



BMS Institute of Technology and Management
Department of Electrical and Electronics Engineering

LIVEWIRE!

JULY 2023 – DECEMBER 2023

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A bi-annual newsletter





Late Sri B. M. Srinivasaiah
Founder, BMSET

Promoting prosperity of mankind by
augmenting human resource capital
through quality education and training



Late Sri B. S. Narayan
Donor Trustee, BMSET

Institution

Vision: To emerge as one of the finest technical institutions of higher learning, to develop engineering professionals who are technically competent, ethical and environment friendly for betterment of the society.

Mission: Accomplish stimulating learning environment through high quality academic instruction, innovation and industry-institute interface.

Vision of the Department

To emerge as one of the finest Electrical & Electronics Engineering Departments facilitating the development of competent professionals, contributing to the betterment of society.

Mission of the Department

Create a motivating environment for learning Electrical Sciences through teaching, research, effective use of state-of-the-art facilities and outreach activities.

LIVEWIRE!

July 2023 - December-2023 (Volume – 5, Issue -1)

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Memorable Moments / Best practices:

Awards:



Fig1. Dr. Suma Umesh awarded Ph.D

Prof. Suma Umesh of Electrical and Electronics Engineering Department defended her Ph.D. thesis on "Investigations on Sensing Principle for the Detection of SF6 for Online Condition Monitoring of a Gas Insulated Switchgear System" on 01.12.2023 at BMSCE research centre. Her research supervisor Dr. Usha. A and external examiner Dr. Parasuraman Swaminathan, Professor, Department of metallurgical and materials engineering, IIT Madras appreciated the work carried out. The final defense was attended by various faculty members and research scholars of the department

- Prof. Manjunath Babu P, Assistant Professor, Department of Electrical and Electronics Engineering has completed the PhD Final viva on 30.10.2023, RRC, Nagarbhavi, Bengaluru-560091.



Fig2. Dr. Manjunath Babu P Awarded the PhD

Faculty as Resource Person:

- Dr. Madhu Palati, Assistant Professor, Department of Electrical and Electronics Engineering received a letter of appreciation for contributing as a resource person in the Celebration Activity organized by Department of Civil and Mechanical Engineering, Brindavan College of Engineering, Bengaluru on 14.12.2023.

Open Day:

- The projects carried out by the 6th Semester students of Electrical and Electronics department under Project Based Learning (PBL) were displayed on 08.07.2023 as part of the Open Day. Three batches were shortlisted on 7th July for this event. Mr. Nagendra Karmarkar from the Inno Phase IoT was the external judge and Prof. Vikram Chekuri was the internal judge.



Fig3. Project Carried out by VI Sem Students PBL as part of Open Day

Industry – Institute Interaction:



Fig4. Industry visit to Vignesh Vidyut Controls, Bengalure

- An industrial visit was arranged by Department of Electrical and Electronics Engineering for first semester students at Visvesvaraya Industrial and Technological Museum, Bengaluru on 18.10.2023. The museum emphasized on interactive learning and its diverse range of exhibits made it a valuable resource for students. The visit provided a comprehensive understanding of the evolution of industrial and technological advancements in India. The students were accompanied by Dr. Prashanth N A Mr. Rajnikanth and Mrs. Shilpa G.



Fig5. Industry visit to Visvesvaraya Industrial and Technology Museum Bengalore

- An industrial visit was arranged by the Department of Electrical and Electronics Engineering for 4th semester at Vignesh Vidyut Controls, Bengaluru on 15.09.2023. The company specialized in design and manufacturing of distribution transformers, catering to a diverse clientele. Mr. Muralikrishna, the Managing Director of the company, delivered an engaging presentation outlining the company's history, mission, and its crucial role in the power distribution sector. The industry visit to Vignesh Vidyut Controls proved to be an educational and inspiring experience for the EEE department students. It provided practical insights into the intricate world of distribution transformer design and manufacturing, exposing us to real-world applications of our academic knowledge.



