or TEQIP-III assignments or related to Twinning programme that shall be carried out under project for better execution of the TEQIP-3.

~~~~~~

Type of Academic Activity	**TEQIP-III Project Progress Review Meeting**
Details of Academic Activity	Interaction Meeting Mentor and Mentee Institution
Faculty / Staff	• Dr. H V Ravindra Principal & TEQIP Director • B. Dinesh Prabhu TEQIP Coordinator • Dr. N L Muralikrishna Nodal Officer-Procurement
Date & Place	27th to 28th Jan 2018, BEC Bagalkot

Meeting of Mentor and Mentee of TEQIP- III Institutions of Karnataka along with their SPIUs convened by NPIU/SPIIU Karnataka (Nine Engineering colleges, VTU Belgaum and NITK, Surathkal) and their respective Mentee Institutions along with their State SPIUs was conducted in Bagalkot in association with BEC, Bagalkot on 27th and 28th January 2019. This is to provide a common platform to discuss about issues faced in project implementation and to initiate remedial measures and to expedite the project activities to achieve the objectives with in the stipulated period.

On the first day, the project activities of mentor and mentee institutions were reviewed by Prof. P. M. Khodke, Central Project Advisor, NPIU, Sri. H. U. Talawar, Director of Technical Education, Karnataka. Inaugural Function conducted after the Registration. Then the Project Progress Review followed by Presentation about the TEQIP activities carried out by respective mentor and mentee institutions. This thoroughly monitored reviewed and suggestions made by NPIU and SPIU officials for improvements. The afternoon session was used to Visit Places in and around Bagalkot.

Moreover, on the second day, Sessions on TEQIP- III academic activities by NPIU officials and sessions by experts and an information sharing on Adobe was done. A talk given on TEQIP Project - A boon for Technical Education by Sr. Consultant (Academic), NPIU. Talk on Curriculum Development by Prof. Ravindra Gudi, IIT Bombay held. Later the Topics on Digital Design-UI / UX & Foundations of Web Design, Digital Video- Foundations of Video Design and Production, Visual Design- Foundations of Design and Print Production and Interactive Design-Foundations of Animation and Interaction Design Technical Writing eLearning Content Creation was given by Sri. Supreeth Nagaraju A., Head Education, Adobe Creative Technology Academy. The session ended with concluding remarks for the two-day meetings. Afternoon session used for Visiting various Departments of BEC, Bagalkot, the hosting institution.

~~~~~~

Short Seminar Report ZEISS Seminar On CMM, 3D Scanner & Industry 4.0 Solutions

This seminar was organized by the Carl Zeiss India (Bangalore) Pvt. Ltd. ZEISS Group. The purpose of the seminar was to bring the product Portfolio of ZEISS India to introduce the advancement in 3D scanning Solutions and Optical measurements. One more session on Industry 4.0 Data Management System was organized to promote discussion on data management in industries. This seminar helped us to refresh our knowledge, to get to know new technologies in 3D scanning and industry standards in data management.

Type of Academic Activity	**ZEISS Seminar On CMM, 3D Scanner & Industry 4.0 Solutions**
Details of Academic Activity	Short Seminar
Faculty / Staff	1. Dinesh Prabhu. B 2. Dr. Murali Krishna. N. L. 3. Pavan. K. N. **4.** Rakshith Gowda. D. S.
Date & Place	18th December 2018 Senate Hall, Silent Shores Resort & Spa, Mysore

2. Twinning Programme activities

A good Mentor, in Twinning Arrangements, is a 'critical friend' to an institution. Someone who is committed to supporting both the needs of those institutions to which they have been assigned, as well as the needs of the TEQIP project overall. Mentors are principal project representatives and 'agents of change' who keep up to date with initiatives and developments related to the institution and the project as a whole. Mentors listen, understand, guide and advice - principally to support and assist institutions to stay focused on the goals and targets set by the institution in their Institutional Development Proposal and any institution strategic plan.

A good Mentor feeds back and explains to institutions what they find (good and bad practices) and bases their feedback on sound evidence. A good Mentor tries to leave an institution better than they found it. Some of the suggested activities under the scope of the project are, Improvement in Teaching, Learning and Research competence, Improve student learning, Student employability, Increasing faculty productivity and motivation. In total, establishing a twinning system between Mentor and Mentee Institutes for overall academic interaction between the institutions.

Few Aspects under twinning programme shall include, Implementation of curricular reforms, Exercise academic, administrative, financial and managerial autonomies and accountabilities, Improve student performance and evaluation, obtaining accreditation of eligible undergraduate and postgraduate programmes.

Details of Academic Activity	**Outcome Based Education and NBA**
Type of Academic Activity	Twinning Programme
Faculty / Staff	• Dr. H V Ravindra TEQIP Director • B. Dinesh Prabhu TEQIP-Coordinator • Dr. D R Umesh Asso. Professor • Girish Babu M C Asst. Professor
Date & Place	8th to 10th Oct 2018, Uma Nath Singh Institute & Technology, Jaunpur, Uttar Pradesh

A Twinning Programme conducted on advanced training about **"Outcome Based Education and NBA process".** In continuation with the first training programme regarding writing CO's for various courses for different programs, in this 2nd training programme, advanced training on OBE and NBA Process was given**.**

Further, following Points were discussed with UNSIET, VBSPU, Jaunpur, UP on 9th and 10th October 2018 during exit meeting as a part of Twinning Programme

- Induction programme for first year students.
- GATE enrolment and registration.
- Internship program for pre-final year and final year students.
- Developing a studio for recording MOOCs.
- C2C programmes regarding.
- To support necessary infrastructure for effective implementation of Swayam prabha programmes.
- Consultancy (establishment of Centre of Excellence) and R & D initiatives.
- Research o/p, papers and patents.
- Faculty pedagogical training and practices.
- Steps to improve student graduation /transition rates.
- Innovation start-ups.
- Technical talk by industry experts under industry-institute interaction.
- From mentor institute, teaching various needy courses to mentee institutes students.
- Procurement of equipment / software and training activities.
- Placement activities and Staff exchange program (teaching/technical staff).

Details of Academic Activity	**Minutes of the meeting of Board of Governors**
Type of Academic Activity	Twinning Programme
Faculty / Staff	B. Dinesh Prabhu TEQIP-Coordinator
Date & Place	27th Nov 2018, UNSIET Jaunpur UP

The first BoG meeting under TEQIP-III of mentee institute held at UNSIET, VBSPU Jaunpur UP. Honorable members actively participated and expressed their views, which witnessed by VC of the university.

Mr. Surendra Singh suggested that the undergraduate Engineering students lack in general the social and life related obligatory living environments and hence an utmost requirement of learning of human behavior, culture, ethics, personality development, etc., should imbibed with normal professional learning. It well accepted by the Board and was resolved to arrange for lectures within an Off Campus for the students. After taking the note on the recently organized Induction Program for B.Tech first year students as mandated by AICTE, New Delhi, members got interested into its proceedings. Prof. Dinesh Prabhu of twinning institution asked to crosscheck the continuity of the contents of the Induction Program by the students. Prof. L N Hazra suggested creating a mechanism of follow up of Induction program from the students to make the desired changes for the upcoming programs. Respected Chairman, Shri R K Upadhyay also proposed to go for Questionnaire feedback to check the progress. Mr. Animesh Bisaria emphasized the need for continued Yoga and Art of Living activities. The Board anonymously adopted these resolutions

Prof. Hazra suggested for time-to-time faculty, staff and students feedback to strengthen the system.

Mr. Shivraj Asthana emphasized on extra courses for the students as well as to go for some certificate programs/ online programs like Amazon Web Services (AWS) - Cloud Computing Services so that the students can compete in the requirement of present market.

~~~~~~

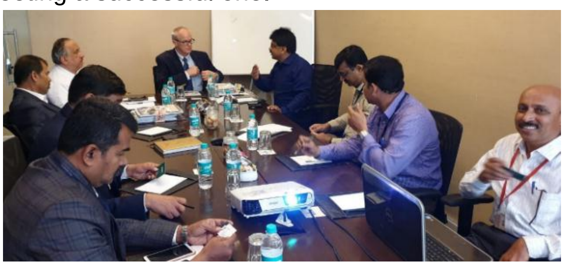
Details of Academic Activity	**President & Dean Academic Binghamton University, New York, USA**
Type of Academic Activity	Twinning Programme
Faculty / Staff	UP and PESCE Mandya Team
Date & Place	2nd Dec 2018, Oakwood Hotel Bangalore

At the outset, the Honorable Principal, Dr. H V Ravindra, of PESCE and TEQIP-III Director, extended warm welcome to Dr. Harvey G. Stenger and Dr. Krishnaswami Hari Srihari of the Binghamton University, New York, USA, thanked them for having spared their valuable time, and made it possible to attend the academic interaction meeting with their gracious presence. Dr. H V Ravindra also briefed about the background of establishing P E S College of Engineering under the directions of PET®. Prof. Harvey G Stenger, President of Binghamton University, New York, USA very well appreciated the PET ® founder Late K.V. Shankaragowda and the present President Dr. H. D. Chowdaiah, for establishing the P E S College of Engineering, with all the limitations being at a rural geographical region, to global heights. He commented on the commendable growth of the academic infrastructure facilities provided at the Institute and expressed that PESCE will certainly impart Global quality education to Students of rural and urban regions and to the society who will benefit to a great extent.

He congratulated the efforts made by the Hon'ble chairman of the PET® and wished that the PESCE will move forward in the right direction and will reach the greater heights to become one of the best Institutes in the state Karnataka, India. Prof. Harvey G Stinger expressed his willingness to continue MOU with PESCE, Mandya, with respect to the following aspects instantly:

1. To provide an opportunity for Final year students of PESCE to work on projects at
1. Binghamton University and further to support for Post-graduation.
2. To send the faculty of Binghamton university to train the students and faculty of PESCE,
3. On emerging technologies at PESCE, Mandya campus.
4. To provide facility for PESCE research scholars to work at Binghamton University.

Principal and all members of PESCE, Mandya, thanked Binghamton University for providing a MoU, opportunity for PESCE Mandya, to excel in Academic and Research work by working with Binghamton University to meet global standards at the end. Principal and all members of PESCE, Mandya, thanked members of Binghamton University for having spared their valuable time for making the Academic interaction meeting a successful one.




~~~~~~

Details of Academic Activity	**Discussions Related to TEQIP-III Twinning activities**
Type of Academic Activity	Twinning Programme
Faculty / Staff	UP and PESCE Mandya TEQIP-III Team
Date & Place	31st Dec 2018 to 01st Jan 2019, PESCE MAndya

Discussions Related to TEQIP-III, Twinning activities held on 31st Dec 2018 to 01st Jan 2019, at PESCE MAndya

Prof. Rajanish Bhasker, Procurements nodal officer of TEQIP-III Mentee institute, UNSIET, Jaunpur, UP visited our college discuss the academic and Twinning activities.

Prof. B Dinesh Prabhu, TEQIP Coordinator, Prof. M. C. Girish Babu, Academic nodal officer and Mr. Mahesha M S, Programmer were present during the discussion. Various activities to organize at both institutes discussed. A detailed discussions about Twinning Activities of TEQIP-III was carried out in length

\~~~~~~

Details of Academic Activity	**One-week training programme on NBA Process.**
Type of Academic Activity	Twinning Programme
Faculty / Staff	TEQIP-III UP Team
Date & Place	3rd to 8th January, 2019 at Mentor Institute PESCE, Mandya

One-week training programme on **NBA Process** was conducted, at Institute PESCE, Mandya, for faculty of our mentee institute (UNSIET, VBSPU, Jaunpur, UP) as a part of Twinning Programme during 3rd to 8th January 2019 in order to enable our mentee institute to apply for NBA accreditation.

A thorough training was given by the resource persons (faculty of PESCE, Mandya), during the scheduled exercise along with hands on training to the participants about all the Criterions as mentioned below.

Criterion-I: Vision, Mission and Programme Educational Objectives

Criterion-II: Program Curriculum and Teaching–Learning Processes

Criterion-III: Course Outcomes and Program Outcomes

Criterion-IV: Students' Performance

Criterion-V: Faculty Information and Contributions

Criterion-VI: Facilities and Technical Support

Criterion-VII: Academic support units and teaching – learning process

Criterion-VIII: Governance, institutional Support and Financial Resources

Criterion-IX: Continuous improvement.

Criterion-X: Governance, Institutional Support and Financial Resources

The participants had a rigorous training exercise and expressed satisfaction about the delivery of the contents by the resource persons. It was one of the effective and successful Twinning Programme carried out at our institute.

\~~~~~~

One-week training Programme on NBA Process. Dr. Ajit Prasad S L Dean Research, Issuing the Certificate to Participants

One-week training Programme on NBA Process. Dr. K Narasimachary CEO Issuing the Certificate to Participants

Details of Academic Activity	**Online MOOCs and NPTEL Swayam**
Type of Academic Activity	Twinning Programme
Faculty / Staff	UP and PESCE Mandya TEQIP-III Team
Date & Place	4th to 8th Feb 2019 at Mentor Institute Mentor Institute VBSPU. Jaunpur.

Was conducted by **"Online MOOCs and NPTEL Swayam"** on this ground, program was conducted by Anand M J, MOOCs Coordinator, PES College of Engineering, Mandya. On 9th February 2019. Introduction to MOOCs: definition and characteristics Massive open online courses (MOOCs) are a flexible and open form of self-directed, online learning designed for mass participation. There are no fees or entry requirements and no formal academic credit is available. While completion rates are low (on average ten per cent1) due to varying motivations for enrolling in a MOOC, absolute numbers of participants who complete are usually high. While access to the course material is free, MOOC platform providers often offer certificates of completion at a cost. MOOC platforms provide institutions with cloud-based hosting environments for delivering courses, offering scale and functionality while the institution provides the course material and reputational value. The major English-medium MOOC platform providers are Courser, edX, Canvas and Future Learn; and there is a multitude of smaller platforms. Each platform has its technical infrastructure and business model; for example, some platforms align themselves with institutions, whereas others allow individual educators more freedom.

~~~~~~

Details of Academic Activity	**Teaching Critical Subjects to Students of Unset-Power Electronics**
Type of Academic Activity	Twinning Programme
Faculty / Staff	UP and PESCE Mandya TEQIP-III Team
Date & Place	4th to 8th Feb 2019, Mentor Institute VBSPU. Jaunpur.

As a Part of Twinning Program between PESCE Mandya and UNSIET, Jaunpur. The following Faculties from Electrical & Electronics Engineering Department of PESCE were assigned the task of **"Teaching Critical Subject - Power Electronics"** to the third year students of UNSIET from 4th February to 9th February 2019. The main objective of this 5 day teaching session was to introduce the students to the concepts of Power Electronics, to familiarize the students with the basic concept of various semiconductor devices, their control strategies, advantages and their applications to develop various power converter circuits and to analyze them with varieties of load. On Monday 4th February 2019, Prof. Tiwari introduced the speakers to the gathering at the training hall of the university at Jaunpur. It was a pleasant inauguration of the program at 10:30 am, followed by session one which was handled by Dr.P.S.Puttaswamy with the introduction to the students about need of power electronics, its evolution, development of various semiconductor devices, ratings currently available, and their applications to develop various types of power converters. The most important semiconductor device known as thyristor. The static and dynamic characteristics of the thyristor discussed. Thyristor rating and the need of various protection circuits such discussed about the basics of ,power transistors , their constructions along with the operating characteristics, the significance of di/dt and dv/dt were also discussed in detail. Thyristors series and parallel operations, their requirement and precautionary measures taken to operate them under these conditions. Further, he had discussed the basics of discussion on single-phase AC voltage controllers such as integral cycle control and phase control. The single phase ACVC with restive and inductive loads analyzed to provide the idea to design an ACVC for their application requirement. Followed by this BNH given the introduction, classification and their applications of choppers the different types of choppers and their control technique; are discussed in detail, addressed the students with concepts of phase controlled converts their classifications. Also carried out the detailed discussion and analysis of different types of single phase controlled converters with resistive and inductive loads. The program concluded after taking a valuable and useful feedback of few volunteers among the participants.


