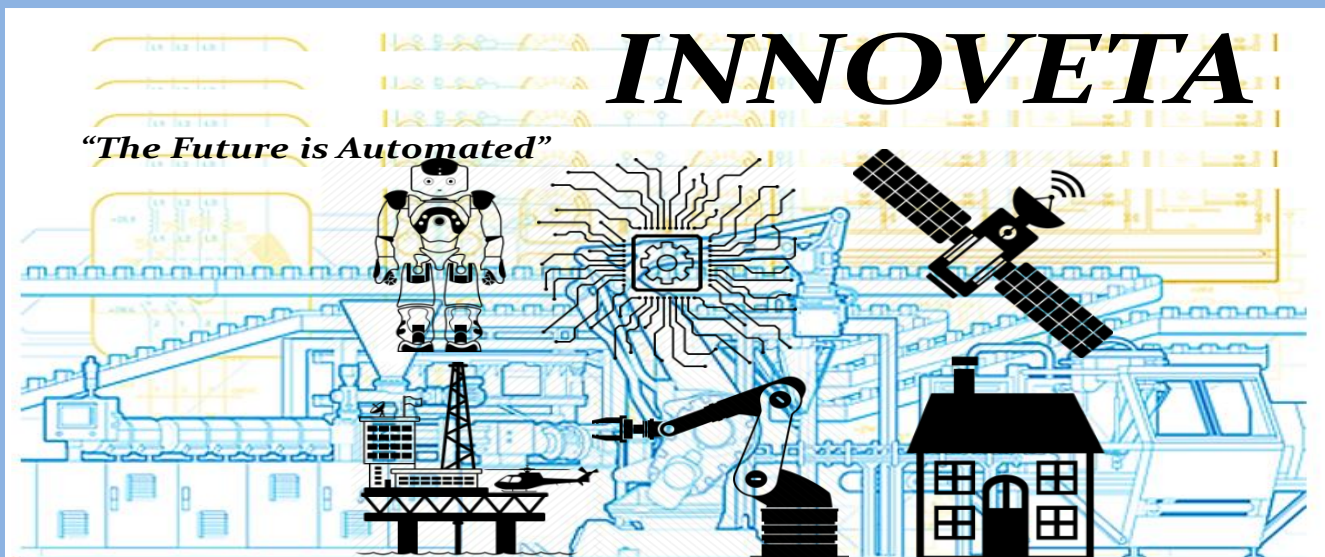




# VES Institute of Technology

## Newsletter: Department of Instrumentation

### Fourth Edition



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- ✎ Akash Koyalkar
- ✎ Lekshmi Ajesh
- ✎ Ajit Patil



#### Editorial

*The Fourth issue of Instrumentation Department's newsletter "INNOVETA" shares the glimpses of our accomplishments in the year 2018. "Don't take rest after your first victory because if you fail in second, more lips are waiting to say that your first victory was just Luck." Following Dr. A.P.J. Abdul Kalam's advice, we aspire to continue dreaming and striving hard with perseverance to constantly acquire knowledge to help outdo ourselves year after year.*

#### 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



**Dr. M. D. Patil**  
**Associate Professor**

*“सम्यक् सरति इति संसार”*

*This Sanskrit shloka speaks about the dynamics of the world that changes continuously. This is very well applicable in the field of engineering. A change is inevitable and it is associated with a rate. Since the seminal scientific formulation of the ‘change’ and ‘rate’ in the late 17th century, calculus and its applicability has been evolved through technological advancements to serve the human race on our planet. In day-to-day life, everyone needs to measure a quantity of one variable with a purpose to control it or another variable. This is exactly an Instrumentation and Control situation in an engineering sense that keeps eyes on the change and its rate.*

*I, being a student of Instrumentation & Control Engineering for over two decades, have witnessed great technological transformations in the field of engineering. If we really try to define a scope of Instrumentation and Control Engineering, then one can find it between two terminals. One ‘an Instrumentation’ and other ‘the control’ and in between there is a whole lot of Engineering including electronics, communication, computing, Information technology and many more. Therefore, Instrumentation engineer can contribute to any one of the fields. With the state-of-the-art laboratories and committed professors, we hope that students with their ignited minds will contribute to the technological evolution that the nation will be proud of.*

### Department Domains

- ❖ Stochastic
- ❖ Process Automation
- ❖ Advanced Control Systems
- ❖ Biomedical Instrumentation
- ❖ Nuclear Instrumentation
- ❖ Embedded Systems
- ❖ Advanced Electronics
- ❖ Fiber Optic Instrumentation

### Research Projects

- ❖ Kernel Based Machine Learning for Nuclear Application
- ❖ Nuclear Data Evaluation for  $^{241}\text{Am}(n,2n)$  using Kalman Filter Technique
- ❖ Precision and Sliding Pulse Generator.
- ❖ Picosecond Programmable Delay Generator
- ❖ High Speed Data Acquisition Systems
- ❖ Low level Signal Processing
- ❖ Fibre Optics in Industrial Applications
- ❖ High Resolution Timing Spectroscopy
- ❖ Reconfigurable ADCs
- ❖ High Resolution Spectroscopy System
- ❖ Partial Discharge Analysis and Simulations

*“If you want to shine like a SUN, first burn like a SUN. – Dr. A. P. J. Abdul Kalam”*

## Department Activities

- ❖ NI - LabVIEW Academy
- ❖ Biology for Engineers (STTP)
- ❖ Training for L&T GET
- ❖ Aayam 2018

## Placement Statistics

- ❖ No. of Students placed: 22+
- ❖ 3 Students got 2 Jobs

## Finishing school Training

“Two-day Finishing School” was conducted by Mr. Prasad Godse for students moving from third year to final year in July 2018.