Fig6. Industry Visit to Substation at Doddaballapur, Bangalore

- An industrial visit was arranged by the Department of Electrical and Electronics Engineering for 7th semester students at 220/66kV substation at Doddaballapur, Bengaluru on 21.12.2023. The visit to the 220/66kV substation at Doddaballapur proved to be an enlightening experience for the 7th-semester engineering students, with a total of 51 participants. Exploring the intricacies of high voltage transmission and distribution systems, students gained practical insights into power generation, transformation, and distribution. Overall, the visit not only deepened theoretical knowledge but also fostered a real-world appreciation for the complexities of managing a critical component of the power grid. Faculty coordinators were Prof.. H.D. Kattimani, Dr. Madhu Palati and Prof. Vikram Chekuri.

Faculty Internship:

- Prof. Babu Naik G, Assistant Professor, Department of Electrical and Electronics Engineering has undergone industry internship at DIGIPIX Technologies from 17.07.2023 to 27.07.2023.
- Prof. Manjunatha Babu P, Assistant Professor, Department of Electrical and Electronics Engineering has undergone industry internship at DIGIPIX Technologies from 17.07.2023 to 27.07.2023.
- Dr. Sanjay Lakshminarayanan, Professor, Department of Electrical and Electronics Engineering has undergone industry internship at Sunshine Controls from 20.07.2023 to 31.07.2023.
- Prof. Vikram Chekuri, Assistant Professor, Department of Electrical and Electronics Engineering has undergone industry internship at Sunshine Controls from 20.07.2023 to 31.07.2023.

Workshops / Faculty Development Programmes/ Fests:

- Department of Electrical and Electronics Engineering along with Department of Mechanical Engineering has conducted a workshop on “Bureau of Indian Standards” on 20.12.2023 for 3rd semester students. The workshop on Bureau of Indian Standards (BIS) served as an enlightening platform for participants to delve into the regulatory framework that governs product quality and safety standards in India. Attendees gained valuable insights into the role of BIS in ensuring the reliability and conformity of goods across various industries. The workshop facilitated discussions on the latest standards and certifications, fostering a deeper understanding of compliance requirements. Participants also had the opportunity to interact with experts from BIS, providing a practical perspective on the implementation and impact of standards on industries. Overall, the workshop proved instrumental in promoting awareness and adherence to quality benchmarks set by the Bureau of Indian Standards. Faculty coordinators were Prof. H.D. Kattimani and Prof. Vikram Chekuri



Fig7. Workshop on “Bureau of Indian Standard”

- Department of Electrical and Electronics Engineering has conducted a workshop on “Arduino and Microcontroller Applications” on 06.12.2023. The workshop was organised for first semester students of the department. The Resource Person for the workshop was Mr. K Uday Bhargav, Owner/Founder, GenEd Technologies, Bengaluru. The workshop aimed to introduce students to Arduino microcontroller, programming concepts and provide hands-on experience using Tinkercad simulations. The students were guided through practical applications such as LED blinking, push button interaction, and motor control



Fig8. Workshop on Arduino and Microcontroller Applications”

- Department of Electrical and Electronics Engineering has conducted a workshop on “PLC and Automation” on 19.10.2023 for 7th semester students. Mr. H S Shiva Shankar worked in VISL, Bhadravati for 37 years and retired as Dy. General Manager gave a talk on PLC and Automation. He stressed on the various aspects of hardware used in industry along with PLCs for automation and control in various sectors such as chemical, pharmaceutical, etc. He also showed several short videos on automation and its ramifications.



Fig9. Worksho on “ PLC and Automation” talk by Mr. H.S Shiva Shanker from VISL Bhadravati

Seminars / Expert Talks

Expert talk organized:



Fig10. Expert talk on the topic “Opportunities and Solution for Employability in Core Engineering” by Mr. Anand, President of ASSET Society

- Department of Electrical and Electronics Engineering organized an expert talk on the topic “Opportunities and Solution for Employability in Core Engineering” for 4th semester students on 11.08.2023. The expert talk was delivered by Mr. Anand, President of ASSET Society, Visionary Founder and CEO of Swifterz Creative Services, Bangalore.

- Department of Electrical and Electronics Engineering organized an expert talk on the topic “Electrical safety and Protection” for 2nd semester students on 12.08.2023. The expert talk was delivered by Mr. Lokesh S, Senior Manager, Home & Distribution BU, Schneider Electric Pvt. Ltd. Bangalore.