~~~~~~

Details of Academic Activity	**Teaching Critical Subjects to Students of UNSIT---SIGNALS & SYSTEMS**
Type of Academic Activity	Twinning Programme
Faculty / Staff	UP and PESCE Mandya TEQIP-III Team
Date & Place	4th to 8th Feb 2019 at Mentor Institute Mentor Institute VBSPU. Jaunpur.

As a Part of Twinning Program between PESCE Mandya and UNSIET, Jaunpur. The following Faculties from Electronics & Communication Engineering Department of PESCE were assigned the task of **"Teaching Critical Subjects to Students of UNSIT-Signals & Systems"** to the second year students of UNSIET from 4th February to 8th February 2019.

The main objective of this 5 days teaching session was to introduce the students to the concepts of Signals and Systems, Familiarize the students with the advantages of the subjects and provide them with the knowledge of tools and systems, which can help them to analyze and appreciate the vast application of the subject.

On Monday 4th February 2019, Prof. Thivari introduced the speakers to the gathering at the training hall of the university at Jaunpur. It was a pleasant inauguration of the program at 10:30am, followed by session 1 which was handled by Mr. M.J ANAND (M.J.A) wherein he introduction the students to SIGNALS and explained the classification of signals and explained the criteria on which the signal classification can be done. It was a good interactive session where students had many opportunities to understand the most important information required to understand the subject. The students also took the opportunity to ask few questions related to GA TE exams and it addressed in the session. Mr. Revanesh M (MR) addressed the afternoon session where more emphasis given to problem solving which was helpful for most of the participants. The students were a few assignment problems to improve their knowledge and skills.

The ROC of Z-Transform and its Properties, the session also utilized to create a Classroom using Google Classroom app and students were to utilize the platform by registering to the same. Both (Mr. M.R & Mr. MJA) the faculties that helped the students again to enhance the skills solved more number of numerical all throughout the day. The session concluded by introducing the students to Block Diagram Representation of Systems using LAPLACE and Z Function.

Details of Academic Activity	**Empowering Women to claim the Corporate ladder**
Type of Academic Activity	Twinning Programme
Faculty / Staff	UP and PESCE Mandya TEQIP-III Team
Date & Place	4th to 8th Feb 2019 at Mentor Institute Mentor Institute VBSPU. Jaunpur.

"Empowering Women to claim the corporate ladder" on Twinning Programme at 4th to 8th Feb 2019 at Mentor Institute Mentor Institute VBSPU. Jaunpur. Women's empowerment is the process in which women elaborate and recreate what it is that they can be, do, and accomplish in a circumstance that they previously denied. Women empowerment helps to make them well educated and leave them free so that they are capable to take their own decisions in any field. The need of women empowerment arose because of the gender discrimination and male domination in the Indian society since ancient time. Entire nations, businesses, communities and groups can benefit from the implementation of programs and policies that adopt the notion of women empowerment. Empowerment of women is a necessity for the very development of a society, since it enhances both the quality and the quantity of human resources available for development. Empowerment is one of the mam procedural concerns when addressing human rights and development. On Monday 4th February 2019, Prof. Thivari introduced the speakers to the gathering at the training hall of the university at Jaunpur. It was a pleasant inauguration of the program at 10:30 am, followed by session 1, which handled by Mrs. Pooja Nagpal on Women empowerment and Personality development.

It was a good interactive session, which helped the participants to break the eyes. During this session time management, stress management, conflict management, body language, dress codes, present ability, etc. taught to them. The post lunch sessions were handles by Mrs. Chandrika R on women entrepreneurship and success stories of women. The personality and leadership traits of eminent women achievers from various fields who are true role models and who have been inspiring millions of women discussed.

3. Training Programme Workshop, STTP, FDP……

The Professional Skills and Technical Training Program is responsible for the design, development, and delivery of competency-based courses to meet critical skill development needs. In addition to conduction of Training Programme Workshop, STTP and FDP, the Professional Skills and Technical Training Program provide a variety of ancillary support to academic organizations. FDP cover areas such as technical education policy, new concepts, methods and techniques, theory and skills development and up gradation of pedagogy educational technology, motivation, communication skills, management and other relevant issues to keep pace with the changing scenario in Technical Education. Training Programs designed to enhance the teaching and other skills of the faculty, and to make them aware about modern teaching tools and methodologies. It provide an opportunity to acquire knowledge about current technological developments in relevant fields. It will not only promote the professional practices relevant to technical education but also motivates the faculty to achieve competitive teaching and learning environment, thus channelizing development with respect to academic qualifications and personal matters.

~~~~~~

3 (a) Programmes Conducted for Teaching, Technical Faculty & Students

1. Being Innovative and Entrepreneur:

"Being innovative and Entrepreneur" Workshop on 5th Semester students at 8th to 15th September 2018. Dr. Sudeendra Kaushik CEO Co-founder of PRASU started his presentation with a brief introduction on challenges faced during innovation. Then the speaker addressed the ways in innovating. Problems are to be identified which are worth solving, but not creating a problem that suits the innovation. There were discussion about how to generate ideas. Activities performed to demonstrate how ideas generated. Students given few moments to think of a valuable problem and find solution for them. Later they were platform to discuss about their innovation.

During this, Ms. Pragya rightly made students aware of the terms problem statement and benefit statement. Students who presented their ideas during previous session were explaining the problems and this was not the way to reach the common person in introducing their innovation. She made students to differentiate between problem statements and benefit statement, and later those same students made to present their ideas, but this time they had to talk about the benefits of their innovation. By this, the evolution of phases of innovation of a product introduced. Later in the day, Students taught the approaches in idea generation. Students were acquainted with relation between a useful problem and solution. Hangman mapping introduced in finding the cause of a problem, which students related to many of the problems in and around their world. Thinking Execution Associating (TEA) skill model explained and related them to the three phases of innovation. Another Brainstorming session conducted to conclude the day's session.

~~~~~~

2. Research Literacy Academics Writing, E-Resources and Research Quality Indicators:

Report on **"Workshop on Research Literacy: Academic Writing, E-Resources and Research Quality Indicators"** One day workshop on Workshop on Research Literacy: Academic Writing, E-Resources and Research Quality Indicators was organized on 22nd September 2018 at PESCE by PET Research Foundation organized to enlighten the research fraternity including research supervisors and scholars on various major aspects of research. The workshop witnessed 120 registrants, resource person Dr. IRN Goudar gave an overview of diverse technical and management e-resources and enlightened the audience on importance and use of reference management tools to avoid plagiarism in scholarly works. Audience provided with intensive training on quantifying their research output using Google scholar, Scopus and Web of Science. Kodandarama Librarian and Anand M. J. Assistant Professor Electronics and Communication Engineering coordinated the workshop. Dr. Ajith Prasad S. L. Dean Research emphasized that the workshop benefitted the research community of PESCE to bring out more quality researches in future while rendering vote of thanks.

3. Machine/Deep Learning with MatLab:

Department of Electronics and Communication Engineering along with Department of Computer Science Engineering, Information Science Engineering and Electronics and Electrical Engineering organized a pre-conference tutorial on **"Machine/Deep Learning with Mat lab"** as part of ICERECT-18 on 22nd August 2018. The event conducted as a tribute to Dr. V.Sridhar recognizing his long service to PESCE at various capacities. The Tutorial started at around 10 with a welcome speech from Dr. K.A.RadhaKrishna Rao where he welcomed the team from MATHWORKS Ltd., He also introduced briefly about Amod Anand kumar and his team members Mr.Pramod Kumar Naik and Mr. Abishek Pandey who accompanied him for the talk. Dr.KAR also welcomed all the participants for the event and briefed them about how they can make the best use of this Tutorial for research related activities and teaching and also explained the significance of how Machine Learning has turned nightmares into reality in present industrial scenarios.

Dr. Amod Kumar started the tutorial session where he introduced the participants to Machine Learning by considering few examples he also shared knowledge about typical computer Vision Workflow and also explained how Traditional approach differ over MACHINE LEARNING Process. He briefed the participants about how to identify the objects and how to use MACHINE LEARNING for the purpose of it. Dr. Amod Anandkumar who briefly described Nvidia Tensor RT and how it can used with MATLAB tool addressed the Final session again, he also explained about Deep-Learning Workflows with appropriate example using cars scenario. He also briefed about MATLAB Deep Learning Framework and its application from a research point of view and explained how he had used the same in his Doctoral project. The presentation also addressed concepts of

- Labelling large amount of images
- Hyper parameter tuning of deep neural networks
- Scaling up training to GPUs, multi-GPUs and clusters
- Deployment workflows for desktop, web, and cloud
- Deployment workflows using automatic code generation for embedded platforms (NVIDIA GPU, Intel CPU, and ARM CPU).

~~~~~~

4. Drives and Control

Department of Electrical & Electronics Engineering Seminar on **"Drives and Control"** at 26th Sept. 2018 With ever-increasing concerns over the accurate control of Motors, there is a fast growing interest in various Speed control Techniques adopted in AC & DC Drives to the researchers and for Industrialists. As AC & DC Drives is a core subject in Engineering, it is a pressing need for the students to know about latest trends on Drives and control. The technical talk arranged for the seventh semester students on Drives and Control from the Industrial Expert. The objective of the talk is to spread light on the scenario of various electrical drives available, their applications and control. There is an essential requirement for the students to understand about various types of drives and their controlling techniques. The talk has given sufficient idea of the current control strategies and some basic idea of the fuzzy logic and neural network. Energy supplied to the process through the motor shaft. Two physical quantities describe the state of the shaft: torque and speed. To control the flow of energy we must ultimately therefore control these quantities.

In practice, either one of them is controlled or it is as "torque control" or "speed control". When the VSD operates in torque control mode, the load determines the speed. Likewise, when operated in speed control, the torque determined by the load. Initially, DC motors used as VSDs because they could easily achieve the required speed and torque without the need for sophisticated electronics.

However, the evolution of AC variable speed drive technology has driven partly by the desire to emulate the excellent performance of the DC motor, such as fast torque response and speed accuracy, while using rugged, inexpensive and maintenance free AC motors.
~~~~~~

5. Project Based Learning

Workshop on **"Project Based Learning"** has Department of Electronics & Communication Engineering 3rd Semester Students at 29th to 31st October 2018**.**

Objectives:

1) Student is able to build a basic circuit using bare boards. 2) Student is able to solder and de-solder components on bare board. 3) With this knowledge, students are able to design and build circuits for mini project.

Outcome achieved:

- Students were provided a platform to enhance their skills in circuit design
- Students discussed concepts of basic electronics and demonstrated it using circuit rig up.
- Students understood importance of fundamentals of electronics.

Materials used: Power Point Presentation, sound system, Bare Boards, Soldering Leads, electronic components. Mr. Nandish started his presentation with a brief introduction on introduction to Basic components used in electronics. Then speaker discussed the different types of passive components such as resistor Capacitor and inductor. He elaborates the discussion on the topic with different types of resistors that is Carbon resistor, Wire wound resistor and Potentiometer. Different types of Inductor Air core inductor. Iron core Inductor and laminated core inductor. Different types of capacitors, Parallel plate capacitor, Ceramic Capacitor (Dielectric capacitor and electrolyte capacitor). Later speaker discusses about the analog and digital systems, advantages of digital system over analog systems after that talk about the active components and elaborate the discussion with detail explanation of transistor working with characteristics. Discuss the components required to build the metal sensor circuit they are relay switch, transformer and its types that is step up and step down. Demonstrate the soldering using PCB to the students. Students are supposed to learn about how to solder the components on PC. Later students did LED glow using relay switch. In the last session, they done mini project on metal sensor.

~~~~~~

6. REVIT Software

One day Workshop, on **"Revit Software"** Department of Civil Engineering at 30th October 2018, Workshop is designed to give the students an overview of Autodesk Revit which will aid in understanding the importance of the use of software tools in civil engineering. There is a need to bridge the gap between the academia and industry to provide employment opportunities to the young engineers meeting the ever-increasing skill needs of the industry. The Revit BIM (Building Information modelling) software is a digital design software package, which allows us to create models and drawings, with a focus on the core tenets of building information modelling.

Benefits of workshop:

- Current placement trend involves hiring candidates with hands on training on 3D modelling software. The workshop provides a holistic perspective of modelling of building using REVIT software.
- Revit is a building information modelling (BIM) software for civil engineers, structural engineers, architects, designers and contractors developed by Autodesk. It allows users to design building, structure and its components in 3D, annotate the model with 2D drafting elements and access building information from the building model's database.
- Revit will ensure us to waste less time dealing with the little manual tasks that so often delay projects.
- REVIT helps cut down on paperwork, which makes projects more sustainable and cost-effective. There is also no repetition work, and Revit provides us with all the tools we need to create sustainable structures.
- Revit caters to the specific needs of architects and engineers. The software also incorporates BIM. We can enter direct data, which will affect how our models look.
- This workshop helps the students for better placement opportunities.


~~~~~~

7. Mentor visit under TEQIP-III for Assessing Performance of Mentor institution

The NPIU assigned mentor Dr. Mukul S Sutaone visited our institute on 21st and 22nd October 2018 to assess the performance under TEQIP-III and to suggest as mentor.

On the first day of the visit, Principal Presented about activates of institutions as well as TEQIP-III. Mentor interacted with HODs & Deans and visited all the Departments. A detailed discussion to place with TEQIP Functionaries and Nodal officers. Mentor also discussed on Performance Auditor's report. At the end of the day, displaying salient Students' activities/Clubs also took place.

