



VES Institute of Technology

Newsletter: Department of Instrumentation

Sixth Edition



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Editorial

Education is the instrument by which character is formed, strength of mind is increased, the intellect is expanded and by which one can stand on his / her own feet. It is undebatable truth that education creates both new wants and the ability to satisfy them. Education in the form of Engineering is very closely linked to technology and the rise of it, which is why it has played a important role in technological advances. The same was highlighted in the year 2020. It was the year which saw the paradigm shift in education, which transformed from offline to online mode, from chalk-and-board to smart board-presentations. In the unexpected event of the global pandemic, among the various sectors which underwent disruption, education was one among them. Teachers and students adapted themselves to the new world of digital/virtual lectures and digital/virtual activities.

With this annotation, we, at the Instrumentation Department present the sixth edition of our newsletter “**INNOVETA**” with testimonies of our steps towards progress in the year 2020-21.

Vision of the Department

To contribute at National as well as International level for excellence in technical education and research in the field of instrumentation and control by creating proactive, noble personalities and integrated individuals who will use the knowledge and be fully dedicated to the progress of society.

Message from Department



Mrs. Madhumati Khuspe
Assistant Professor

Traditionally, scientists and engineers have sought solutions that eliminate inconvenience and discontent. The COVID-19 pandemic has brought plenty of both to the world, but it may also be leading us to better times. The budding scientists and engineers of VESIT can view this as a unique opportunity to seek out new challenges. Your talent and flexibility, coupled with a solid knowledge of advanced science and technology, will allow you to create real impact as the world emerges from this crisis.

In present situation, even if students cannot immerse themselves in experiments, they can combine their flexibility and innovative ideas with the experience of professors to devise simulation, calculations to develop prototype. There are many historical examples of groundbreaking discoveries and timeless masterpieces that were born during times of adversity. For example, it is said that some of Isaac Newton's and William Shakespeare's acclaimed achievements emerged under quarantine conditions caused by a plague outbreak in the late 16th century.

Finally, I want to reiterate that the safety of you and your loved ones is of the utmost importance. While keeping that foremost in our thoughts, we can continue to work together, remain determined, and move towards a better tomorrow as Team VESIT.

Department Domains

- ❖ Lab View Academy
- ❖ AIA Academy
- ❖ L & T GET Training
- ❖ Process Automation
- ❖ Advanced Control System
- ❖ Biomedical Instrumentation
- ❖ Fiber Optic Instrumentation
- ❖ Nuclear Instrumentation
- ❖ Embedded System
- ❖ Analog & Digital Electronics
- ❖ Transducer
- ❖ Advanced Sensor

Student Achievement

- B.E. student project on **“ElectroOculoGram based Drowsiness Detection”**, by Ashwin Pillay, Raj Anchan, Aniket Bhadracha, Aditya Kale, qualified for the Phase 2 of Semifinals in the ‘India Innovation Challenge Design Contest (IICDC)’ by DST and Texas Instruments and being selected in **top 100 teams from a total of 18000+ teams**. They have also filled a provisional patent at IPO based on the head band designed for the project and published an IEEE conference paper at **IIT-Kharagpur**, based on the preliminary study done for the project.
- B.E. student project by Shreyas Kulkarni, Chandraprakash Vishwakarma, Sahil Kedari, Jayesh Korgaonkar, secured 2nd prize in **‘Open Automation Challenge’** at B&R Industrial Automation, Pune.

Stay Alert, Control the virus, Save lives

Placement Statistics

- ❖ No. of Students placed: 23+
- ❖ No. of Students Eligible: 59

Internship & Training

Most of the Students attended offline/online Internship & Training programs in various Industries and Institutions.