Fig11. Expert talk on the topic “Electrical safety and Protection” Mr. Lokesh S, Senior Manager, Home & Distribution BU, Schneider Electric Pvt. Ltd. Bangalore.

Publication of Research Papers by the Faculty Members:

International Journal:

- Babu Naik Gugulothu, Sanjay Lakshminarayanan, Madhu Palati, Suresh Haleyr Lakshmegowda. (2023). A Novel Method to Improve the Residual Life of Switchgear by Reducing the Impact Caused by Thermal and Mechanical Stresses Produced Due to SLG Cable Faults in Electrical Substations. *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences*, 106(2), 68–77. <https://doi.org/10.37934/arfmts.106.2.6877>
- Palati, Madhu, and M. C. Madhu. "Simulation Studies on Harmonic Analysis of Lighting Loads." In *International Conference on Future technologies in Manufacturing, Automation, Design and Energy*, pp. 775-783. Singapore: Springer Nature Singapore, 2020.

International Conference:

- Madhu Palati, Sameeksha, Pindi Hara Priya, Shylaja M, Sachin S Shekar B C, “Design of a smart braking system using Microcontroller for dual Scenarios”, International Conference on Recent Advances in Fluid Mechanics and Nanoelectronics (ICRAFMN-2023), 12-14, July 2023, Manipal Institute of Technology, Bengaluru
- Madhu Palati, and Mahipal Bukya, “Design and analysis of peaking capacitor for generation of high voltage fast risetime pulses”, International Conference on Recent Advances in Fluid Mechanics and Nanoelectronics (ICRAFMN-2023), 12-14, July 2023, Manipal Institute of Technology, Bengaluru.
- Babu Naik Gugulothu, P Vishakha Aithal, Karan Kishore, Gayatri Jaltare, Vertika Srivastava, “Design and Fabrication of Micro Drone for Surveillance of Hazardous Remote Environment”, International conference on Recent Advances in Fluid Mechanics and Nanoelectronics (ICRAFMN-2023) from July 12-14, 2023.
- Babu Naik Gugulothu, P Vishakha Aithal, Karan Kishore, Gayatri Jaltare, Vertika Srivastava, “A Simulation-Based Control System and Model-Based Parameter Analysis for an Economical Drone”, International conference on Recent Advances in Fluid Mechanics and Nanoelectronics (ICRAFMN-2023) from July 12-14, 2023.

- Ozwin Dominic Dsouza, Anshul Mahesh, Kiran K V, Rohan J, Shashank Tandur, “Remote Load Switching Based on GSM”, International conference on Recent Advances in Fluid Mechanics and Nanoelectronics (ICRAFMN-2023) from July 12-14, 2023.
- Shilpa G, Vishnu Samudralal, Gaurav Kumar Rai, Eeshan Bhattacharya, “Universal DC Microgrid”, International conference on Recent Advances in Fluid Mechanics and Nanoelectronics (ICRAFMN-2023) from July 12-14, 2023.
- B. S. VenkateshMurthy, M. Palati, P. ShriHarinayak and B. Bairwa, "Design and Development of Smart Locker for Domestic Applications," 2023 IEEE 2nd International Conference on Industrial Electronics: Developments & Applications (ICIDeA), Imphal, India, 2023, pp. 1-6, doi: 10.1109/ICIDeA59866.2023.10295207.

Book Chapter:

- Prashanth N.A and Madhu Palati, “Optimization Techniques and Applications to Solve Real-World Industrial Optimization Problems”, Chapter-4, Advanced Mathematical Techniques in Computational and Intelligent Systems, 1st edition, CRC Press, 2023,pp.1-18, ISBN 9781032398662. <https://doi.org/10.1201/9781003460169>.

