Shri Vile Parle Kelavani Mandal's Institute of Technology, Dhule
(Approved by AICTE, Recognized by DTE and Affiliated to DBATU, Lonere)

**Department of Electrical Engineering**

Vol. 6. July 2023

# ELECTROTECH SCOOP

(The half yearly newsletter)

## CHAIRMAN'S MESSAGE

**Hon. Shri. Amrishbhai R. Patel**

I am happy to see the sixth edition of newsletter "Electrotech Scoop" July 2023 edition under Electrical Engineering Department of SVKM's Institute of Technology, Dhule. The newsletter/magazine is a communication medium for all students, staff, parents and friends to know the recent activities and developments that are taking place at the departmental level. I congratulate the Hon. Principal, HOD, Faculty Members, Technical staff, students and the editorial team for coming up with this new issue of newsletter/magazine for the department.

At SVKM's Institute of Technology, we remain committed to give very best to the students under our assistance. I want to extend my heartfelt gratitude to all the parents, students, stakeholders who have put their trust in us and been a part of this wonderful journey of SVKM's Dhule Campus.

Let's come together to work with vision of Trust "Pursuing Excellence in Education"

## PRINCIPAL'S MESSAGE

**Dr. Nilesh Salunke**

I am very pleased to see the sixth edition of newsletter of Electrical Engineering Department "Electrotech Scoop" July 2023 edition.

The newsletter contains all the information related to student activities, achievements, faculty achievements, workshops and other activities conducted at the departmental level. Indeed, it is a canvass that has taken its forum through the contribution of all the concerned in the Department. I would like to congratulate the Head of Department as well as staff and students.

I wish many more activities, academic pursuits, and achievements coming across our path as we journey together to conquer the milestone with SVKM's Institute of Technology, Dhule.

## HOD'S MESSAGE

**Dr. Vishal Moyal**

I am very blissful to inform that Department of Electrical Engineering, has taken a leading role constructively in various development activities. The newsletter report highlights many evidences in the areas, such as, industrial visits, internship, training of students and faculties. A major area of focus during this Academic Year 2022-23 has been the research, projects and funding.

The department continually strives to nurture the new relations with follow-up activities to strengthen the bond between academia and industry. Students got opportunities to learn in this new fashion and innovate through industry supported projects, internships, and guest lectures of eminent persons. Research papers have been published in the renounced national and international conferences by the department in this year which shows a healthy trend and positive look. This year I proud to express that our faculties are showing interest in research, one of our projects got selected for funding in this academic year and almost all faculties are contributing in projects and publications.

## RESEARCH AND FUNDING

The concept and the implementation are the two most crucial elements of every research endeavor. The infrastructure that is available to perform the research is just as important to the project's success as the researcher's efforts. Funding is necessary to cover the costs of manpower and materials needed to carry out a research endeavor. If the researcher or institution has the infrastructure necessary to carry out the research, many research projects can be carried out without any outside funding. Ordering tests for research purposes when they do not directly help patients or are not required by standard care is also unethical. To cover these costs and ensure that research programs are carried out smoothly, financing for research is needed.

Getting funding for a research project is a topic that is not talked about during graduation and beyond in an academic career, especially in the medical field. Many good ideas are not realized in good research projects due to lack of funds.

Publication of journals is possible without external funding; Small-sample observational and experimental studies can be conducted without external funding and can lead to significant publications such as case reports, case series, observational studies or small experimental studies. However, when studies such as multicenter studies, randomized controlled trials, experimental studies or observational studies with large samples are planned, the study may not be able to be done within the resources of the department or institution and an external source of funding is required.

Many local, national and international funding institutions can provide research grants. However, the priorities of different funders may differ according to the type of research, and this must be taken into account when planning the grant. Additionally, different funders have different funding offers and limits. Applying for a research grant is a time-consuming but rewarding task. This not only provides an opportunity to design good research, but also provides an opportunity to understand the managerial aspects of conducting research.

- Dr. Vishal Moyal

## INSTITUTE VISION

To be a socially sensitive engineering institute of excellence adding value to the nation.

## INSTITUTE MISSION

1. To provide resources of excellence with a focus on nurturing and developing the society.

2. To strive to be an institute of global recognition.

## DEPARTMENT VISION

To nurture technically efficient and socially responsible Electrical Engineers, capable of meeting society's future requirements and environmental challenges.