- ❖ RCF
- ❖ B&R Industrial Automation
- ❖ Reliance Energy
- ❖ Sierra Instrumentation and Control
- ❖ Tata Steels
- ❖ XpertUp Technologies
- ❖ L&T Technology Services
- ❖ Tata Power
- ❖ SCR Elektroniks
- ❖ Chavare Engineering

Online Courses (Students and Staff)

- ❖ Coursera
- ❖ Udemy
- ❖ Unschool Ltd.
- ❖ Pirple
- ❖ Microsoft

Our Recruiters



Higher Study

Three Students got admitted for higher Studies in Indian and foreign universities for various field of specialization such as **M.Sc. (Data Analytics) Business Management etc.**

Wash your hands, Maintain distance, Cover your mouth with mask

Research Papers Published

❖ Mrs. Sangeeta Prasanna Ram

- Published a paper in Journal of Radio Analytical and Nuclear Chemistry on 26th May 2020
- International Conference on 11th ICCCNT 2020 from 1st-3rd July 2020
- Indian Journal of Pure & Applied Physics on July 2020

❖ Mrs. Nilima Warke

- Published a paper in 4th International Conference on Trends in Electronics and Informatics (ICOEI 2020) from 15th - 17th June 2020
- First International Conference on Circuits, Signals, Systems and Securities ICCSSS 2020 from 11th - 12th Dec 2020

❖ Mrs. Kanchan Chavan

- Published a paper in an 4th International Conference on Trends in Electronics and Informatics (ICOEI 2020) from 15th - 17th June 2020

Patents Filed

- Sangeeta Prasanna Ram, Ashwin B. Pillay, Aniket Lalji Bhadracha, Aditya Kale, Anchan Raj Bipin, **“A novel wearable for detecting drowsiness among operator of heavy machinery/vehicles”**.

Workshops/Courses Attended by Faculty

The department faculties took keen interest in upgrading their skills from time to time by attending various workshops.

1. Mrs. Nilima Warke

- ISTE approved Online FDP "Automatus 2020- Make Automation Yours"(Two Weeks)
- STTP on “Natural Language” Processing (NLP)- Theory and Practices"(One Week)
- Online FDP on Internet of Things (One Week)
- Artificial Intelligence (One Week)
- STTP on Research Methodology (One Week)
- Research Methodology (One Week)
- Advances in Internet of things (One Week)
- Workshop on Universal Human Values (Five Days)
- IPR Awareness and Patent Prosecution” (Five Days)
- International FDP on “Future Advancements and Applications of Internet of Things” (Three Days)
- National Open workshop on Getting aligned to the Publishing process Scopus and Science (Two Days)

2. Mrs. Jayashree Ramakrishnan

- IIC Online sessions on Innovation, IPR, Entrepreneurships & Start-ups (Four Week)
- Moodle Learning Management Systems (One Week)
- Learning in Mathematics, Science & Engineering (One Week)
- "Data Science" (One Week)
- Internet of Things(IOT) & It's Applications In Industry (One Week)
- Green Internet of Things Phase - III (One Week)
- Workshop on Universal Human Values (Five Days)
- Remote Engineering Education Using NI in New Normal (One Day)
- How do we Prepare Our students for Industry 4.0 using NI (One Day)

Stay Home ,Stay Safe

Coursera Certification (Staff)

1. Mrs. Deepti Khimani

- AI for everyone

2. Mrs. Kadambari Sharma

- Safety in the Utility Industry
- Nanotechnology and Nanosensors, Part I

3. Mrs. Amudha Senthilkumar

- Linear Circuits 1: DC Analysis
- Image Processing with Python
- AI for everyone
- Image and Video Processing

Workshops/Courses Attended by Faculty

8. Mrs. Madhumati Khuspe

- Workshop on Universal Human Values (Five Days)

9. Mrs. Amudha Senthilkumar

- Workshop on Universal Human Values (Five Days)

10. Mrs. Kanchan Chavan

- ICT/LMS Tools for Teaching & Learning (Four Days)

- Lab VIEW for Artificial Intelligence (One Day)
- AI in Diabetic Retinopathy Screening (One Day)