Journal Review:

- Dr. Madhu Palati, Assistant Professor, Department of Electrical and Electronics Engineering received certificate of Reviewing In recognition of the review made for the journal Applied Science and Engineering Progress on 15.12.2023

Initiatives by the departments:

- Dr. Madhu Palati, Assistant Professor, Department of Electrical and Electronics Engineering has received certificate of Excellence for reviewing articles in "Physical Science International Journal", on 21.07.2023.
- Dr. Madhu Palati, Assistant Professor, Department of Electrical and Electronics Engineering has received appreciation Certificate in recognition of his work as a reviewer for the Hindawi portfolio of journals.
- Dr. Madhu Palati, Assistant Professor, Department of Electrical and Electronics Engineering has received Certificate of Excellence in recognition of an outstanding contribution to the quality of the International Research Journal of Pure and Applied Chemistry.
- Dr. Madhu Palati, Assistant Professor, Department of Electrical and Electronics Engineering has received Certificate of Reviewer Recognition for AICTE Sponsored IEEE International Conference

on Networks, Multimedia and Information Technology (NMITCON) is organized at Nitte Meenakshi Institute of Technology, Bengaluru INDIA during 1st and 2nd September 2023 in association with IEEE Bangalore Section.

- Dr. Madhu Palati, Assistant Professor, Dept. of Electrical and Electronics Engineering received certificate of Excellence for peer reviewing a book chapter of B P International Publishers.
- Dr. Madhu Palati has successfully completed the course on fundamentals of EV chargers conducted by BOLT EARTH in association with Automotive Skills Development Council (ASDC) on 19.10.2023.
- Prof. Manjula B K. Assistant Professor, Department of Electrical and Electronics Engineering Completed an NPTEL Course of 8 weeks duration “Sensor Technologies: Physics, fabrication, and Circuits” with a consolidated score of

REPORT ON CLIMATE CLOCK



- On December 11, 2023, RV College of Engineering hosted a conference titled "KAALNIRNAY" focusing on energy conservation and climate change. This event was organized as part of the energy-saving movement led by the Energy Swaraj Foundation (ESF), initiated by Dr. Chetan Singh Solanki, a professor at IIT Bombay. Guided by Prof. H D Kattimani from the Electrical and Electronics Engineering Department, two of our final-year students, Madhura G and Dheeraj T, actively participated in this seminar. The one-day conference provided an opportunity for both faculty and students to engage in the hands-on activity of setting up and assembling a climate clock.

CLIMATE CLOCK:

A climate clock serves as a symbolic or tangible representation, highlighting the urgency of addressing climate change. It visually communicates key metrics like carbon dioxide levels, global temperatures, or the remaining carbon budget to emphasize the time-sensitive nature of climate action.

The planet has become warmer by 1.1 degrees centigrade. This global warming has caused climate change. The frequency and intensity of natural calamities like heat waves, cyclones, floods, droughts, and forest fires due to human induced climate change have also increased.



The IPCC report affirms that temperature rise beyond 1.5°C will start irreversible climate change. The 1.5°C is the most important number for every human being. It is the number that all climate scientists are keeping an eye on.

The Climate Clock deadline shows how long we have left until this carbon budget runs out, given the amount of carbon we continue to emit globally.

The clock will continue to run down until it hits zero, at which time our carbon budget would be depleted and the likelihood of devastating global climate impacts would be very high leading to irreversible climate changes.

Whether in digital displays, online platforms, or physical installations, the purpose is to raise awareness about critical timelines and deadlines associated with mitigating climate change. By presenting these metrics, climate clocks aim to inspire individuals, communities, and governments to adopt sustainable practices and policies, fostering a collective commitment to tackle the pressing challenges posed by climate change.

ABOUT Prof. CHETAN SINGH SOLANKI AND ENERGY SWARAJ FOUNDATION:

PROF. CHETAN SINGH SOLANKI



Entrepreneur and Author

A renowned solar scientist, a professor of IIT Bombay, Dr. Solanki has been referred to as “Solar Man of India” by Times of India, The Hindu and India Today. Some people also call him “Solar Gandhi”. Known for his remarkable work in the field of Solar, he is an educator, innovator, researcher, author and and loves to talk about the philosophy of life. He is the author of 8 books and over 100 research papers.

Following Gandhian ideals, he has coined the word ‘Energy Swaraj’. His Energy Swaraj Movement is a stepping stone towards energy access, energy sustainability, and climate change mitigation.