## DEPARTMENT MISSION

M1: To improve academic infrastructure in the field of Electrical Engineering, resulting in high-quality professionals, by utilizing modern technology and design automation tools.

M2: To provide industry with technically educated and globally competent Electrical Engineers.

M3: To inculcate passion for learning and encourage creativity to serve society.

## PROGRAM EDUCATIONAL OBJECTIVES (PEO'S)

PEO1: To develop the ability of solving engineering problems using the fundamentals of science and mathematics.

PEO2: To create the ability to use design automation tools and design for addressing social and industrial challenges.

PEO3: To encourage graduates for higher education, careers in research and entrepreneurship to work as part of a team with leadership skills.

## PROGRAM SPECIFIC OUTCOMES (PSO'S)

PSO1: Graduate will apply Electrical Engineering knowledge effectively in the context of environmental and social concerns.

PSO2: Graduates will exhibit their understanding of electrical engineering for systems design and experimentation.

PSO3: Graduates will strive to pursue lifelong learning and leadership prospects.

## PROGRAM OUTCOMES (PO'S)

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## FACULTY MEMBERS

Dr. Vishal Moyal
Associate Professor
and Head of the Department

Dr. Namra Joshi
Associate Professor

Dr. M. Ankush Kumar
Assistant Professor

Mr. Sandeep Ushkewar
Assistant professor

Mr. Gaurav Patil
Assistant Professor

Mr. Jagdish More
Assistant Professor

Ms. Farha Naz
Assistant professor

Mr. Shahid Akhtar
Assistant Professor

Mr. T. M. Shubham
Assistant Professor

## TECHNICAL ASSISTANTS

Mr. Rahul Thakur
Technical Assistant

Mr. Jayesh Patil
Technical Assistant

Mr. Pankaj Bhavsar
Technical Assistant

## FACULTY CONTRIBUTIONS

### Faculty Publications

| S. No. | Name of the Faculty | Title of the paper | Name of the Journal/Conference | Indexing | Date of Publication |
|---|---|---|---|---|---|
| 1 | Dr. Namra Joshi | An Overview on Development & Prospects of Geothermal Power Plant in India | International Conference on Computer Communication and Informatics (ICCCI) | SCOPUS | 23.Jan.2023 |
| | | Importance Of Phasor Measurement Unit In Modern Power System | 5th International Conference on Smart Systems and Inventive Technology (ICSSIT 2023) | SCOPUS | 25.Jan.2023 |
| 2 | Mr. Sandeep Ushkewar | Power Quality Issues & Mitigation during the Integration of Renewable Energy into Grid | 23rd ISTE National Annual Students Convention and ISTE State Faculty Annual Convention | - | 04.Mar.2023 |

### Faculty Attended FDPs/STTPs/Moocs

| S. No. | Name of Faculty | Title | Start Date | End Date |
|---|---|---|---|---|
| 1 | Dr. Namra Joshi | Scilab | 24.Jan.2023 | 07.Feb.2023 |
| | | Power Quality Problems and Solutions | 30.Jan.2023 | 03.Feb.2023 |
| | | Big Data Applications in Electrical Engineering | 20.Feb.2023 | 24.Feb.2023 |
| 2 | Mr. Sandeep Ushkewar | Power Quality Problems and Solutions | 30.Jan.2023 | 03.Feb.2023 |
| | | Big Data Applications in Electrical Engineering | 20.Feb.2023 | 24.Feb.2023 |
| 3 | Mr. Gaurav Patil | Power Quality Problems and Solutions | 30.Jan.2023 | 03.Feb.2023 |
| 4 | Mr. Jagdish More | Power Quality Problems and Solutions | 30.Jan.2023 | 03.Feb.2023 |
| 5 | Ms. Farha Naz | Power Quality Problems and Solutions | 30.Jan.2023 | 03.Feb.2023 |
| | | Artificial Intelligence | 20.Feb.2023 | 24.Feb.2023 |
| | | Internet of Things: How did we get here | - | 07.Apr.2023 |
| | | Internet of Things: Communication Technologies | - | 20.Apr.2023 |
| 6 | Mr. T. M. Shubham | Power Quality Problems and Solutions | 30.Jan.2023 | 03.Feb.2023 |
| | | Big Data Applications in Electrical Engineering | 20.Feb.2023 | 24.Feb.2023 |
| 7 | Dr. M. Ankush Kumar | Power Quality Problems and Solutions | 30.Jan.2023 | 03.Feb.2023 |
| | | Big Data Applications in Electrical Engineering | 20.Feb.2023 | 24.Feb.2023 |
| 8 | Mr. Shahid Akhtar | Power Quality Problems and Solutions | 30.Jan.2023 | 03.Feb.2023 |
| | | Big Data Applications in Electrical Engineering | 20.Feb.2023 | 24.Feb.2023 |