During the second day mentor had meeting with the Chairman BoG, TEQIP-III to update and assess about activates of TEQIP-III. In addition, meeting with selected faculty members of all branches followed by meeting with selected technical Staff members of all branches and Ministerial staff took place. Mentor had Meeting and interaction with selected UG & PG (and PhD) students regarding utilization and expectation about TEQIP-III and Institution. At the end of day exit meeting with Principal, Deans, Heads and TEQIP Functionaries took place and mentor elaborated about his observations and suggestion about activates of TEQIP-III at our Institutions.


8. Home Automation and Robotics using Arduino Microcontroller

Workshop on **"Home Automation and Robotics using Arduino Microcontroller"** has Department of Electronics & Communication Engineering on 5th Semester Students at 1st to 4th November 2018.

Objectives:

- Student is able to understand the importance of Embedded C.
- Student is able to create small IoT based projects
- With this knowledge, students are able to design and build circuits for mini project.

Outcome achieved:

- Students were provided a platform to enhance their skills in Embedded C and Programming
- Students discussed concepts of relay and motors to build few IoT applications.
- Students understood importance of programming C in Embedded.

Mr. Sreenivasa Setty founder and CTO of SST Technologies started his presentation with a brief introduction on introduction to Arduino UNO in day 1. Then speaker discussed the importance in C-programming codes to execute the project. There were discussion about how to generate the hardware component. Later speaker used some of the hardware interfaces like LED, RGB and LDR. Students were-given some Arduino models to demonstrate the some projects using models. Students are supposed to learn about how to connect model, how to interface the program on the model which has given. Later students did some of project under the Arduino board and they give platform to discuss about their ideas. Speaker introduced the Bluetooth, characteristics of Bluetooth, its working and many more. He also gave some information on different types of communications. He then started with some home automation projects, which includes this Bluetooth process. Later students are some projects under home automations. Further, they have given some hands on project to learn as if Bluetooth controlled LED. Bluetooth controlled LIGHT. Speaker then gave some important point on robotics and he discussed how to work robotics. Later in the day Students were taught with how to interfaces projects in a models.

9. Enhancing C Programming skills

Workshop on **"Enhancing C Programming skills"** at 1st to 3rd November 2018, 5th Semester students Electronics & Communication Engineering.

Objectives: Student is able to understand the importance of C programming., Student is able to differentiate between coding and efficient coding., with this knowledge, students are able to code efficiently for mini project.

Outcome achieved: Students were provided a platform to enhance their skills in C and Programming. Students discussed concepts Arrays, Pointers and Structures. Students understood importance of programming C effectively.

Report must include following enclosures:

- Profile of the resource person/organization with contact details
- Statement of expenses
- One page summary
- Photos of the occasion
- Feedback summary/Data analytics wherever applicable

Mahesha Padyana Managing Director, CloudE, started his presentation with a brief introduction on C programming. Then the speaker discussed the topics Operators and its precedence Bitwise, logical operations, implicit conversion Issues in mixing variables, Control Flow Functions and passing parameter, and given introduction to topics of Arrays & Pointers. Exercises given to students to understand the concepts effectively.

During second day of the workshop, a detailed explanation about the topics Arrays & Pointer, Passing Arrays and pointers to functions, Variable scope/life and Working with multiple files, header file concepts discussed. Along with discussion, students given with C code snippet to enhance their skills in programming.

During the last day of the workshop, advanced concepts of C Programming such as Structures and Unions, pointer to structures, passing structures to functions, Macros, arguments to main, Files and streams discussed. Later in the session, students taught how to do mini project using C.

Conclusion: The speaker effectively discussed the basic and advanced concepts of C programming. There were lot of activities and exercises given to students that helped students to enhance their programming skills. Lastly, students taught how to do a project using C and encouraged to solve real-world problems using their acquired programming Skills.

~~~~~~

10. Patent Review Meeting

Members, Dr. D.K Subrahmanya Professor (Rtd.) IISc. Bengaluru, Dr.V.Sridhar, Principal & Professor (Rtd.). Dr. K A Radhakrishnarao, Prof and Head, Department of ECE, PESCE, Mandya. Dr. S L Ajith Prasad, Prof, Department of ME, PESCE, Mandya. Mr. B Dinesh Prabhu, Associate Professor, Department of AE and TEQIP Coordinator, PESCE, Mandya, were present during the "**Patent Review meeting"** which was held on December 24th, 2018.The TEQIP-III funds paid towards academic accomplishments (May-Sept-2018) like National Level Competition and patent also discussed at the beginning of the meeting. Funded accomplishments are,

- Single wheeled electric vehicle -**No. 2018410260027.** By Mr. Shreyas, Final year ME (UG), under the Guidance of Dr. C J Gangadharagowda and
- National Level Competition -**SAEINDIA** Electrifying Green Aspiration (EGA)
  (a) Vidhwegh Electrified & (b) Vidhwegh Reenergized, and

Further, Dr Shylashree. N and Mr. Shreyas, student of Final year ME (UG) presented about their Concepts for seeking Funding from TEQIP-III for applying Patent

Dr. D.K Subrahmanya Professor (Rtd.) IISc. Bengaluru, suggested to review and Recommended.

- Dr. Shylashree. N, to rework on the both the topics (a) Method, System and Apparatus for Fast Multi Scalar Elliptic Curve Point and (b) Method, System and Apparatus for Efficient High Speed Elliptic Curve Point. Further, he suggested narrowing down on patent application and applying it separately.
- Mr. Shreyas, to Change the title of "Series Hybrid Electric scooter" appropriately, name the voltage regulator based on its function, mention change in design and Improvement operationally and acquire assistance from Elecl. Engg. Stream.
~~~~~~

11. Block-chain Technology & Cloud Computing using amazon Web Service

Block-chain technology & cloud computing using Amazon web service Faculty development was inaugurated by Principal Dr H V Ravindara on 21st January 2019 at 9.30 AM. Principal addressed the participants about the need of knowledge on new technology.

The first two days sessions on "Block-chain, Crypto-currency and IBM Hyper-ledger" has provided deep insights into foundations of Block-chain, crypto-currency and IBM Hyper-ledger Fabric. The faculty are able to learn new technology and will be able to establish a private Block-chain and create their own crypto currency. Various industry use cases were discussed which will help faculty to do further research on various challenges of Block-chain also do involve students also in the Final Year Projects which will increase the employability of the students in the campus interview. The faculty enriched with lot of knowledge on various topics like consensus algorithms, Proof of Work, Proof of stake.

The participants on 23rd, 24th and 25th learned the various concepts of cloud computing using Amazon web service like brief overview on Cloud Computing, Various Services provided by AWS. With hands on session, participants worked on various services of AWS such as VPC, Subnet, Route Table, Internet Gateway, Region, Zone, Launch EC2 Windows Server, Connect Linux server using Putty. The other services covered are Hosting Applications from Desktop; create a server backup using Image. Create Storage Space using AWS S3, Elastic IP Back up and Launch a new instance using Back-up. Resource management in cloud: Load Balancer and Auto Scaling Group, AWS-Eclipse Integration Connecting RDS and Java Applications. Demonstrating Load Balancer and Auto Scaling Group Launched RDS Server and connected to RDS using MySql Workbench. Demonstrate Identity and Access Management, Sample Exercises, ConnectingEC2 command prompt to RDS server Demonstrated PHP code that will fetch data from RDS server that will run on EC2 instance demonstrated PHP code that will fetch data from RDS server that will run on local server, AWS - Eclipse integration. Demonstrated AWS Dynamic Java project on eclipse. Demonstrate AWS Java project on eclipse. Connect RDS and Java applications through Eclipse, Exercises on Java and J2EE Application on AWS using Eclipse.

~~~~~~

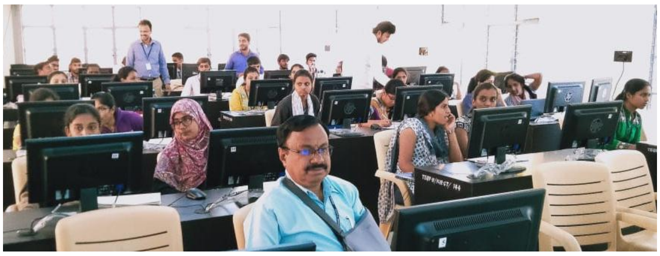
12. Typhoon HIL Technology

Training Program on “Typhoon HIL Technology”, 1st February 2019. Organized by Department of Electrical and Electronics Engineering, PESCE, Mandya. The FDP started with the formal inaugural function. The guests for the function was Dr. P S Puttaswamy, Prof. & Head, Dept. of E&E Engg., Mr. Shanshank Kumar, Application Engineer, Quarbz info systems & Mr. Sudip T O, Support Engineer . The welcome speech was conveyed by Dr. P.S Puttaswamy, HOD, dept. of E&E Engg., followed by briefing about the workshop and handed over dais to Trainer to start the technical sessions.

The presentation started with introduction to virtual simulation environment its role in design and development various models in the field of power systems, power electronics and renewable energy generation. Followed by HIL Software overview its toolbox how a HIL tool chain enables models to run on a PC instead of an HIL device. Use of HIL SCADA while simulation is running explored.

Afternoon session was an hands on lab session, taken over by Mr. Sudip T O, support engineering, Installing software Exploring various parameters such as editor, emulator, SCADA, Script etc., Practicing few examples such single & three phase inverter design Exploring demo programs on PV Systems.

The one-day training program helped in develop an understanding of the virtual HIL Device Typhoon software and it gave an opportunity for implementing or solving real time problem in simulation environment better understanding of the technologies and its potential advantages and provoked interest among the student interested in research to further explore the tool in research area. All the sessions were very much informative. The discussed areas are of great benefit for the participants as the topics match with the current working domain. Participants were enlightened with the most widely used advance technologies in this domain. This in turn will help in research activity and placement opportunity.


~~~~~~

13. Application of Data Science & IoT

A one week faculty development programme on "APPLICATION OF DATA SCIENCE AND INTERNET OF THINGS (IoT) (With hands-on)" under TEQIP, Phase-III was held at the Department of Information Science & Engineering of P. E. S. College of Engineering from 7th January to 12th January, 2019. The FDP aims to provide opportunities to faculty members, research scholars and post graduate students to enrich their teaching skill and research in the field of Data Science, Wireless Sensor Networks and Internet of Things. The Programme also intends to develop the knowledge of participant's simulation with advanced software in the relevant field for inculcating learning values in students and guiding and monitoring their progress. 50 participants attended the FDP from faculty members of ECE, CSE, ISE, MCA and Mathematics department.

All the sessions were very much informative. The discussed areas are of great benefit for the participants as the topics match with the current working domain. Participants were enlightened with the most widely used advance technologies in this domain. This in turn will help in teaching and research activity.

~~~~~~

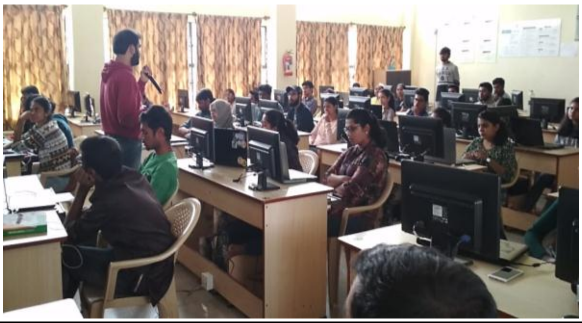
14. Industry Orientation Residential Winter Camp on Free Software/ Hardware

The FSMK Winter Camp 2019 took off on Sunday, 20th of January, at PES College of Engineering, located amidst the peaceful city of Mandya. There were 160 participants present from different colleges all over Karnataka namely, Mysore, Bangalore, Hassan, Tumkur, Mangalore. All the participants were provided hot and Delicious breakfast at 8:00 am in the morning. At sharp 9:00 am, the 3 tracks namely, Data science and Artificial Intelligence, Cloud Computing and DevOps, Open Hardware and Internet of Things, started in respective buildings within the vast campus of PESCE. All the 3 tracks were taken up by the talented and dynamic speakers from FSMK, who gave the good start to the camp. The first session scheduled from 9:00 am to 10:30 am, where the participants introduced to their respective tracks.

Mr. Ram held the non-technical talk open session in the placement auditorium about various topic Privacy. The session included the discussion of various proprietary software's like Facebook, Microsoft, Apple; Amazon etc. and the discussion had the privacy policy about Adhaar card.

At 5:00 pm, kind of refreshments given to the volunteers and participants. The informal discussion started at 7:00 pm involving all the participants and speakers near the boy's hostel. Curious topics and questions about free software brought up in the discussion, which helped everyone to grab loads of information and knowledge about the free software as well.

At 8:30 pm, dinner arranged to all the participants in the boys hostel mess. Thus, in this manner, every day of the FSMK Winter Camp satisfactorily completed with the various activities mentioned above. On the last day of the camp, every participants and volunteer provided with Tee - shirt from FSMK. In the Afternoon, Mr. Kiran Chandra (General Secretary of FSMI) gave the Non-technical talk about tech for democracy. The Talk included the data being stole from the proprietary software like facebook, Microsoft, Apple, Instagram etc. Also, the generation gap of technology and revolutions that are taking place in the technological fields, how the unwanted Adds are being posted on our websites from the opening of one site, also the stealing of privacy from the social media were explained. The talk gave a clear idea about the election that is being affected by the social media, and the revolutionary steps that are needed to be taken in order to make sure the 2019 election would be done in a justice way and the democracy is restored. The survey of Facebook in recognizing people based on caste and community and the level of their economic status explained. Along with this, a question answer session also held, were many of them participated to clarify their questions and get awareness about the upcoming event? During the session, the melodious FSMK winter camp-2019 song sung by GLUG band, Hassan. Later, the certificates distributed for the respective tracks and a group photo captured.


~~~~~~

15. HACKMANIA 1.0

Hackmania1.0 is Karnataka State Level Hackathon and celebration of learning, building and sharing! Every year, we bring together all the best and brightest hackers from Karnataka for 12 hours of coding, designing, and packed fun.

We will provide all the resources, mentorship and food to do your thing; all you need to bring is your creativity and ideas. Hackmania 1.0 is open to hackers of all levels: no matter if, you are a beginner or veteran.