3. Mrs. Namrata Bonde

- Green Internet of Things Phase - III (One Week)
- Exploring the Dimensions of Innovation, Incubation and Emerging Technologies to Embrace Post COVID Changes (Five Days)
- Innovation, Entrepreneurship, and its Relevance in Industry 4.0 Practices in the Post Covid-19 Situation (Five Days)
- Innovative Trends in Engineering And Technology (Five Days)

4. Mrs. Mugdha Jogalekar

- Green Internet of Things Phase - III (One Week)
- Exploring the Dimensions of Innovation, Incubation and Emerging Technologies to Embrace Post COVID Changes (Five Days)
- Innovation, Entrepreneurship, and its Relevance in Industry 4.0 Practices in the Post Covid-19 Situation (Five Days)
- Innovative Trends In Engineering And Technology (Five Days)

5. Mrs. Sangeeta Prasanna Ram

- FDP on Data Science (Five Days)
- Workshop on Universal Human Values (Five Days)
- Somaiya Research Interventions in Engineering and Technology (One Day)

6. Mrs. Kadambari Sharma

- Internet of Things & its Applications in Industry (Five Days)
- Learn to Design your own Solar Home System (One Day)

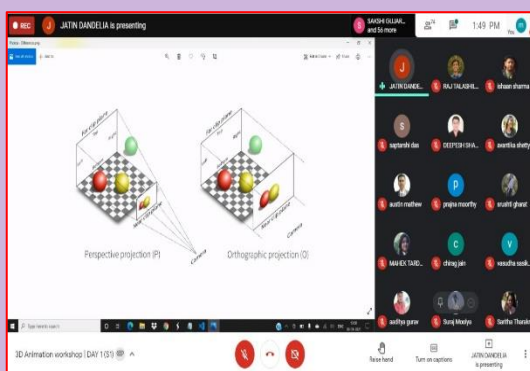
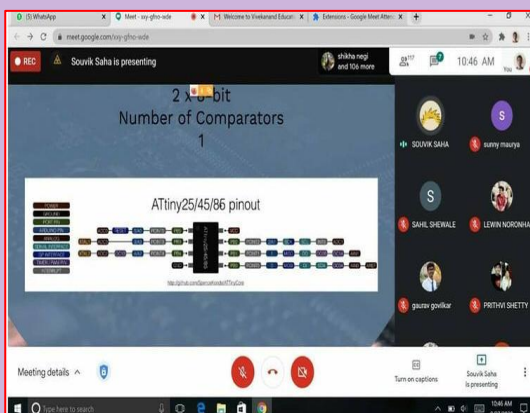
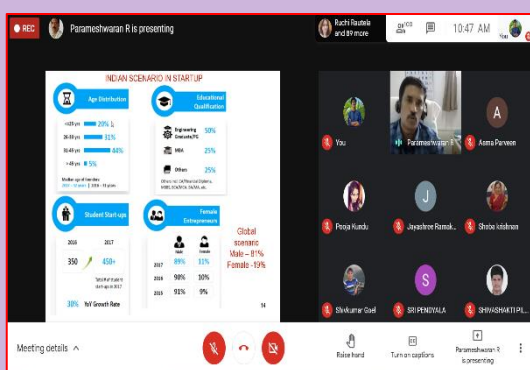
7. Mrs. Deepti Khimani

- Deep Learning on Ramp (One Week)
- MATLAB based Teaching-Learning in Mathematics, Science & Engineering (Five Days)

Getting vaccine adds another layer of protection

Skill Enhancement Activity (SEA)

- National quiz on ‘Sensor Signal Conditioning Design and Control’(One Day)
- AICTE Sponsored One week Online STTP on Green Internet Of Things - Phase III(One Week)
- IIC Online sessions on Innovation,IPR,Entrepreneurships & Start-Ups (Four Week)



ISA Activity (Students Platform)

ISA-VESIT took a huge leap this year on the path to give the service of a Technical Society in the true sense. Set out to achieve technical prowess, it has surely come a long way. ISA-VESIT has now become a more technical oriented society and aims at imparting technical skills to its members in tandem with recreational events and skill enhancing workshops.