| Faculty Achievements | | |
|---|---|---|
| **S. No.** | **Name of Faculty** | **Details of Achievement** |
| 1 | Mr. Sandeep Ushkewar | Elevated to the grade of IEEE Senior Member on 18.02.2023. |
| 2 | Dr. Namra Joshi | Elevated to the grade of IEEE Senior Member on 21.06.2023. |
| 3 | Mr. Sandeep Ushkewar | Invited as a Jury Member at state level "Online Paper Presentation" Competition on 19.04.2023 organized by Polytechnic, Mumbai. |
| 4 | Dr. Namra Joshi | Delivered an expert lecture on "Emerging Trends in Indian power System" on 18.05.2023 at Zeal College of Engineering and Research, Pune. |

## FACULTY DEVELOMENT PROGRAMS

In collaboration with NITTTR Chandigarh, department has organized a one-week faculty development program on "Power Quality Problems and Solutions" from 30/01/2023 to 03/02/2023. This FDP has covered a vast area of power quality issues and mitigation techniques. FDP has also covered the need of power quality improvements in charging stations.

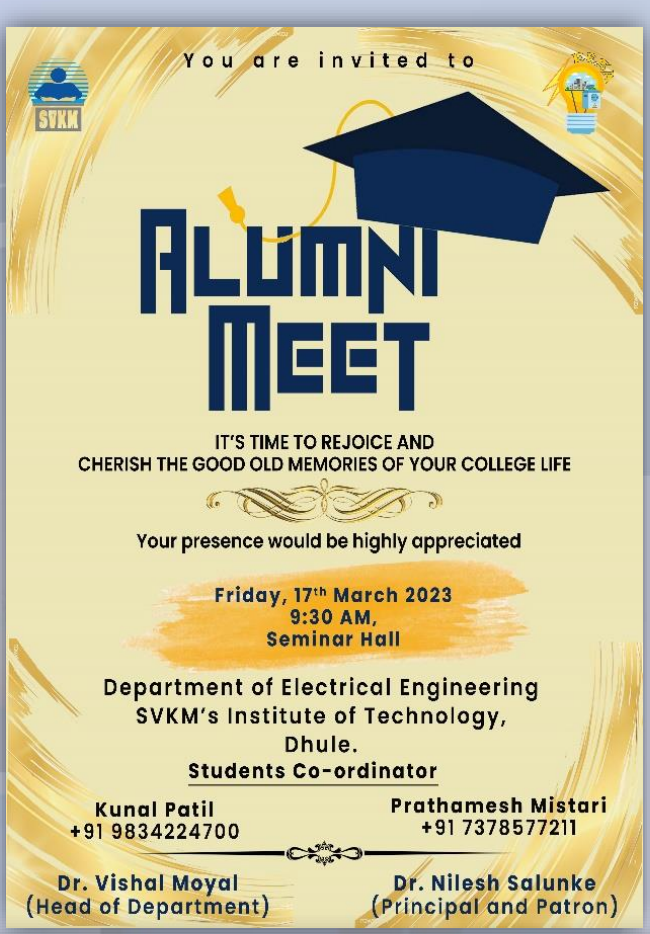

To motivate the department faculty in the modern technologies such as Big Data, a one-week Faculty Development Program was organized in the department on "Big Data Applications in Electrical Engineering" from 20th February 2023 to 24th February 2023. The FDP has focused on applications of IoT and AI. Machine learning applications were discussed in this FDP. Few case studies of deep learning and Big data were also discussed in this FDP. This FDP has created a platform for discussion among the faculty of various colleges.

## EXPERT TALK

Machine learning and electrical engineering professionals leverage AI to build and optimize systems and also provide AI technology with new data inputs for interpretation. With this context, an expert talk was organized on 03rd May 2023 for the students of Electrical Engineering.