We at P.E.S. College of Engineering, Mandya have organized an event called Hackmania 1.0 in order to get the talented students all over Karnataka. The event was on 9th February 2019. It is a group event where a group may have minimum on and maximum four. The below are the details of the Hackmania1.0 The innovative idea presentation and implementation carried out in the Computer science department lab. All the requirements of the students fulfilled. Students started downloading the necessary tools and started implementing their innovative ideas. The Hackmania1.0 is a collaborative event with IEEE-PESCE and ISTE student chapter. The registered participants has to submit the abstract about the problem statement on the domain that they have selected on or before 5th February 2019. The abstracts will be cross- verified and filtered by the judges and selection process mail will be sent to participant to bring the solution for the abstract in the major event which will be on 9th February 2019.Finally the Winner and runner up prizes will be announced. The total number of participants that are expected are 30-40 teams (includes both IEEE and Non IEEE members) considering four in a team and 11 teams came to picture. During the event, we are providing Lunch and refreshments to all the participants. The participation certificates will be to all the participants. The cash prize have been awarded to both Winners and Runner Ups along with appreciation certificate and the cash prize for winners is Rs. 10,000/- and Runner Up is Rs. 5000/-. The event was proposing development and implementation of innovative ideas using new tools. Almost everyone has a smart phone; Smartphone penetration has reached highest in human history. We propose a mobile application that can describe what is in the surroundings and read text wherever the camera is pointed using natural scene detection and machine learning techniques for people suffering with these conditions as well as complete blindness with some initial help. The app is very free and used by patients when there is no one around to guide them.

~~~~~~

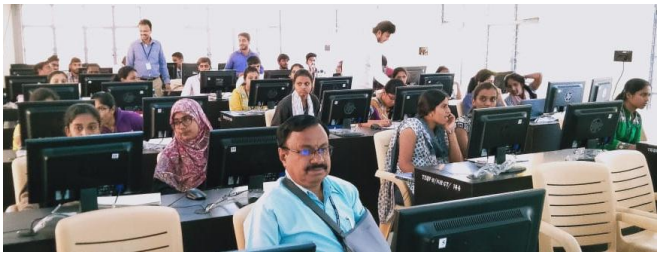
16. Typhoon HIL Technology

Training Program on “Typhoon HIL Technology”, 1st February 2019. Organized by Department of Electrical and Electronics Engineering, PESCE, Mandya. The FDP started with the formal inaugural function. The guests for the function was Dr. P S Puttaswamy, Prof. & Head, Dept. of E&E Engg., Mr. Shanshank Kumar, Application Engineer, Quarbz info systems & Mr. Sudip T O, Support Engineer . The welcome speech was conveyed by Dr. P.S Puttaswamy, HOD, Dept. of E&E Engg., followed by briefing about the workshop and handed over dais to Trainer to start the technical sessions.

The presentation started with introduction to virtual simulation environment its role in design and development various models in the field of power systems, power electronics and renewable energy generation. Followed by HIL Software overview its toolbox how a HIL tool chain enables models to run on a PC instead of an HIL device. Use of HIL SCADA while simulation is running explored.

Afternoon session was an hands on lab session, taken over by Mr. Sudip T O, support engineering, Installing software Exploring various parameters such as editor, emulator, SCADA, Script etc., Practicing few examples such single & three phase inverter design Exploring demo programs on PV Systems.

The one-day training program helped in develop an understanding of the virtual HIL Device Typhoon software and it gave an opportunity for implementing or solving real time problem in simulation environment better understanding of the technologies and its potential advantages and provoked interest among the student interested in research to further explore the tool in research area. All the sessions were very much informative. The discussed areas are of great benefit for the participants as the topics match with the current working domain. Participants were enlightened with the most widely used advance technologies in this domain. This in turn will help in research activity and placement opportunity.


~~~~~~

17. Contribution to Agriculture Engineering

Workshop on **"Contribution to Agriculture Engineering",** on 27/02/2019 organized for the students and Faculty of College of Agriculture, VC Farm, Mandya, about Contribution from various fields of engineering of our institute to Agriculture Engineering.

As per the schedule, the Pre-lunch and Post-Lunch Sessions Presentations held by various fields of engineering (UG and PG), about Contribution to agriculture Engineering and was well presented by Professors from various respective programmes. Many projects undertaken like, farmer friendly vehicle, alternative energy sourced vehicle, modification of tractor steering system, various electronics and electrical controls and sensors applications etc. were elaborately discussed during the presentation. This made interactive also, by the presenters.

Visit to the departments of Automobile Engineering, Mechanical Engineering and Bio-gas plant was carried out to exhibit the projects executed that is oriented towards agriculture Engineering. All very well appreciated this and the Participants spent more time at Bio-gas plant where generation bio-gas and its byproducts take place. It was as well brought to the notice of all that, this Bio-gas plant is also funded by Government of Karnataka.

Dr. Nagarathna from CSE explained about the work assessed for soil testing. Further, quiet a lot of discussion took place about utilization of IOT technology used for the benefit of Agriculture Engineering. Prof. Ningaraju, from CV narrated more upon water conservation, with regard to agriculture, during his presentation.

After the presentation and interactions, during faculty feedback, Professor Sanath Kumar and Professor Fathima from College of Agriculture, VC Farm, Mandya, expressed happiness about the workshop content, delivery and logistics. They expressed that this kind of Workshop needed at least twice in a year. Participants Feedback collected before the valediction.

~~~~~~

18. Quality Control Tools Industrial Applications

Technical Seminar Report on "Quality Control Tools: An Industrial Applications" at 23rd March 2019. Topics covered in this seminar are as follows:

1. Cause-and-effect diagram: (also called Ishikawa or fishbone chart): Identifies many possible causes for an effect or problem and sorts ideas into useful categories.
2. Check sheet: A structured, prepared form for collecting and analyzing data a generic tool that can be adapted for a wide variety of purposes.
3. Control charts: Graphs used to study how a process changes over time. Comparing current data to historical control limits leads to conclusions about whether the process variation is consistent (in control) or is unpredictable (out of control, affected by special causes of variation).
4. Histogram: The most commonly used graph for showing frequency distributions or how often each, different value in a set of data occurs.
5. Pareto chart: Shows on a bar graph, which factors are more significant.
6. Scatter diagram: Graphs pairs of numerical data, one variable on each axis, to look for a relationship.
7. Stratification: A technique that separates data gathered from a variety of sources so that patterns seen (some lists replace "stratification" with "flowchart" or "run chart").


~~~~~~

3 (b) Programmes Participated by Teaching and Technical Faculty

Teaching and Technical Faculty have one of the most demanding vocations in the world and in order to fulfill their important roles with excellence, they need training, motivation as well as regular mental, emotional and spiritual rejuvenation. That educational systems the world over recognize the importance of the faculty is often evident by the resources spent on their capacity building. However, the issues often have been about building an effective model and mechanism that would develop and enhance the faculties' capacity and provide them avenues for professional development. In view of this, faculties are encouraged and supported to undergo training Programmes to enhance their knowledge in academics and allied areas.

Details of Academic Activity	**Aspire Ideate Synchronise Widen thoughts Capture the Goal**
Type of Academic Activity	IEEE
Faculty / Staff	• Dr. K A Radhakrishna Rao Dept. of HoD • Dr. M B Punithkumar Professor • M Revanesh Asst. Professor • Sumanth S Asst. Professor
Date & Place	28th to 30th Sept. 2018, VVIET, Mysore

IEEE has always been instrumental in providing the right motivation and propitious inspiration for all its members to brace up and become a proper professional who can bring in path breaking innovations the world has ever seen. Founded in 2000, the AIS (YW) C has grown over the years to become the biggest event on the calendar for IEEE members in India. It is a conglomeration of inventors, professionals, entrepreneurs, visionaries and some of the greatest minds in the country. By bringing together amazing people from all occupations, the AISYWC empowers its participants to be inspired, collaborate together and innovate for tomorrow. Continuing on its vibrant tradition of holding "All India Student Congress" annually, 2018's event was hosted at Vidya Vikas Institute of Engineering & Technology (VVIET), Mysore by IEEE Bengaluru from 28th to 30th September 2018 with a theme of **"Aspire, Ideate, Synchronize, Widen thoughts, Capture the goal".** Explained the importance of humanitarian activities organized under various IEEE divisions. Followed by a talk by padmaja Rao who shared her journey in the kannada film industry and stressed the importance being passionate about the goal. The day also marked various sessions under different tracks conducted in different classrooms listed in brochure. Innohabit Technologies on Entrepreneurship followed by talk on "Design Thinking" by Tathagat Varma, Country Head, Chinasoft the talk mainly focused on practical issues on field and localized governance and involvement of the local community can help create better products. Followed by many interesting Entrepreneurial talks and session by various speakers. The participants were separated into 5 tracks- students, young professionals, WIE, Branch councilors, MTT-S Hands on Session. These tracks planned to unravel various opportunities that IEEE offers and how technical societies of IEEE, can help in honing the skills of its members. Closing Ceremony where the results of the various Competitions held during the course of the Congress were announced delegates and the organizing team felicitated. We are proud to inform that Team from PESCE bagged two prizes – BEST logo award for AISYWC-2018. By Moinam Chatterjee student of CSE, PESCE. Video contest also won by PESCE Team. The Congress concluded with thanks note from Dr. Bindu Thomas, Head ECE Department, VVIET.

Details of Academic Activity	**Verify the Date related to Internship**
Type of Academic Activity	Workshop
Faculty / Staff	Dr. S Vinay Professor
Date & Place	5th Oct 2018, SJCE Mysore

Dr. Vinay S visited SJCE, Mysore on Oct 5th 2018 to conduct a third party check about the accuracy of data submitted by the institutions regarding internship. NPIU in its email had asked SPIU to take up this task. SPIU had nominated faculty members to conduct the above said verification in the TEQIP III institutions. As an outcome of the visit, a report submitted to SPIU and NPIU on the same.

Details of Academic Activity	**Technical Institution Meet held in Siemens Centre of Excellence**
Type of Academic Activity	FDP
Faculty / Staff	• Dr. Puttaswamy. P S Dept. Of HoD • Dr. S Ghanaraja Professor • Dr. N M Murali Krishna Nodal Officer Procurement • Dr. H M Nanjundaswamy Professor
Date & Place	30th Nov 2018, GTTC Mysore

The Technical Institution meet held in that Siemens Centre of Excellence at GTTC, Mysore was the premier disciplinary forum for the presentation of new advances and research results in the fields of Science and Engineering.

The workshop was held on 30th November, 2018, gave me an opportunity to meet leading academic scientists, researchers and scholars in the domain of interest from around the nation. Topics of interest at the center of Excellence include:

- Product design and Validation
- Advance Manufacturing
- CNC Machine lab
- Robotics lab
- Automation lab
- Mechatronics lab
- Internet of things (IOT)
- Rapid prototyping lab

The knowledge outcome is advantageous to the institution and to my department in such way that the knowledge gained by to enhance in seeking funds from various funding agencies. The knowledge gained by interaction will also help in leading research projects and guiding UG, research students more effectively.

Moreover, the present conference also helped in creating new relations with the researchers from both academia and industries to share their experience and knowledge on new technologies and instruments related to my research area. It helped me in obtaining new ideas from the participating professionals and research students to the institutional development.

Further, the knowledge gained by the technical tracks of the conference helped in meeting some of the training needs of the institution.

~~~~~~

Details of Academic Activity	**Recent Trends in power sector for Sustainable development**
Type of Academic Activity	One week FDP
Faculty / Staff	• Manohara H C Asst. professor • Mahesh Kumar K M Asst. professor
Date & Place	17 to 21 Dec 2018, SJCE Mysore

TEQIP-III One-week FDP on "Recent Trends in Power Sector for Sustainable Development" from 17th to 22nd December, 2018. Organized by Department of Electrical and Electronics Engineering, SJCE, JSS Science & Technology University, Mysuru. The FDP started with the formal inaugural function on 17/12/2018. The chief guest for the function was Sri A. Velayutham, Former member of Maharashtra Electricity Regulatory Commission, and the guests of honour were Dr B G Sangameshwara, Vice Chancellor, JSS S&TU, Dr T N Naghabhusan, Principal and Dean, JSS S&TU and Dr B Manoj Kumar, TEQIP-III coordinator.

The workshop was formally inaugurated with the invocation and by lighting the holy lamp by the Dignitaries. The welcome speech was conveyed by Dr. M S Shashikala,HOD, Dept. of E&E Engg., followed by briefing about the workshop. The keynote address delivered by chief guest Sri A Velayutham, in which he shared his long service experience in the power sector and encouraged the participants to work with the passion towards development of the power sector. Dr. T.N Nagabhushan, Principal, SJCE, Mysore, highlighted upon history of department of Electrical & Electronics and remembered the faculties who laid a strong foundation in building the department. Dr. B.G Sangameshwara Vice Chancellor, JSS S&TU & president of the inaugural function addressed the participants and advised the students to make best use of the available resources in the University for Academics and projects. The inaugural function concluded with the vote of thanks.

Afternoon session taken over by Dr. S Parthasarathy, Professor and Chief Coordinator of Industry Institute Partnership Cell (IIPC), KLN College of Engineering, Madurai, Tamil Nadu he addressed the power quality issues in industries how to determine the quality of the power.

The one-week workshop helped in develop an understanding of the existing and recent trends in power Sector and it give an opportunity for better understanding of the technologies, potential advantages and research challenges in power sector and provoked interest among the research community further explore this promising research area.
~~~~~~

Details of Academic Activity	**Internationalization of Higher Education A paradigm Shift**
Type of Academic Activity	National Symposium
Faculty / Staff	• Dr. Shivalingegowda Professor & Dept. of HoD • Dr. D R Umesh Asst. Professor
Date & Place	18th Dec 2018, Dr. AIT Bangaluru

A Paradigm Shift" on 18th December 2018 at Dr. Ambedkar Institute of Technology, Bangalore.

With nearly 800 universities and over 40,000 colleges, Indian higher education system is undoubtedly the largest system of higher education found anywhere in the world. With total enrolment crossing 33 Million, Indian higher education system is only second to China.

Going by the demographic trends and rapid expansion, it will soon become the single largest system of higher education in the world. Going by the policy framework, which enables universities and colleges to admit foreign/ NRI students up to 15 percent of their sanctioned intake, India should have been having about 4.85 million foreign/NRI students studying in its campuses. As against this vast potential, the number of international students in the country has been only in thousand. The data collected as in September 2016 shows that there were only 30,423 international students across all universities and higher educational institutions in the country as compared to 31,126 international students reported a year earlier.