A) E-Hardware Hackathon (3rd to 5th July, 2020)

During the corona pandemic ISA conducted an online event E-Hardware Hackathon. The solution was presented in a PPT presentation and live simulation format.

B) Microcontroller Board Development Workshop (27th September 2020)

The topics covered in this session were meant to enrich the theoretical and technical acumen of the participants regarding ATtiny85, Eagle CAD and GIT software. With the overwhelmingly positive feedback received for the session it proved true to its purpose.

C) EluciMate (7th to 24th October, 2020.)

The participants were asked to create a short video on any topic related to engineering curriculum. They were given a span of 10 days to work on the same. The motive of the event was to keep participants busy in something new and to showcase their creativity in teaching technical topics.

D) Web Automation (17th & 18th October,2020)

All the four sessions conducted in these two days were very informative with the enthusiasm and positive response from the participants, the workshop turned out to be a great success.

E) 3D Animation Workshop (30th & 31st January,2021)

The workshop which saw an enthusiastic participation of students, started with the elucidation of what is JavaScript, its basics and its prominence in the upcoming future. Fundamentals of Three.js like setting up a scene, adding a camera and rendering were admirably covered.

My Family, My Responsibility

Instru-International Talk Series

Department of Instrumentation, VESIT in association with VESIT-IQAC and VESIT-IIC conducted the Instru-International talk series from 7th to 12th September 2020 with International experts and alumni on various topics.

A) How to get a Job in Machine Learning (7th Sep 2020)

Mr. Tanvir Shaikh currently working as a Lead Data Scientist at the Finance Department, Genentech/ Roche, USA presented us with a very informative Session on Machine Learning and how we can get jobs related to Machine Learning.

B) Introduction to Silicon Design Process From Thought to Chip (8th Sep 2020)

Mr. Avinash Somanathan currently works at Samsung Electronics as a GPU Physical Design Engineer which makes him the perfect candidate for explaining the Design Process and thought behind building the chip. In this session Mr. Avinash explained how a chip is made from thought to a final working device very beautifully. He explained the thought process behind the design and making of the chip, be it a Microcontroller or a Microprocessor or even a Processor.

C) Sales & Marketing in the Field of Instrumentation (9th Sep 2020)

Mr. Pranit Kotgire currently works with Crystal International Technology located in Oman as a Technical Sales Engineer. In this session Mr. Pranit explained how Sales and Marketing can be a lucrative career option and how we can make a switch to Sales and Marketing.

D) Discussion or Chat with a Department Alumnus (9th Sep 2020)

Mr. Ganesh Rapelli currently works as R&D Product Manager at ABB Ability Innovation Center located at Bangalore, India. This session by Mr. Ganesh was a talk/ discussion with the students covering topics like tips and tricks to get placed in campus placement, suggestions regarding higher studies, etc.

E) Augmented Reality and Mobile Solutions for Field Operators (10th Sep 2020)

This session was instructed by **Dr. Zied M. Ouertani**. He is Global Technology Manager, Chemicals and Refining, Energy Industries in ABB, Frankfurt, Germany.

F) Engineer Your Career (11th Sep 2020)

This session was instructed by **Mr. Sriram Viswanathan**. He is a software Engineer, Robotics & Digital Solutions in Verb Surgical, United States of America.

G) From Instrumentation to Biomedical (12th Sep 2020)

This session was instructed by **Ms. Radhika Mujumdar**. She is a Biomedical Research Engineer at University of Buffalo, United States of America.