## ALUMNI MEET 2023

Alumni networks can be a valuable resource for both current and former students. For current students, alumni networks can provide mentorship and guidance. For former students, alumni networks can provide a way to stay connected to the school and other alumni. Alumni meet is an opportunity for alumni to reconnect with their classmates and also their juniors. Alumni meet provides a platform for alumni to share their experiences during placement and motivate juniors with their suggestions. In order to create an alumni network the first alumni meet of the department was organized on 17th March 2023. In this event, the achievements of the alumni were also honored providing a platform for alumni to interact with their juniors.




## INDUSTRIAL VISITS

Revalyu Recycling India Ltd. Nashik has commercialized a breakthrough chemical plastic bottle recycling technology. The PET recycling process uses a unique way to break down (depolymerize) used plastic PET bottles (i.e. multi-ester molecules) into sustainable esters (monomers). These monomers can be used to directly replace conventional oil derived monomers and used as the base building chemical to manufacture all PET based products such as polyester textiles, PET bottles, film, sustainable PET packaging etc. With this context, the electrical engineering department of SVKM's Institute of Technology, Dhule had organized one-day educational visit to Revalyu Recycling India Ltd., Nashik on 19th May 2023.



Nashik Thermal Power Plant is one of the coal based power plants of Maharashtra State Power Generation Company (Mahagenco). NTPS has an installed capacity of 140*2+210*3=910 MW. The power plant has got ISO Certification in April 2002. With this context, the electrical engineering department of SVKM's Institute of Technology, Dhule had organized one-day educational visit to NTPS, Nashik on 19th May 2023.

## STUDENTS ACHIVEMENTS

Students of third year have received a funded project of **Rs. 4,80,000/-** from IIT Bombay under Chanakya Fellowship Program under the guidance of Mr. Shahid Akhtar. The title of the project is “Wind Turbine Predictive Maintenance using Machine Learning”. Each student receives a monthly fellowship of 10,000 and an amount of 80,000 can be used for any contingency. The duration of the project is 10 months.

Mr. Shahid Akhtar
Faculty Coordinator

Pratiksha Lohar

Mayur Mali

Faizan Shaik

Rohit Deore

This project analyzes an industrial problem such as the prevention of downtime due to maintenance, enhancing reliability, and avoiding breakdown maintenance of wind turbines. Predictive maintenance mainly consists of two parts: Anomaly Detection and estimating Remaining Useful Life (RUL). Anomaly detection has been taken into consideration here. A dataset of wind turbine operating status will be acquired. Time domain and time-frequency domain features will be extracted to identify the condition indicators. The features and condition indicators will be used to train the Machine Learning model to detect anomalies. The trained model will be deployed on a windows-based application or web-based server.

Also, our students of Final Year won second place at Maharashtra State Engineering Design National Award 2022 for the project titled “Wireless Charging in a Dynamic Environment for Electric Vehicle” under the guidance of Mr. Sandeep Ushkewar at ISTE National Students Convention held on 4th March 2023. In this project, the finite element analysis is done by ANSYS simulation software. The static and dynamic modeling of the suggested wireless power transfer technique is the study's most important finding. A new model is created and described that takes into account both static and dynamic issues.