India has tremendous potential to attract international students from all over the world. Sadly, our universities have not been able to capitalize on this opportunity. As a result, they are missing the advantage of not only generating, some revenue but also of making their campuses diverse and thus on creating a global ambience. Most importantly, our campuses are missing the opportunity of developing global outlook amongst their students and thus adversely affecting the much-needed task of preparing global citizens. We are also depriving the global community, which is so keen to know and benefit not only from the rich tradition and culture of the country but also getting exposed to India as a modern economy and society and the way it is coping with a variety of challenges. The evidences suggest that there is a craving amongst the global community to send their students to India for higher education and for short-duration visit and exchange. To be more realistic, since last year only about 5 million international students to report to be pursuing their higher education out of their countries, it would be impossibility for India to attract 4.8 Million. What we can, however, do is to target to increase our share in the global mobility of international students to a more pragmatic 10 percent of the global outflow. This would mean putting in place the strategies, plan and programme of action to host about 5 Lakh international students which could gradually be raised to 20 percent or 10 lakh international students over the next ten years. For these to happen, the higher educational institutions, the regulatory bodies and the government, both at the central as well as at the state level shall have to work in tandem.

~~~~~~

Details of Academic Activity	**Energy Optimization in Data Centers**
Type of Academic Activity	Workshop
Faculty / Staff	D M Srinivasa Asst. Professor
Date & Place	05 Feb 2019, IIT Madras

Now a day's there is a lot of shortage of power in all the fields. Managing the available energy with the increasing demand is a difficult task for power engineers. In data centers, huge amount of energy spent for data storage, cooling and for communication purpose.

This workshop enlightens the different methods of optimizing the energy in data centers. Professors from Binghamton University, IIT-Ropar and From IIT Thirupathi have explained about ES2 Introduction and Thermal Management Projects, Warm Water and Two-Phase Cooling for Hybrid Electronics, Energy Management and Optimization for Power Networks, Design of Energy-Aware Interconnects for Next Generation Micro Systems, and Design of Energy-Aware Interconnects for Next Generation Micro Systems.

VCV Rao, Director from CDAC has given information regarding Power-Aware Benchmarks for HPC Systems. In the last session, there was a discussion on potential collaborations with respect to Academia, industry and government.
~~~~~~

Details of Academic Activity	**Transformational Leadership for Organizational Excellence**
Type of Academic Activity	5 days' Workshop
Faculty / Staff	• Dr. D R Umesh Professor • Girish Babu M C Asst. Professor
Date & Place	21st to 25th Jan 2019. Portblair

Report on Transformational Leadership for Organizational Excellence held at Portblair (Andaman) from 21st – 25th January, 2019.

As we, all aware that managing an organization and improving its performance on continuous basis requires efficient and effective leaders especially in today's complex work environment and highly competitive scenario. The programme designed keeping in view that Government, Public Sector and Private Organizations must train their officers / managers to develop requisite transformational leadership skills so that they can meet the organizational expectations and take right decisions / actions to achieve organizational objectives. Also high customer expectations and global economy has posed numerous challenges for the organizations to improve their image and performance. It is essential for the top management / Senior Managers / Officers to know modern management practices in order to identify, develop and sustain their competitive advantage. The training programme helps us to develop transformational leadership qualities by understanding the advanced management practices that fit into their management requirements, identify areas of concern and seek better solutions to improve performance of the organization.

The Resource person Dr. Sham Sundar Sharma delivered on the following topics:

- Introduction to Transformational Leadership
- Elements of Transformational Leadership and Transformational Leadership Models
- Qualities of Transformational Leader.
- Transactional & Transformational Leadership
- Global Leadership, Leadership Style assessment and developing Leadership skills.
- Leaders vs Managers vs Administrators
- Creating Vision and Mission.
- Motivation and Team building.
- Team management, Time and Stress Management.
- Stratagic Management.
- Problem Solving and decision making.
- Communication tools.
- Change Management.
- Development leadership based performance enhancement.
- Challenges for future leaders.

Finally the participants gain the knowledge on, Transformational Leadership for Organizational Excellence and concluded by Valedictory function. We express our thanks to the Principal, TEQIP Coordinator and Head of Departments, for permitting to attend the programme.

~~~~~~

Details of Academic Activity	**Evolution of Research Techniques, tools and Commpercialisation Aspects**
Type of Academic Activity	FDP
Faculty / Staff	C. Chethana Asst. Professor
Date & Place	21 to 25 Jan 2019, MIT Mysore

Five-Day Faculty Development Program on **"Evolution of Research Techniquies, Tools and Commercialization Aspects"** at 21st to 25th January 2019, MIT Mysore. Research Methods are the tools and techniques for doing research. Research is a term used liberally for any kind of investigation that intended to uncover interesting or new facts. As with all activities, the rigour with which this activity carried out reflected in the quality of the results. Research methods are a range of tools that are used for different types of enquiry, just as a variety of tools are used for doing different practical jobs, for example, a pick for breaking up the ground or a rake for clearing leaves. In all cases, it is necessary to know - what the correct tools are for doing the job, and how to use them to best effect - The recent growth of the Internet and the World Wide Web makes it appear that the world is witnessing the arrival of a completely new technology. In fact, the Web-now considered a major driver of the way society accesses and views information-is the result of numerous projects computer networking, mostly funded by the federal government, carried out over the last 40 years. The projects produced communications protocols that define the format of network messages, prototype networks, and application programs such as browsers. This research capitalized on the ubiquity of the nation's telephone network, which provided the underlying physical infrastructure upon which the Internet built.
~~~~~~

Details of Academic Activity	**Digital Manufacturing**
Type of Academic Activity	Workshop
Faculty / Staff	N K Sachin
Date & Place	29th to 30th March 2019, NIE Mysore

Report of Participation Workshop on **"Digital Manufacturing"** on 29th & 30th March 2019 at NIE Mysuru. Introduction to Industrial 4.0: It is a name given to the current trend of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the Internet of things, cloud computing and cognitive computing. Industry 4.0 commonly referred to as the fourth industrial revolution. Industry 4.0 fosters what called a "smart factory". Industrial Case studies: Titan, sunpure, Triton, Milma, ABB etc.

Reverse Engineering: Reverse engineering, also called back engineering, is the process by which a man-made object is deconstructed to reveal its designs, architecture, or to extract knowledge from the object, similar to scientific research. Reverse engineering is applicable in the fields of mechanical, electronic, software chemical engineering and systems biology.

3D Printing: 3D printing is any of various processes in which material joined or solidified under computer control to create a three-dimensional object with material added together typically layer by layer. In the 1990s, 3D printing techniques considered suitable only for the production of functional or aesthetical prototypes and a more appropriate term was rapid prototyping. Today, the precision, repeatability and material range have increased to the point that 3D printing considered as an industrial production technology, with the name of additive manufacturing.

Industrial Revolution 1.0 to 4.0:- Roadmap, general awareness, Need, advantages and components and products of Industry 4.0. Internet of Things: Meaning, Applications, Opportunities, Videos on Industrial applications, Case studies. Live demonstration: Industrial 4.0 concept using Bosch Rexroth kit – Hardware overview and technical specification, Software configuration and programming.

~~~~~~

4. Industry Institute Interaction Cell

Topic of the Projects	**Industrial visit of pre final year students**
Name of the Department	Computer Science & Engineering
Date & Place	25 Sept. 2018, VMware Bangaluru

VMware, Inc.is a subsidiary of Dell Technologies that provides cloud computing and platform virtualization software and services. It was one of first commercially successful company to virtualize the x86architecture. VMware's desktop software runs on Microsoft Windows, Linux, and macOS, while its enterprise software hypervisor for servers VMware ESXi, is a bare-metal hypervisor that runs directly on server hardware without requiring an additional underlying operating system. In 1998, Diane Greene, Mendel Rosenblum, Scott Devine, Ellen Wang and Edouard Bugnion founded VM ware. Greene and Rosenblum, who are married, first met while at the University of California, Berkeley. Edouard Bugnion remained the chief architect and CTO of VMware until 2005, and went on to found Nuova Systems (now part of Cisco). For the first year, VMware operated in stealth mode, with roughly 20 employees by the end of 1998. The company was launched officially early in the second year, in February 1999, at the DEMO Conference organized by Chris Shipley. The first product, VMware Workstation, delivered in May 1999, and the company entered the server market in 2001 with VMware GSX Server (hosted) and VMware ESX Server (host less).

In April 2016, VMware president and COO Carl Eschenbach left VMware to join Sequoia Capital, and Martin Casado, VMware's general manager for its Networking and Security business, left to join Andreessen Horowitz. Analysts commented that the cultures at Dell and EMC, and at EMC and VMware, are different, and said that they had heard that impending corporate cultural collisions and potentially radical product overlap pruning, would cause many EMC and VMware personnel to leave; VMware CEO Pat Gelsinger, following rumors, categorically denied that he would leave.

Mozy transferred to Dell in 2016 after the merger of Dell and EMC. In April 2017, according to Glassdoor, VMware was ranked 3rd on the list of highest paying companies in the United States. In Q2 2017, VMware sold V-Cloud Air to French cloud service provider OVH
~~~~~~

Topic of the Projects	**Industrial visit of pre final year students**
Name of the Department	EEE
Date & Place	15 Oct 2018, Mini dam power house and Varahi Power station, Udupi

The main objective of the Industrial Visit to provide students an insight regarding practical working of companies. Theoretical knowledge as good it is, is not enough for making a good professional career. With an aim to go beyond academics, industrial visit provides a practical perspective on the world of work. It provides students with an opportunity to learn practically through interaction, working methods and employment practices. It gives them exposure to current work practices as opposed to possibly theoretical knowledge thought at college. Industrial visits provide an excellent opportunity to interact with industries and know more about industrial environment. The river Varahi takes its birth at a height of 730 m in the Western Ghats at Hebbagilu, near Agumbe in Shimoga District. It joins the Arabian Sea near Kundapur. After a 25km, initial run, this swift and powerful river falls 455 m in cascades to form the bellowing Kunchikal falls.

Varahi is Karnataka's first underground powerhouse – a key milestone in the corporate history of KPCL. Initially conceived as a surface powerhouse at the blueprint stage, Varahi later converted into an underground Powerhouse. The decision for the changeover based on three key parameters: technical, economical and our concern for environment protection. Stage I of the Varahi Hydro Electric Project has a total installed capacity of 230 MW contributing 1100 MU annually. This consists of 2 x 115 MW Generating Units at Varahi underground Powerhouse and two 4.5 MW units in the power An underground power station is a type of hydroelectric power station constructed by excavating the major components (e.g. house at the Mani Dam site. Provision was made to add two more Units at this powerhouse of similar capacity (115 MW) & the excavation works were completed during Stage I works only. Now the construction works of units 3 & 4 each of 115 MW capacity is under progress. These units commissioned during November 2008. Machine hall, penstocks, and tailrace) from rock, rather than the more common surface-based construction methods.

Topic of the Projects	**Industrial visit of pre final year students**
Name of the Department	Computer Science & Engineering
Date & Place	25 Sept. 2018, TCS Bangalore

Tata Consultancy Services Limited (TCS) is an Indian multinational information technology (IT) service, consulting company headquartered in Mumbai, Maharashtra. It is part of the Tata Group and operates in 46 countries. TCS is one of the largest Indian companies by market capitalization. TCS now placed among the most valuable IT services brands worldwide. TCS alone generates 70% dividends of its parent company Tata Sons. The parent group recently decided to sell stocks of TCS worth $1.25 billion in a bulk deal. In 2015, TCS ranked 64th overall in the Forbes World's Most Innovative Companies ranking, making it both the highest-ranked IT services company and the top Indian company. It is the world's 2nd largest IT services provider. As of 2017, it is ranked 10th on the Fortune India 500 list. In April 2018, TCS became the first Indian IT company to breach $100 billion market capitalization, and second Indian company ever (after Reliance Industries achieved it in 2007) after its m-cap stood at Rs.6,79,332.81 crore ($102.6 billion) in Bombay Stock Exchange. The TCS goIT Student Demand for IT workers outpaces supply, in part due to the limited number of college graduates with Science, Technology, Engineering, and Math (STEM) degrees. Given the fact that most primary schools not added coding to the curriculum, it is not surprising that many high school grades feel intimidated by the prospect of STEM studies.

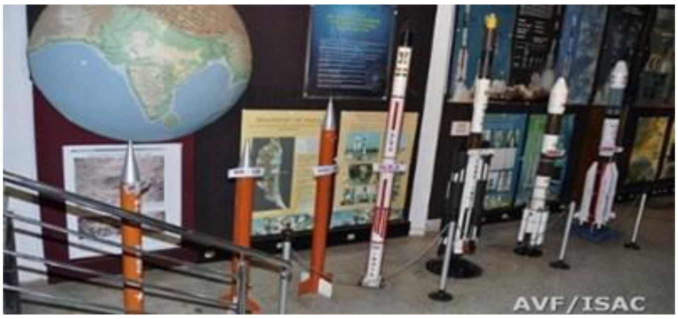
Topic of the Projects	**Industrial visit of pre final year students**
Name of the Department	Computer Science & Engineering
Date & Place	26 Oct. 2018, U R Rao Satellite Centre Bengaluru

Industrial visits offer a great source to gain practical knowledge. Students can observe and learn as to how theatrical concepts put into action, thereby aiding their practical learning. Students are exposed to real working environment and shown how things done in organization. From the details about the management to the targets they achieve, everything his covered in these visits.

Industrial visits are a complete package, which aims at widening the knowledge of students. It is not just an outing organized for fun. These visits are part of the curriculum in 5th Semester as Mandatory Learning Course, so the students get to learn things, which are beneficial to them in the future. They are very educational in nature with rich learning experience.

Industrial visits generate an excitement among students as they get a chance to learn something outside the confines of their college walls. Thus, it adds to a source of entertainment as well.

Hence, to meet the needs of Industrial Visit for students, the department of Computer Science & Engineering is organizing an industrial visit to U R Rao Satellite Centre; Bangalore on 26/10/2018 from 02:00 PM to 4:00 PM, total of 145 pre-final year students accompanied by 3 faculties will be visiting the campus. The main objective behind this visit is to make students aware about how different activities related to satellite is carried out in U R Rao Satellite Centre, Bangalore and giving the students the knowledge about the working of it. As a part of the visit, Mr. H L Srinivasa (Scientist), U R Rao Satellite Centre will coordinate us during the Industrial visit at U R Rao Satellite Centre, Bangalore.



~~~~~~

Topic of the Projects	**Industrial visit of pre final year students**
Name of the Department	Industrial & Production Engineering
Date & Place	24 to 28 Oct 2018, Mangalore

The foundation of Shanthala was placed in the year 1986 by a team of well qualified, experienced Metallurgists and Mechanical Engineers for the manufacture of Grey Iron, Ductile iron (S.G. Iron) and Alloy Cast Iron Castings with an initial investment of INR 4.6 million and an installed capacity of 600 tons/annum in a plot of 20234.28 SQ MTS.
Throughout the company's history, Shanthala guided by its values. Shanthala continues to be a company dedicated to sustainable growth and continuous improvement, while solidly grounded in the energizing work culture created by our founders.
The unit has latest and state of the art special purpose facilities for in house machining. The unit manufactures critical components of extruder machines like screws, barrels, dies, spirals, helical gearbox, housing etc.
Our Machines are sturdy and robust built, a unique quality of power, labor and space saving device introduced to the global market. We got an experienced technical team to cater the needs of our valued customers and troubleshooting will attended promptly.
We have felicitated with Export Award 2004 and Business Award 2006, for Special Recognition as an Exporter, under SME Category (Plastic Processing Machineries and Spare Parts) by Canara Chamber of Commerce & Industry, Mangalore, India. Our company is a promising name in the forefront of plastic and printing machinery. With a legendary leader, advanced technology and highly efficient technical personnel, we all geared up to revolutionize today's machinery for an efficient tomorrow.
The Kudremukh Iron Ore Company Ltd. plant in Mangalore. The pellet plant with a capacity of 3.5 million tons per annum commissioned at Mangalore in 1987. The plant was stopped in 2011 but in 2014 the plant resumed producing and exporting pellets, running on ores supplied by NMDC Limited. The pellets have shipped to countries like China, Iran, Japan, and Taiwan.