Doctors, Police, Nurses, Community workers and unseen warriors a big salute to them

Instru-International Talk Series

Find Your Calling

	Data Analyst	Machine Learning Engineer	Data Engineer	Data Scientist
Programming Tools	●	●	●	●
Data Visualization and Communication	●	●	●	●
Data Intuition	●	●	●	●
Statistics	●	●	●	●
Data Wrangling	●	●	●	●
Machine Learning	●	●	●	●
Software Engineering	●	●	●	●
Multivariate Calculus and Linear Algebra	●	●	●	●

● Not that important ● Somewhat important ● Very important

Increase silicon area vs clocks saved

- This is the golden question every CPU/Silicon architect must answer
- Layout the chip after decisions
- Make sure it works fine in simulation
- Send it to a fab

Example Project:

Technical Sales & Marketing

Ground Level Facts

- Technical Sales engineer's time is split between Office & visiting client.
- You would be given a specific region to develop business.
- Traveling & relocation is often.
- Digital Communication has made it all easy & convenient.
- Constant hustling, entrepreneurial mindset & judgments.
- Face the rejections. Learn the lesson & celebrate the success.

CARENX INNOVATIONS

Bio-signal Processing, Feature extraction

Extract fetal ECG from mother's abdominal signal

Tools/Skills

- MATLAB
- Python
- Signal processing
- lots of Research!

Alumni Interaction

An alumni interaction for Instrumentation Department was organized where two alumni communicated with the SE and TE Students and guided them for future.

The session was aimed at guiding the current students, had their queries resolved related to different fields that can be explored post engineering. two sessions were conducted.

A) Wireless Instrumentation (17th April 2020)

This session was conducted by **Mr.Sagar Jorapur** who Joined Emerson India in 2008 through campus recruitment program.He discussed on various topics like What,Why and How,of Wireless,Types of Wireless etc.

B) Role of Instrumentation Engineer in Industry (1st May 2021)

This session was conducted by **Mr. Prasad Patil**, Now, he is currently working at RCF Ltd.Trombay as an Officer Grade-1 Management Trainee. He shed light on the challenges and complexity faced in the Instrumentation industry. Adding on, he also gave some informative examples of skill set.



We are all in this together! Even if we can't hold hand right now

Alumni Speaks

Hello my name is Shyam Jethwani, ex-student of VESIT passed out B.E. instrumentation in 1991. It has been the most memorable four years of my life. We were very lucky to have great professors and a good campus with updated lab facilities and also sports ground. The process control & instrumentation, microprocessors, were really taught well by very knowledgeable professors. I particularly enjoyed programming 8085 microprocessor in the lab and also learnt a lot while doing our project on temperature control loop. I take this opportunity to thank each and every lecturer and professor for shaping my life.

Mr. Shyam Jethwani (BE 1991)

The 4 years at VESIT in the Instru department, were arguably the most defining years of our careers. It laid a solid foundation for everyone not only in our core domain, but across cultural, entrepreneurial and personality pursuits. The state of the art labs made sure we are always working in sync with the industry standards, which made placements and further studies all the more easier to everyone. Do your best and there will be nothing that you can't achieve ahead of it!


Mr. Akshay Rathi (BE 2017)

I, Bhairavi Sawant, graduated from VESIT as an Instrumentation Engineer in the year 2015. It has been an insightful experience for me. This department has taught me all the technical aspects which I could practically apply while working professionally. The well-built infrastructure of all the labs in the department taught us the practicality of all the technical processes. This helped us imagine how a process would actually work in industrial applications. All of this has built a strong foundation in our life. Last, but not the least, I would like to express my heartfelt gratitude to all the professors in the department, who taught us with utmost dedication and helped us not only during our tenure, but also have been continuing to do the same even till today.

Ms. Bhairavi Sawant (BE 2015)

Editorial team

 **Mrs.Mugdha Jogalekar**

 **Mrs.Namrata Bonde**

 **Mr.Akash Koyalkar**

Thank You