Currently he is on a 11-year long Energy Swaraj Yatra through a solar bus to bring awareness about climate change to masses and encourage them to switch towards 100% solar powered life. During this 11 year of yatra he has pledged to live on a bus and not go home until the goal is achieved. Prof. is Solanki believes in practising yoga, breathing exercises and meditation for physical and mental well-being as a teacher of Art of Living.

ENERGY SWARAJ FOUNDATION



Energy Swaraj Foundation
Energy by Locals for Locals

Energy Swaraj Foundation (ESF) is a section-8, not-for-profit organization, formed to establish Energy Swaraj or Energy Self-rule or Energy Independence across the world through adoption of the AMG approach. The motto of the ESF is “Energy by Locals for Locals”

The philosophy of the Energy Swaraj Foundation is based on scientific understanding and practical learnings through its seed project SoULS (Solar Urja through Localization for Sustainability) of IIT Bombay through which involved locals in assembly, sale, repair and in some cases manufacturing.

Through SoULS we reached out to over 8 million families by training 9000 local women, demonstrating the success of the idea of Energy Swaraj - “Energy by Locals for Locals”. This initiative has won the IEEE’s global grand prize of USD 100,000 for the Empowering Billion Lives competition, CSIR Award, Prime Minister’s Innovation award (to the SoULS in a district) and many others. The IEEE award money was fully donated to form the Energy Swaraj Foundation.

the Energy Swaraj Foundation is working to create Energy Swaraj as a public movement and it has set clear targets to achieve by 2030. In this movement, we are fortunate to have various members of the movement, who have come forward to stand shoulder to shoulder with the Energy Swaraj Foundation. These members are not only taking an active role in mitigating climate change and adopting solar energy but they are also helping financially in creating the movement in a small way through their memberships. Each member signs a joint declaration to join the fight against climate change.



Fig. 12Energy conservation and climate change Clock

Tech Fest:

Tech Transform 2023:

- The Tech Fest is an annual event which is held to highlight the different aspects of technological advancements made for the benefit of society. The department of Electrical and Electronics Engineering has also been successful in emanating an aroma of attraction of its own kind; the event was christened with name 'Vidyut 9.0'. It empowered the knowledge of electrical sciences through its exhibits, along with a well-set ambience and fun events which aimed to spread knowledge and joy together. Flagging off the events AMPUP-Dead Lift, Poster Presentation, Coil Escape, and Van De Graff Generator, Vidyut 9.0's inaugural ceremony took place on 22.12.2023. Faculty coordinators were Prof. Ozwin Dsouza and Dr Manjunatha Babu, Student coordinators were Nithin A and Tanshiqa A Swamy.



Fig13. Tech Transform 2023



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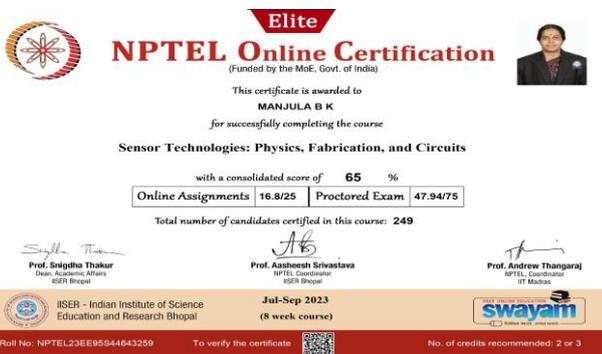
Avalahalli, Doddaballapur Main Road, Bengaluru - 560064



Fig. 14 Students won the first prize in National Level Technical Fest

- Final Year EEE students guided by Prof. H.D. Kattimani comprising of Dheeraj T, Madhura G, Vaishali B and Harshitha S won the first prize in National Level Technical Fest, Electrogreen`23 on 20.12.2023, held at Sir. MVIT, Bengaluru.

- Dr.Prashant A. Athavale , has Completed NPTEL (July2023 - Oct 2023, 12 weeks) Course on “Medical Image Analysis”.



- Prof. Manjula B.K , has Completed NPTEL (July2023 – Sep2023, 8 weeks) Course on “Sensors Technologies: Physics, Fabrication and Circuits ”.



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