~~~~~~

5. Teaching Faculty Participation and Paper Presentation in Conference (within India)

Topic of the Paper	**Extrusion Honing Process for finishing internal primitive pre-Machined by wire EDM for Inconel 625**
Type of Conference	International Conference
Faculty/Staff	• Dr. N L Muralikrishna Nodal Officer-Procurement • Rudresh Addamani
Date & Place	14th to 15th Sept. 2018, Shri Mata Vaishno Devi Iniversity, Katra (Jammu& Kashmir)

We the undersigned faculty members had attended two days international conference on Mechanical Engineering and allied Sciences (ICMEAS-2018) and presented our research papers titled “Extrusion

Honing Process for finishing internal primitive Pre-Machined by Wire- EDM for Inconel 625” and “Estimation and Comparison of welding Performances using MRA and ANN in Pulsed Gas Metal arc Welding (P-GMAW) for ASTM A 106 Material” organized by the school of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra (Jammu& Kashmir) from 14 th to 15 th September 2018. The conference gave us to expose of our research work in our area and helped us to learn many things from other research scholars at the presentation of their work. I thank TEQIP-III cell for providing us an opportunity to attend the conference.

~~~~~~

Topic of the Paper	**All India Manufacturing Technology, Design and Research (AIMTDR-2018)**
Type of Conference	International Conference
Faculty/Staff	Gurupavan H R Asst. Professor
Date & Place	13th to 15th Dec 2018, College of Engg. Guindy, Anna University, Chennai

“All India Manufacturing Technology Design and Research (AIMTDR)” Conference is considered globally as one of the most prestigious conferences and held once in two years. It started in 1967 at a national level at Jadavpur University, Kolkata and achieved the International status in the year 2006.

The International Conference on All India Manufacturing Technology, Design and Research (AIMTDR-2018) has been organized by Department of Mechanical Engineering, College of Engineering Guindy, Anna University, Chennai, India. It has been conducted from 13th to 15th December 2018.This Conference provides a unique forum for engineers and scientists from academic/ research laboratories/ institutions/industries to meet and share the technical information on new developments in the field of Mechanical Engineering. It is a premier and appropriate forum for the presentation, exchanging and sharing of the new advancements, approaches and research results in the most relevant areas, which will enhance and benefit the society. The conference included the most relevant topics for the present day technology, which is more essential for industrial growth.

The important topics covered in this conference included:

- Additive Manufacturing
- Automation
- Forming
- Joining
- Machining
- Composites
- Product Design and Development
- Simulation And Modelling
- Unconventional Machining
- Surface Engineering

Around 500 delegates were attended the conference and around 250 oral presentations have been presented in different topics. In addition to the above, the conference has also provided a large platform to the exhibitors to demonstrate their test equipment.
~~~~~~

Topic of the Paper	Polymer Composites 2018
Type of Conference	International Conference
Faculty/Staff	Anil Kumar S V Asst. Professor
Date & Place	15th to16th Dec 2018, NITK Surathkal

I ANIL KUMAR S V Asst. Professor, Department of Mechanical Engineering, PES College of Engineering Mandya. I attended The second International Conference on Polymer Composites (ICPC 2018) was organized at the department of Mechanical Engineering, National Institute of Technology Karnataka(NITK), Surathkal, Mangalore, India during December 14 to 15, 2018. IPCL 2018 covered the topics includes Mechanics, Material Processing, and application in Mechanical Engineering and allied fields. I submitted one research paper titled “Studies on Mechanical Properties of Banana Fibre Reinforced Polyester Composites”. The review committee of the conference recommended my paper for presentation and publication in API Scopus indexed journal. I would like to thank all the reviewers for providing comments for improving the technical content of the paper.

This conference was useful to gather the information about the advanced manufacturing process and testing facilities. I will transfer gathered information to the student community. I am very grateful to the organizers of ICPC 2018, finally I thanks to Principal PESCE, and TEQIP Coordinator PESCE, have given a permission to attend said programme.

~~~~~~

The International Conference on Tribology (TriboIndia 2018) has been organized by the Department of Mechanical Engineering, Veermata Jijabai Technical Institute (VJIT), Mumbai under the aegis of Tribology Society of India. It has conducted from December 13-15, 2018 at VJIT campus, Mumbai, India. The TriboIndia-2018 has brought together the resent knowledge, tools and techniques of tribology domain in which researchers and practitioners using for the reliability and life of mechanical components. In addition, it has highlighted how the tribology fundamentals and applied studies can supply an essential support to obtain significant savings in materials and energy consumption and minimize the environmental impact. The conference included nine sessions for oral presentations on most relevant topics for the present day technology is more essential for industrial growth. The important topics covered in this conference included:

- Tribology of Bearing & Seals
- Lubricants and Additives
- Wear
- Materials
- Surface Coating and Texturing
- Condition Monitoring
- Tribo-Testing
- Bio-Tribology, etc.

Topic of the Paper	TRIBOINDIA-2018
Type of Conference	International Conference
Faculty/Staff	Dr. T Nagaraju Professor
Date & Place	13th to 15th Dec 2018, VJTI Mumbai

Around 114 oral presentations been presented in the above-mentioned topics. The conference has also arranged nine plenary sessions by the eminent personalities. Notably among these, plenary sessions by Dr. Michel Fillon, Professor, Pprime Institute, France, Dr. Satish V Kailash, Professor, IISc, Bangalore, Dr. Harish Hirani, CSIR-CMERI, Mr P. K. Limye, BARG, Mumbai and Dr. K. P. Karunakaran, IIT Bombay attracted the attention of participants.

~~~~~~

Topic of the Paper	An Empirical Study on Consumer Response towards food Bazaar during maha savings day. A case study with special reference to Mandya District, Karnataka
Type of Conference	International Conference
Faculty/Staff	Dr. Aluregowda
Date & Place	9th to 10th Feb 2019, PIMS Indore

International Conference on An Empirical Study on Consumer Response towards food Bazaar during maha savings day. A case study with special reference to Mandya District, Karnataka at 9th to 10 Feb 2019, PIMS Indore. The paper provides the information to understand the factors that influence customer behavior, preference, response towards Food Bazaar during Maha Saving Day with reference to Mandya city. It aims at understanding on customer perception and expectation in different ways towards Food Bazaar and how Food Bazaar is adopting various kinds of marketing strategies like promotional strategies, pricing strategies and services provided by Food Bazaar to attract the customers and also gives consumer profile, where the consumers tastes and preferences which plays an important role. It emphasizes on the various types of product, discounts offered by the Food Bazaar, and achievement done in "Maha Savings Day". It concentrates on the new emerging challenges in this field, and recommendations to analyze and improvement of Food Bazaar. The overall paper the taste and preference of the customers be changing day by day, with the changing lifestyle, there exists a huge scope for the growth of Food Bazaar store. Food Bazaar store are able to provide almost all categories of items related to food, health, hygiene foods so it becomes quite easier for the customer to buy from one shop and hence is a convenient way of shopping.

Topic of the Paper	**Application of Discrete event Simulation towards production improvement**
Type of Conference	International Conference
Faculty/Staff	Sachin. N K
Date & Place	30th to 31st Dec. 2018. Kyriad Hotel Umtavaddo, Calangute Bard Near Mira Hotel, Goa

The "15th World Conference on Applied Science, Engineering and Technology (WCASET-18)" to be held in Kyriad Hotel (formerly Citrus Goa). Umtavaddo, Calangute Bardez, Goa, during 30th and 31th Dec 2018, an reputed organization for Engineering activities, offers all participants an opportunity for understanding the recent trends in research and applications of Applied Engineering science from the highly proficient and knowledgeable researchers from around the world like Japan, Vietnam.

The range of topics in Production Engineering, the depth of the presentations, the variety of perspectives, and the richness of the international discussions are going to be truly beneficial to me as an individual. Conference has teamed up with the Special Journal Issue on Scopus indexed. The technical exhibition of the conference provides a good platform to know the available new test equipment and instruments, which are helpful for the recent trends in Manufacturing and Production.

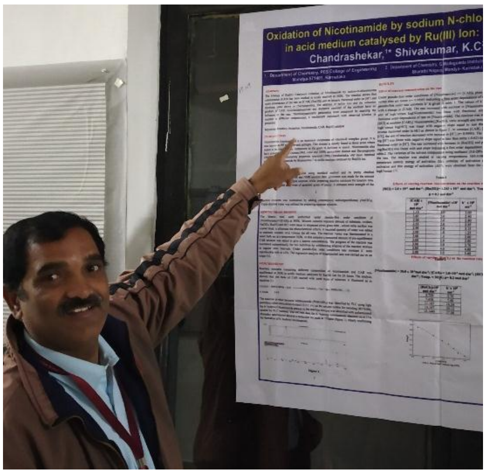
Further, the knowledge outcome will surely be advantageous to the institution and to my department in guiding research projects. The knowledge gained by interaction will also help in leading research activities more effectively.

~~~~~~

"Oxidation of Nicotinamide by sodium N-CHLORO benzene sulphonamide (cab) in acid medium catalysed by RU (III) ion: kinetic and mechanistically". At 3rd to 7th Jan 2019, to ISCA Punjab

Topic of the Paper	**Oxidation of Nicotinamide by sodium N-CHLORO benzene sulphonamide (CAB) in acid medium catalyzed by RU(III) ino: Kinetic & Mechanistically**
Type of Conference	International Conference
Faculty/Staff	Dr. Chandrashekar Professor
Date & Place	3 to 7 Jan 2019, ISCA Punjab

The Indian science congress association (ISCA) owes its origin to the foreseeing and initiative of two British chemists. It was their view that scientific research in India would be stimulated, if an annual meeting of research workers. The theme of ISCA 2019 is future India science and technology. It known that a nation prospers with the development of each individual; this development can achieved through the contribution of science and technology. The ISCA formed the following objectives.



1. To advance and promote the cause of science in India.
2. To publish some research proceedings, journals, transaction and other publications as maybe considered desirable.
3. The ISCA calling research papers for the interdisciplinary area of science and technology.

Scope of the paper at conference:

The ISCA covers all branches of science and technology, chemical science (chemistry) is a one the subject in ISCA. Our area of specialization is kinetic oxidation study of some important drugs, dyes, biological active compounds using catalyst. Kinetic study is very essential for pharm kinetics, pharmacotherapy, and estimate the shelf life and expiration time of drugs at storage temperature by analysing accelerated stability testing data. Pharmacists encounter the important of the chemical degradation of pharmaceuticals in the course of their everyday activities, proper storage of drug products. Providing beyond use dates for prescriptions and the preparation and storage of sterile products are some examples of common scenarios that are dependent on the knowledge of the chemical kinetics of pharmaceuticals, it is advantageous for pharmacists to be knowledge about the chemical kinetics. The basis for understanding kinetics is the knowledge of the processes involved in chemical degradation and the time dependence on chemical degradation. We investigate the kinetics of pharmaceuticals focusing order of reaction like first order, zero order reactions, which are the most commonly encountered categories of pharmaceutical degradation reactions.
~~~~~~

6. Students activities

Details of Academic Activity	**Mercedes-Benz Engine Live Training**
Type of Academic Activity	Workshop
Students Name	Mechanical Engg. Students (Total Students -18)
Date & Place	11th to 12th Oct 2018, NITK Surathkal

On October 12th and 13th, 2018, National Institute of technology Karnataka (NITK) Surathkal Organized a live demo working of Mercedes-Benz Engine. The workshop was entitled in order to understand the working of a engine in detail with practical session.
The specific objectives of the workshop and seminar were the following:

- Mercedes-Benz engine overhauling starting from the basic version until the latest model.
- Regarding the fuel, specification i.e. spray burn and test fuel properties.
- The main objective was about turbocharger practical/performance test on live car session.
- It was about the role of electronics in mechanical i.e vehicle mechatronics and scanning and also detailed explanation about different technology like DTSSI, RTR, ABS, EBD, ABR, TCS, ESP, VLC, AWC and many more.
- Different type of clutch and transmission with live demo.

The workshop constituted a good platform for Carrying out a complete analysis and designing of the main structural elements of an Automobile. The structure of the engine should be able to accommodate all the components as well as with a better efficiency and performance. Even we guided about the Use of structural software (Auto CAD, CATIA, ANSYS) to make the plan and the application of International standard codes in specifying and designing engine model. Getting real life experience with engineering practices. Use of all the necessary equipment needed for the complete engine analysis. To study the various elements of the engine detail and mainly to estimate the cost of material as well as cost of labor along with other indirect included cost incurred in the developing engine in each new version .The multi-faceted nature of the problems addressed highlighted and ways to overcome.
Last but not the least the main objective of the session was all about making engineers well educated about the latest technology , engineering practices involved and what's the main area to be concentrated in order to design ,working and manufacturing of engine.

~~~~~~

Details of Academic Activity	**International Robotics Challenge 2018**
Type of Academic Activity	Workshop
Students Name	Ritushree Banerjee Ritu (Dept. of E&C) Aditya S (Dept. of CS&E) Nithin Reddy N (Dept. of ME)
Date & Place	11 to 12 Oct 2018, NITK Surathkal

Workshop on **"International Robotics Challenge 2018"** to 11 to 12 Oct 2018, NITK Surathkal. Our team is very grateful to TEQIP-III and P.E.S College of Engineering, Mandya for all the support and financial aid provided to help us attend the annual technical festival of IIT Bombay 'Techfest' where we participated in an international competition called International Robotics Challenge (IRC). For the competition, we were required to build two robots, a manual and autonomous bot that would coordinate with each other to tackle various challenges set forth during the competition. The autonomous bot had to solve a maze without any form of external help from the participants. It had to even identify the positions of different colored blocks and scan a QR code. The manual bot had to design to move using a remote controller and to pick and place blocks. Its main objective was to clear the way for the autonomous bot by transferring the blocks detected autonomous bot in the maze to specified zones outside the maze. It had to also tackle obstacles and fire a projectile at a target. Each team allotted with a time limit of 8 minutes to complete all the tasks and a time limit of 5 minutes for a pre-run of the autonomous bot for it to learn the maze.
We also got the opportunity to attend a tech exhibition and talks that conducted during the fest.
Side note: Clicking pictures during the event not allowed. This done to prevent teams from getting a picture of the maze that had to be kept confidential for the proper functioning of the competition. However, we granted permission to click a picture of the arena after the event was over. A designated area. However, it could not shoot a projectile at the target.
Overall, we were disappointed since we could not let our bots function to their best abilities due to the technical errors and our shortcomings in building all of the required functionalities. On the positive front, we did participate and gain a lot of experience and clarity on building robots, working with various electronic components, programming, operating in a team and even finding out where we can buy various resources for future projects. We wish further continue developing the bots and making them operational and optimized in performance. These two bots grant us the opportunity to develop much more sophisticated robots and open wide the endless possibilities that they have practically. We also look forward to participating in the competition again and putting up a better fight.
~~~~~~

Details of Academic Activity	**Basic Course in Automotive Technology**
Type of Academic Activity	Workshop
Students Name	Nimish Ujwal S N Omkar I K Dept. of Mechanical Engg
Date & Place	21 to 26 Jan 2019, NIE Mysore

A six days workshop, on **“Basic course in automobile technology”** on commercial vehicles was conducted, from 21st to 26th Jan 2019, the National Institute of Engineering, Mysore. In order to provide the basic understanding of working of a commercial vehicle and its different sub systems with a mix of theory and hands on sessions to maximize the skills of the participants. The workshop is a collaboration of Volvo Either Commercial Vehicles with The National Institute of Engineering, Mysuru-08. 25 students spanning from different colleges took part in the workshop.