| Sr. No. | Name of the Student | Paper Title | Name of the Conference |
|---|---|---|---|
| 1 | 1.Sachin Potdar<br>2.Chetan More<br>3.Vishal Mahajan<br>4.Shivam Bhinagre<br>5.Ankit Girase | Arduino Based zero emission residential Home for sustainable township | 5th International Conference on Smart systems and Inventive Technology (ICSSIT) Held during 23-25 Jan 2023 |
| 2 | 1.Kunal Rajput<br>2.Krushnaraj Koli | Smart Farming with IoT: A Review of Sensor-based Techniques and Data Analytics | Innovations in the Power Sector towards Sustainable Development Goals (iPSSDG) at Biswa Bangla Convention Centre Kolkata, West Bengal, India on June 23rd & 24th, 2023. Organised by Damodar Valley Corporation |
| 3 | 1.Jitendra Patil<br>2.Tejaswini Patil | A Systematic Review of IoT-based Solutions for Crop Monitoring and Yield Optimization | Innovations in the Power Sector towards Sustainable Development Goals (iPSSDG) at Biswa Bangla Convention Centre Kolkata, West Bengal, India<br>on June 23rd & 24th, 2023. Organised by Damodar Valley Corporation |
| 4 | 1.Kunal Rajput<br>2.Jitendra Patil | Effective Control of DC to DC Converter for The Application of DC Distribution System | Innovations in the Power Sector towards Sustainable Development Goals (iPSSDG) at Biswa Bangla Convention Centre Kolkata, West Bengal, India<br>on June 23rd & 24th, 2023. Organised by Damodar Valley |
| 5 | 1.Amit Pawar<br>2.Bhushan Jagtap<br>3.Pravin Lonari<br>4.Rohit Bhadane<br>5.Ronak Jain | IOT based Accident Detection and Alert System | 8th International Conference Shaastrarth-2023 on Advances and Application of artificial Machine Learining and Data Science 23-24 June 2023 |
| 6 | 1.Surbhi Gupta<br>2.Tanmay Borse<br>3.Kedar Jawarkar<br>4.Gaurav Shirude<br>5.Prachin Gujar | Air Monitoring System | IEEE National Students' Conference on Innovations in Rural Development 20th and 21th April 2023<br>Blended Mode Organized by<br>IEEE Students' Branch<br>Shri Sant Gajanan Maharaj College of Engineering,<br>Shegaon - 444203, Maharashtra State, India |

# STUDENTS ACHIEVEMENTS - PLACEMENTS



| Sr. No. | Student Name | Employee Name | Package in LPA |
|---|---|---|---|
| 01 | Gujar Om Yatin | Careerlabs Pratian Innovation Campus, Banglore - Karnataka, India. | 3.50 |
| 02 | Ajay Suresh Shelkar | CRTD Technologies Pvt. Ltd. Berkheda, Bhopal, MP. | 2.52 |
| 03 | Bagul Chandrashekhar Gulab | Genpact DLF City, Gurgaon, Haryana, India. | 4.17 |
| 04 | Chaudhari Tejaswinee Ajay | I-Solution Master in Industrial Services, Pune, Maharashtra. | 2.96 |
| 05 | Patil Yashodip Kashinath | Shhambhawee Services Pvt. Ltd., Bhopal, Madhya Pradesh. | 2.40 |
| 06 | Mistari Prathamesh Nandulal | Suryalogix Pvt. Ltd, Pune, Maharashtra. | 2.35 |
| 07 | Patil Pavan Sanjay | Shhambhawee Services Pvt. Ltd., Bhopal, Madhya Pradesh. | 2.40 |
| 08 | Girase Ankit Vijaysing | Sai Datta Reality, Pune, Maharashtra. | 1.80 |

| Sr. No. | Student Name | Employee Name | Package in LPA |
|---|---|---|---|
| 09 | Patil Surybhan Yashwant | Shhambhawee Services Pvt. Ltd., Bhopal, Madhya Pradesh. | 2.40 |
| 10 | Vispute Jagruti Sharad | vTech Solutions Inc, Vadodara, Gujarat. | 2.52 |
| 11 | Jain Ronak Ashok | CRTD Technologies Pvt. Ltd. Berkheda, Bhopal, MP. | 1.80 |
| 12 | Magar Arpita Manohar | vTech Solutions Inc, Vadodara, Gujarat. | 2.52 |
| 13 | Bhadane Jayesh Sanjay | Desai Electronics Pvt. Ltd. Pune, Maharashtra. | 2.40 |
| 14 | Patil Pooja Bhushan | Kokban Automation Pvt. Ltd., Pune, Maharashtra. | 2.00 |
| 15 | Potdar Sachin Sunil | Neilsoft, Pune, Maharashtra. | 3.00 |
| 16 | Mistari Chetana Suresh | I-Solution Master in Industrial Services, Pune, Maharashtra. | 2.96 |
| 17 | Jagtap Bhushan Suresh | Siemens Ltd. Worli, Mumbai. | 2.16 |
| 18 | Chavan Sarita Tukaram | Authentic Encon Pvt. Ltd., Vadodra, Gujarat. | 2.73 |
| 19 | Suryawanshi Ganesh Bhatu | Skkato India Pvt. Ltd., Pune, Maharashtra. | 2.17 |
| 20 | Rajput Pranali Pravinsing | Spark Mind, Pune, Maharashtra | 1.20 |

## MEMBERS OF IEEE

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Mahakan Ahuja
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Gayatri Rana
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Jy. Secretary

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