IC Engine basics, classification of IC Engines, two and four stroke principles, SI and CI engines, automotive fuels and A perspective on Indian automobile industry. Fuel systems of SI Engines (carburetor and petrol injection), CI Engines (mechanical and CRDI), combustion chambers of SI and CI engines were discussed. Engine disassembly was conducted, where each student were put into a group 4 or 6 and were instructed to disassemble either a 4 cylinder or 6 cylinder engines respectively. Intake and exhaust systems, turbochargers, cooling systems, lubrication systems, and automotive safety systems taught. In the noon, engine assembly was done. Drivetrains clutches and their types, transmission and its type, differentials, after treatment technologies discussed.

Suspension systems basics and its types, braking system (pneumatic and hydraulic) taught. In the noon, everyone were given a chance to drive an Eicher truck and later braking system demonstration, differential system demonstration, tires were done, which marked the completion of the course.

After Mr.Vadhindra K G and the trainees conducted a small valedictory. The certificates handed over and congratulated individually, which marked the end of the weeklong workshop.

~~~~~~

Details of Academic Activity	**Digital Manufacturing**
Type of Academic Activity	Workshop
Students Name	Supritha Prasad Shalini S R Dept. of I&P Engg
Date & Place	29 to 30 March 2019, NIE Mysore

Report of Participation Workshop on **“Digital Manufacturing”** on 29th & 30th March 2019 at NIE Mysore Introduction to Industrial 4.0: It is a name given to the current trend of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the Internet of things, cloud computing and cognitive computing. Industry 4.0 commonly referred to as the fourth industrial revolution. Industry 4.0 fosters what been called a "smart factory". Industrial Case studies: Titan, sunpure, Triton, Milma, ABB etc. Reverse Engineering: Reverse engineering, also called back engineering, is the process by which a man-made object is deconstructed to reveal its designs, architecture, or to extract knowledge from the object, similar to scientific research. Reverse engineering is applicable in the fields of mechanical ,electronic, software, chemical engineering and systems biology.

3D Printing: 3D printing is any of various processes in which material is joined or solidified under computer control to create a three-dimensional object with material being added together typically layer by layer. In the 1990s, 3D printing techniques considered suitable only for the production of functional or aesthetical prototypes and a more appropriate term was rapid prototyping. Today, the precision, repeatability and material range have increased to the point that 3D printing considered as an industrial production technology, with the name of additive manufacturing.

Industrial Revolution 1.0 to 4.0:- Roadmap, general awareness, Need, advantages and components and products of Industry 4.0

Internet of Things: Meaning, Applications, Opportunities, Videos on Industrial applications, Case studies.

Live demonstration: Industrial 4.0 concept using Bosch Rexroth kit-Hardware overview and technical specification, Software configuration and programming.
~~~~~~

7. Papers Published Teaching Faculty in International Conference & Journals

SL. No.	NAME OF THE FACULTY	JOURNAL NAME	ISSN NO	TITLE OF THE PAPER	YEAR OF PUBLICATION
1	B Dinesh Prabhu	International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)	2249-8001	Experimental investigation and mechanical of Properties of polyvinyl ester/glass fiber composite with alumina (Al2O3), molybdenum disulfide (MoS2) and titanium oxide (TiO2) fillers	Vol. 8, Issue.6, Dec. 2018, pp.125-134
2		International Journal of Mechanical Engineering & Technology (IJMET)	0976-6359	Experimental Analysis of Wear Properties of Nano Scale Fillers On Vinyl Ester-Glass Fibre Hybrid Composites and Optimization by Taguchi Approach	Vol. 9, Issue.12, Dec.2018, pp. 692-708
3	B S Mamatha	International Journal of Science and Research (IJSR)	2319-7064	IoT based Delivery Boys Safety Control and Bike Analyzer	Vol.7, Issue.5, May-2018, pp.125-134
4	B M Thamanna	International Journal of Engineering and Technology	2227-524X	Facile Synthesis, structural and luminescence studies of MgTiO3: Sm3+ nan phosphor for display applications	Vol.7 (4), pp.2927-2921, 2018
5	Dr. S Ghanaraja	International Journal for Research in Engineering Applications& Management (IJREAM)	2454-9150	study on Effect of Different Ball Milling Duration on SiC Particles	Vol. 4, Issue. 9, Dec.2018

8. Publication of Research Papers (SCOPUS)

Sl. No.	Name of author	Title of paper	Type	Department	Source Name
1	Addamani. R Gurupavan H R Ravindra H V Ugrasen G	Estimation and Comparison of Welding Performances in P-GMAW using MRA and ANN for SS 304L Material open Access	Conference Papers	Mechanical	IOP Conf. Series: Materials Science and Engineering-2018
2	Gurupavan H R Ravindra H V T.M.Devegowda Addamani. R	Machine Vision System for Correlating Wire Electrode Status and Machined Surface WEDM of AlSi3NaMMCS open Access	Conference Papers	Mechanical	IOP Conf. Series: Materials Science and Engineering-2018
3	Ugrasen G Ravindra H V Umesh Gowda B M Chethan Y D Naveen Prakash G V	Estimation of Machining Performances using GMDH and ANN in Wire EDM of Cu-1Cr-0.1Zr Alloy open Access	Conference Papers	Mechanical	IOP Conf. Series: Materials Science and Engineering-2018
4	Chethan Y D Ravindra H V Krishne Gowda Y T	Machined Surface Monitoring in Turning Using Histogram Analysis by Machine Vision	Conference Papers	Mechanical	Materials Today: Proceedings - 2018

9.Ph.D Awardees

P.E.S. Research center Encourages Faculty Members Pertaining to different disciplines to take up research work under the able guidance of Professors Registered as guides under VTU Belagavi and other Universities. Our research center has ample number of research supervisors who could cater to the need of the research center. Faculty members from various disciplines pursued research under P.E.S. research center and been awarded Ph.D. degree for Basic Sciences & Engineering disciplines.

~~~~~~

Devadath V R
Associate Professor
Dept of Mechanical Engg,
P.E.S.C.E, Mandya

INVESTIGATION INTO THE EXTRUSION HONING PROCESS PERFORMANCE

Registration for PhD on 1st March 2004
University /Branch: VTU, Mechanical Engg.
Award of Phd Degree: 04th December 2018

Dr. H.P. Raju
Professor and Head
Dept of Mechanical Engg,
P.E.S.C.E, Mandya

Abstract: Extrusion honing (EH) is a method for micro finishing of internal surface and complex surfaces by the extrusion of abrasive media semisolid flow able grinding putty across those surfaces. The process is abrasive only where the media flow is restricted. The present work is to investigate experimentally the impact of different mesh sizes of silicon carbide at various concentrations in a patented polymer on Hastelloy C22 specimen using indigenously built one way EH setup. The effect of each input parameter on the internal surface roughness and the material removal (MR) after each EH experiment been examined. The study revealed that for all passage diameters, silicon carbide of 54mesh size at 40% concentration is better for material removal and better surface finish. EH experiment was also conducted on Hastelloy C22 specimens having profile generated by Electro Discharge Machining (EDM) process. The SEM photographs taken after EH experiment depicted complete elimination of recast layer formed on the surface by EDM process and XRD analysis of EDMed surface after EH experiment showed presence of compressive residual stress on the surface. The developed ANN model successfully predicted the surface roughness parameters and MR of Hastelloy C22 superfinished by EH process.

~~~~~~

Anjanappa.C
Assistant Professor
Dept. of E&C
NIE Mysuru-570008.

DEVELOPMENT AND PERFORMANCE EVALUATION OF DENOISING ALGORITHMS FOR MEDICAL IMAGE ANALYSIS

Registration for PhD on 8th Feb 2012
University /Branch: UOM, Electronics
Award of Phd Degree: 19th December 2018

Dr.H.S.Sheshadri
Professor
Dept of E & C
PESCE,Mandya

Abstract: In modern medicine due to technological advancements in medical imaging, most of the clinicians make a diagnosis and provide treatment for a variety of medical conditions based on the reliable and useful information provided by the medical images. The medical condition includes abnormalities in the brain, spinal cord, diseases in heart, liver, pancreas, and in various parts of the body. The abnormalities could be tumors, lesions that not normally seen, change in shape and enlargement of particular structures and changes in image intensity within the image compared to normal tissue. In order to achieve the best diagnosis, the medical images should be free from noise and artifacts, which added during the acquisition process. Image de-noising is crucial in medical image analysis to enhance the image quality for a better and accurate diagnosis. The popular medical imaging modalities are X-ray, computed tomography (CT), ultrasound imaging, magnetic resonance imaging (MRI), molecular imaging such as single photon emission computed tomography (SPECT), and positron emission tomography (PET). Among the above image modalities, the primary advantage of MRI is that the images acquired completely by non-invasive methods without causing any radiation risk to the patients. Moreover, they produce real 3D images of high resolution with good signal to noise ratio (SNR). However, MRI is restricted to its long imaging times and spatial resolution.

N S Kumuda

Methods Towards Multimodal Biometric Pattern Analysis

Registration for PhD on March 2011
University /Branch: UOM, Computer Science
Award of Phd Degree: 27th December 2018

Dr. Dinesh M S
Honorary Professor
PET Research Centre
PESCE Mandya

Abstract: The research work deliberates on the importance of biometric applications and its implications in the field of machine learning and pattern recognition. Main objective of the research is to propose fingernails as an emerging, alternative biometric identifier and further propose its fusion with fingernail biometric identifier as a new combination of multimodality features.

The research work comprises of techniques followed to achieve the objective proposal through the related sub-objectives as briefly put across. The need and scope for emerging biometric, its application advantages and disadvantages as compared to established identifiers is deliberated.

The requirement of representative dataset for the defined problem is noted. In the process, we outline the laboratory settings required to setup sensors to capture fingernail and fingerprint images to create datasets for experimentation. The feasibility of fingernails segmentation is test educing previously existing methods. Based on the limitations of tested methods, an alternative algorithm proposed using marker controlled watershed principle to identify free nail growth at distal edge and to drop it to extract accurate fingernail plate area shape as descriptor.

The region based and dimensionality reduction methods examined to extract unique fingernails features. The best possible features sets considered that could characterize person's biometric identity for recognition. In addition, the multiple fingernail features visually represented to create templates. Similarities measured for person identification and fingernail classification.

The fusion of fingernail and fingerprint features proposed to overcome identification errors of elderly people due to damaged, smooth or weakened fingerprints. The research study includes tested methods and experimented algorithms on fingernail patterns and its fusion possibility with fingerprint patterns, all based on machine-learning techniques for person identification in automation systems.

~~~~~~

Shilpa .R
Research Scholar
Dept of E&E Engg,
PESCE Mandya

Power Quality Detection Classification and Monitoring Using Signal Processing Techniques

Registration for PhD on October 2013
University /Branch: VTU, Electrical Engg
Award of Phd Degree: 27th December 2018

Dr Puttaswamy P S
Professor and Head,
Dept of E&E Engg,
PESCE, Mandya

Abstract: The concern for voltage stability begins when the load on the system is heavy. The increase in load demand power is the primary cause of voltage instability state, which results in disturbances that may cause serious harm to the load equipment's. The issue of power quality generally comprises a discrepancy in the voltage or current, for instance voltage sag harmonics, fluctuations, interruptions and transients leading to breakdown of the equipment. Therefore, to enhance the power quality, there is a necessity of disturbance detection and the type of distortions must know so that proper mitigating action taken. A probable perspective in achieving this goal is to integrate detection facilities into a monitoring device such that events of concern identified, captured and classified.

Thus, the primary requirement of the monitoring system is to detect, identify, classify and then mitigate properly so that power quality is improved. The present research work has explored most of the existing techniques with various hybrid combinations and utilized the same for the analysis of real time data signals and SIMULINK generated signals. The contribution of this research work comprises of three stages, namely the detection of disturbances, classification and the mitigation.
~~~~~~

P.A Udaya Kumar
professor and HOD
Dept. of Mechanical Engg. RSIT
Chikkajala, Bangalore.

Synthesis and Characterization of Coir Fibers, Aramid Fibers and Coconut Shell Powder Reinforced Vinylester Hybrid Composites

Dr. Ramalingaiah
Professor
Dept of Mech. Engg,
PESCE, Mandya

Registration for PhD on February 2010
University /Branch: VTU, Mechanical Engg
Award of Phd Degree: 1stJanuary 2019

Abstract: The use of natural fibers and functional fillers in various thermoplastic and thermosetting composites is gaining popularity in many industrial sectors, and especially in automotive industry. The increasing marketing battle in automotive and aerospace industries had been looking for the development of lightweight material design for the possible replacement of conventional and polymer based composites with synthetic fibers. Therefore, among the substitutes, the natural fiber reinforced polymeric composite materials stand in the front row, due to its synergistic advantages of enhanced specific strength, stiffness and ecological benefits. Accordingly, several works been reported using various natural fibers as reinforcements in different polymeric systems to address the real time issues in automobile industry market. Among all, the coconut tree based reinforcing agents identified and they exhibit superior results on mechanical properties with different polymer matrix systems. However, the hybridization effect of coir fibers along with synthetic fiber and bio-based filler combinations not explored far. Further, the hybridization process in polymeric systems can be the appropriate substitute to the load-bearing applications. To find a suitable environmental friendly lightweight composite material system for structural and tribological applications, static mechanical properties as well as friction and dry sliding wear behaviors too studied in detail. This current research is mainly focused on developing coir fiber (CF) and CF combined with aramid fiber (AF) and coconut shell powder (CSP) filled vinyl ester (VE) hybrid composites using compression moulding technique. The composites prepared, with and without NaOH treated CF are termed as CF-VE composites. It characterized based on reinforcement as single fiber reinforced composites. In hybrid series, the CF, AF and CSP filler used as primary and secondary reinforcements respectively. Further, there are two sets of composites. In Set-I, only the coir fiber treated with NaOH solution, whereas in Set-II, the secondary reinforcements namely AF and CSP are treated with silane coupling agent. Surface treatment of natural fibers enhances the interfacial bonding and hence the strength of the composite is increased.

Based on the test results of hybrid VE composites, it established that the surface treatment has significant effect in increasing the mechanical properties of the composite. Further, the composites prepared with NaOH treated CF and silane treated AF and CSP outperformed all Set-I categories. With regard to hybridization; Set-II, the H6 series (VE-65+15 CF+AF+10 CSP) showed good mechanical properties and superior wear resistance with least friction coefficient.

~~~~~~

Wa'el Ibrahim A. Almazaydeh
Dept of Applied Science
AQABA University College
Albalqa Applied University
Jordan

Developing of Image Steganography Algorithms for Secret Message Communications

Dr.H.S.Sheshadri
Professor
Dept of E & C
PESCE,Mandya

Registration for PhD on August 2015
University /Branch: UoM, Electronics
Award of Phd Degree: 16th Jan 2019

Abstract: The thesis concentrates on developing new algorithms for hiding a secret message in an image. It shows seven new algorithms to hide a secret message in an image. The first one is the common technique that is Least Significant Bit (LSB), the second one is LSB and Huffman coding, the third one is the LSB and Arithmetic coding, and the fourth one is LSB and a dynamic symmetric key. The fifth one is LSB and a dynamic symmetric key by Huffman coding, the sixth one is LSB and a dynamic symmetric key by Arithmetic coding , the seventh one is LSB and spacing and the eighth one is LSB and XOR. The results of implementation compared using peak signal to Noise Ratio (PSNR) value.
~~~~~~

Ganesha B
Associate Professor
Dept. of Mechanical Engg
BITM, Ballari

Fault Diagnosis of Critical Rotating Machinery of Steel Industry using ANFIS

Registration for PhD on November 2006
University /Branch: VTU, Mechanical Engg.
Award of Phd Degree: 17th January 2019

Dr. K N Umesh
Professor
Dept. of Mechanical Engg
PESCE, Mandya

Abstract: Vibration analysis demonstrate that accelerometers and sensors mounted on bearing locations of the rotating machinery, can monitor the status of the rotating machinery such as unbalance, misalignment, fatigue wear and bearing condition. If these defects are not diagnosed, catastrophic failure of the machinery is imminent and hence the diagnosis has to carry out from the operational safety point of view. This research is an attempt to gain a better insight into the vibration phenomena of the rotating machinery in steel industries and the topic of research defined as, "Fault Diagnosis of Critical Rotating Machinery of Steel Industry Using *ANFIS*". The scope of the work confines to investigation of those faults due to running speed harmonics and the rest due to gear mesh frequencies excluded.

All the experimental investigations done on actual machineries, in Jindal Steel Works (*JSW*), Ballari, one of the Asia's biggest Steel Industry in India, while they are engaged in real time production processes. Out of the eight important machines identified, three top most critical machines, Mill stand, Air compressor and Feed Pump considered for investigation. The top most critical machine, Mill stand pursued for detailed investigation, as typical case study.

A brief outline of the procedure followed to conduct this novel research on the use of *ANFIS* to model and simulate and then to diagnose the critical machineries, presented. It actually begins with a detailed study of steel making and identification of machinery through criticality analysis using failure mode effect critical analysis (*FMECA*). Preliminary studies conducted using vibro-meter. Later the experiments designed using Taguchi Techniques and standardized using orthogonal array for three design factors, *f, l* and *d* and response factor, *v*. The vibration velocity components v_H, v_V and v_A obtained corresponding to each frequency along horizontal, vertical and axial directions at three different locations. *MINITAB* used to conduct Response analysis and Analysis of Variance (*ANOVA*).

~~~~~~

Srikanth H V
Assistant Professor
Dept of Aeronautical Engg
NMIT, Bangalore

A Study on Suitability of Milk Dairy Waste Scum Biodiesel for CI Engines

Registration for PhD on October 2013
University /Branch: VTU, Mechanical Engg.
Award of Phd Degree: 19th January 2019

Dr. J. Venkatesh
Professor &HoD
Dept. of Automobile Engg
P E S C E, Mandya

Abstract: The various complex physical phenomena including flow separation, reattachment, recirculation, and vortex shedding occurs in flow past cylinders. Based on the literature survey, the present work carried for Flow past two square cylinders of different size with corner modification by varying the spacing ratio by conducting experimental and numerical work. Results show that Frequency of vortex shedding decreases by placing second cylinder in the downstream of the first cylinder. For a similar size cylinders, the width of the eddy in the middle of the cylinders increases with increase in spacing ratio. With the increase of spacing ratio to 6, the flow past each cylinder behaves like single square cylinder. If upstream square cylinder size is smaller than the downstream square cylinder, the eddy size reduced in between the cylinder compared to the downstream of the second cylinder. If upstream square cylinder size is bigger than the downstream square cylinder, the eddy size is larger in between the cylinder compared to the downstream of the second cylinder. The magnitude of transverse velocity oscillation in between the cylinders smaller compared to the second cylinder of the downstream. The magnitude of transverse velocity oscillation in between the cylinders and in the downstream is more for square cylinders with sharp corners compared to the corners rounded cylinders whereas, square cylinders with corners chamfered lies in between them. The value of lift coefficient of the downstream cylinder is higher than the upstream cylinder. In case of larger upstream and smaller downstream cylinders, drag coefficient for the downstream cylinder is less compared to the upstream cylinder for square cylinders when compared to corners rounded cylinders whereas, square cylinders with corners chamfered lies in between them. Similar trend been found in all the cases under investigation when spacing ratio is 4, which is lying in between spacing ratio 2 and 6.
~~~~~~

Studies on Machinability Characteristics of Aluminium Matrix Hybrid Composites

Lakshmi Narasimha Murthy H.R
Research Scholar.
Dept of Mechanical Engg,
P.E.S.C.E, Mandya

Registration for PhD on November 2010
University /Branch: VTU, Mechanical Engg.
Award of Phd Degree: 20th February 2019

Dr. Ramalingaiah
Professor,
Dept of Mechanical
Engg. MRIT, Mysuru

Abstract: Aluminium alloys are preferred for applications demanding lightweight. Aluminium copper alloy finds more application and Al2419 is widely used. Composites of aluminium copper alloy, Al2419 used because of high strength to weight ratio. Silicon carbide usually reinforced with Al2419 alloy in particulate form and graphite particulates used as second reinforcement in hybrid composites. Al2419 alloy is reinforced with 0 to 8 % SiC particulates in Al-SiC composites and 1% Gr is reinforced in Al-Gr-Sic hybrid composites in addition to 0 to 8% SiC in the present investigation. As cast Al-SiC composites and Al-Gr-Sic hybrid composites have exhibited improved tensile yield strength and ultimate tensile strength for 0 to 8% SiC addition with these values being higher for Al-Gr-Sic hybrid composites than for Al-SiC composites. Hardness of both the composites has improved for 0 to 8% SiC reinforcement with Al-SiC composites harder than Al-Gr-Sic hybrid composites. Addition of 0 to 8% SiC has reduced percentage elongation of both the composites with Al-SiC composites exhibiting higher percentage elongation than Al-Gr-Sic hybrid composites. Machinability characteristics by turning using HSS tool and PCD tool investigated with experiments planned according to Central Composite Design of Experiments. Percentage SiC reinforcement, cutting speed, feed and depth of cut are the parameters included in the experimental plan for turning. Cutting force, tool wear and surface roughness in turning Al-SiC composites and Al-Gr-SiC hybrid composites measured as responses. Results of turning experiments analyzed with ANOVA, which also facilitates in ascertaining percentage contribution of each of the turning parameters. Factorial analysis has led to know the effect of the turning parameters on the measured responses. Contour plots of Response Surface Analysis have provided optimal combinations of turning parameters for least values of cutting force, tool wear and surface roughness.

~~~~~~

A Study of Extrusion Honing Process Induced Surface Integrity

Lingaraju K.N
Professor
Govt Engg College
Chamarajanagar

Registration for PhD on March 2009
University /Branch: VTU, Mechanical Engg.
Award of Phd Degree: 23rd February 2019

Dr. H.P. Raju
Professor and Head
Dept of Mechanical Engg,
P.E.S.C.E, Mandya

Abstract: The research work deliberates on the importance of biometric applications and its implications in the field of machine learning and pattern recognition. Main objective of the research is to propose fingernails as an emerging, alternative biometric identifier and further propose its fusion with fingernail biometric identifier as a new combination of multimodality features. The research work comprises of techniques followed to achieve the objective proposal through the related sub-objectives as briefly put across. The need and scope for emerging biometric, its application advantages and disadvantages as compared to established identifiers is deliberated. The requirement of representative dataset for the defined problem is noted. In the process, we outline the laboratory settings required to setup sensors to capture fingernail and fingerprint images to create datasets for experimentation. The feasibility of fingernails segmentation is test educing previously existing methods. Based on the limitations of tested methods, an alternative algorithm proposed using marker controlled watershed principle to identify free nail growth at distal edge and to drop it to extract accurate fingernail plate, area shape as descriptor. The region based and dimensionality reduction methods examined to extract unique fingernails features. The best possible features sets considered that could characterize person's biometric identity for recognition. In addition, the multiple fingernail features visually represented to create templates. Similarities measured for person identification and fingernail classification. The fusion of fingernail and fingerprint features proposed to overcome identification errors of elderly people due to damaged, smooth or weakened fingerprints. The research study includes tested methods and experimented algorithms on fingernail patterns and its fusion possibility with fingerprint patterns, all based on machine-learning techniques for person identification in automation systems.
~~~~~~

Hareesha N G
Assistant Professor
Dept. of Aeronautical Engg
Dananda Sagar College of Engg, Bengaluru-78

INVESTIGATIONS ON KINEMATIC ISOTROPIC PROPERTIES OF PLANAR LINKAGES

Registration for PhD on December 2008
University /Branch: VTU, Mechanical Engg.
Award of Phd Degree: 23rd February 2019

Dr. K N Umesh
Professor
Dept.of Mechanical Engg
PESCE, Mandya

Abstract: It is an attempt to gain a better insight into kinematic and isotropic properties of the manipulators, with the following objectives. Apply the concept of non-redundant manipulators to the redundant one, e.g., a planar 3R manipulator; Synthesize isotropic manipulators and to validate their properties through simulation; Conduct extensive investigations of the manipulator by varying link lengths and joint angles in the vicinity of isotropic configuration and apply the findings of research to hydraulic excavators. Various performance measures used to assess functionality and kinematic performance the manipulator examined using MATLAB, Maple and Robotics Toolbox. Singular value decomposition, Moore-Penrose Pseudo inverse and condition number of Jacobian described. Manipulability ellipsoids, conditions of isotropy for redundant manipulator derived. A comparison between kinematic isotropy and force isotropy of the planar manipulator is given. A novel method developed to obtain isotropic configurations of planar 3R manipulator. Sylvester's dialytic elimination method used to solve the system of equations representing isotropy of manipulator. A procedure of obtaining the isotropic configurations from the real roots of the system of equations described. A GUI developed for testing and portraying kinematic isotropic property of the manipulator using MATLAB and Robotics Toolbox. Isotropic properties were explored using normalized link parameters li, for three different types of structures, Type-I (l1 = 1, l2 = 1 and l3 = $1/\sqrt{2}$) and Type-II (l1 = 1, l2 = 1 and l3 = $1/\sqrt{6}/4 = 0.6124$) having fixed link parameters and Type-III with variable links (l1 = 1; 0.88 ≤ l2 ≤ 1.47 and 0.71 ≤ l3 ≤ 1.04). Type-II manipulators yield exact isotropy, which possess unit condition number. Some Type III manipulators also depict similar behavior. Near Type III isotropic configuration, there exist some useful configurations, which possess condition number approximately equal to unity. A study of hydraulic excavators, including basic structure, types and functions carried out. Jacobian of the excavator exploited for examining manipulability and isotropy. Four different excavators considered for study. It found that none of them was isotropic by virtue of their link lengths. Excavators of crawler and wheel based considered as representatives of each of their family for illustrations.

PLANNERS FOR INSTITUTIONAL ACADEMIC ACTIVITIES

Sl. No.	Faculty	Academic activities
1	Dr. K Narasimhachary	Controller of Examination
2	Dr. S L Ajit Prasad	Dean (Research)
3	Dr. P S Puttaswamy	Dean (Academic)
4	Prof. K M Ananthu	Deputy Controller of Examination
5	Prof. M J Anand	Deputy Dean (Research) & Coordinator - MOOCs, ICT, NPTEL
6	Dr. D R Umesh	Deputy Dean (Academic)
7	Dr. Shivalingegowda	Coordinator - NAAC, IQAC
8	Dr. R Girish	Training & Placement Officer
9	Dr. B S Shivakumar	Dean (III Cell)
10	Dr. N L Murali Krishna	Warden, Boys Hostel
11	Dr. M L Anitha	Warden, Girls Hostel
12	Dr. B Shanmukha	Warden, VSVM Boys hostel
13	Prof. T M Devegowda	Students Welfare Officer
14	Dr. Mahesh Kaluti	Coordinator - GATE Training, NIRF
15	Dr. S Vinay	Coordinator - Business Incubator, ARIIA
16	Prof. M C Girish Babu	Coordinator - AICTE activities
17	Prof. S K Shivashankar	
18	Dr. Somashekhar	Coordinator - Media
19	Prof. A S Mahesh	
20	Dr. Puneeth Kumar M B	Coordinator - Website
21	Dr. L Prasanna Kumar	Coordinator - Environmental

Dr. H. V. Ravindra, Principal & TEQIP Director PESCE Mandya, Prof. B Dinesh Prabhu, TEQIP Co-ordinator, PESCE Mandya and Dr. Mahesh Kaluti, TEQIP Nodal Officer-Academic, PESCE Mandya.

Proposed Conference under Twinning Programme	
2nd International conference Organized by Departments of Mech. Engineering Sciences (ME, IPE & AE) On **ICAMES-2019** During August 2019	**4th International conference** Organized by Circuit branches of Engineering (CSE,ECE, EEE & ISE) On **ICERECT-2019** During September 2019

P.E.S. COLLEGE OF ENGINEERING

Mandya-571 401, Karnataka, India, Estd. In 1962
(An Autonomous Institution affiliated to VTU, Belagavi)
Approved by AICTE, New Delhi World Bank funded College (TEQIP - III)
Grant In-Aid Institution (Government of Karnataka),
Accredited by NBA (six Programmes) & Accredited by NAAC
Secured Rank 161 by NIRF-2019 Rankings, Approved by MHRD, Govt. of India
PHONE: +91 8232 220043 / 238042 / 238330 / 220120 FAX: +91 8232 222075
e-mail: principal@pesce.ac.in
Website: www.pescemandya.org / www.pesce.ac.in