## Quality Improvement Program: Ph.D.

- ❖ Mr. Kader Shaikh
- ❖ Mrs. Deepti Khimani

## Our Recruiters



## Staff Achievement

- ❖ Elite Certificate with Gold medal awarded for successfully completing 8 weeks NPTEL Course on “*Advanced Linear Continuous Control Systems: Applications with MATLAB Programming and Simulink*” during August - October 2018.

### ✓ Attendees:

Mrs. Deepti Khimani

- ❖ Elite Certificate awarded for successfully completing 12 weeks NPTEL Course on “*Digital Image Processing*” during July - October 2018.

### ✓ Attendees:

Mrs. Madhumati Khuspe

Mrs. Amudha Senthilkumar



*“I am the master of my failure ... If I never fail how will I ever learn. – Sir. C. V. Raman”*

## Research Paper Published

- ❖ Mrs. Deepti Khimani has published a research paper in “International conference on Advances in Computing, Communication and control” on October 2018.
- ❖ Dr. M. D. Patil and Mrs. Deepti Khimani has published a research paper in “International Journal of Control, Automation and Systems, Springer” on July 2018.
- ❖ Dipesh Solanki, Mrs. Sangeetha Prasanna Ram, Dr. Jayalekshmi Nair, S. Ganesan has published a research paper in “IEEE Digital Xplore” on June, 2018.
- ❖ Dr. M. D. Patil has published a research paper in “International IEEE/ASME Transactions on Mechatronics” on May 2018.
- ❖ Mrs. Nilima Warke & Dr. P. P. Vaidya has published a research paper in “ICECA.2018” on March, 2018.
- ❖ Rashmi Patankar, Mrs. Sangeetha Prasanna Ram, Dr. Jayalekshmi Nair, Renju Thomas has published a research paper in “IEEE SPICES 2017” on February, 2018.
- ❖ Dr. M. D. Patil and Mrs. Deepti Khimani has published a research paper in “International Proceedings of 5<sup>th</sup> IFAC ACODS” on February 2018.
- ❖ Mrs. Kadambari Sharma. has published a research paper in “ICSCET” on January 2018.
- ❖ Mrs. Nilima Warke has published a research paper in “International Journal of Computational and Intelligence Research” on January 2018.

## Professional Society Activities

29<sup>th</sup> of August 2018 witnessed a new dawn for ISA-VESIT as it marked the event: AAYAM. The technical event ‘AAYAM’- **Exploring New Dimensions** was organized by ISA-VESIT where in speakers with proficiency in the field of engineering graced the occasion and enlightened the students with their knowledge and experiences. Students from various colleges were invited to attend the grand event. AAYAM aided students to get an overview of the practical applications of the subjects they are presently learning about.

The esteemed guest of the day **Mr. Brian Curtis, President, ISA International** was accompanied by the other dignitaries of the day Mr. Prabhu Soundarrajan, Executive Board Member, ISA USA, Mr. Ramani Iyer, Vice President, Asia Pacific District of ISA and ISA Maharashtra Section office bearers. After a grant felicitation by the trustee of V.E.S., Shri. B.L. Boolani, Mr. Brian Curtis addressed the gathering and enlightened the students with his wise words.

After rendering an insightful of words, he was escorted to the Process Instrumentation lab where he expressed his pleasure by surveying the loops and other equipment. After an informative session in the lab with the students and the faculty, the event ended on a high note.



*“I have not failed. I've just found 10,000 ways that won't work.” -- Thomas Edison*



## Student Activities

- ❖ 8 Students got admitted for **higher studies in Indian and foreign universities** for various Field of Specialization such as Industrial Engineering, MBA, M.E. etc.
- ❖ **ISA student council** conducted **Arduino workshop** on 10th and 11th of August 2018 and **Analog Electronics workshop** on 10th to 12th October 2018 for second year students.
- ❖ Students of second and third year attended **IOT workshop conducted by Microsoft ATS** held in March and June 2018.
- ❖ Skill Enhancement Lecture (SEL) on **“Functional Safety”** was delivered by Mr. Sudhir Pai (Country head, EXIDA, India) on 12th September, 2018 for the final year students.
- ❖ Students participated in Praxis events like:
  - Automation in IT
  - Hardware Auction.
  - Crack the Code

## Industrial Visit

To gain clarity regarding the concepts in textbook and their practical applicability, it is essential to visit an industry. Such visits will also acquaint the students with the industrial environment. In October 2018, two such visits were organized:

- ❖ T.E. students visited **“R.K. Control Instruments Pvt. Ltd., Thane”** to familiarize with Control Valves and accessories and their manufacturing and testing methods.
- ❖ Final year students visited **“Emerson Process Management, Mumbai”** for Functional Safety course.



*“The way of progress is neither swift nor easy. – Marie Curie.”*

## Expert Talks

**Dr. M. D. Patil** (Associate Professor, Instrumentation dept., VESIT), delivered expert talk on **“High Performance super twisting control for space delay systems”** on 12<sup>th</sup> September 2018.

## Courses Conducted by Faculty

- **LabVIEW training workshop in July 2018 (6 days)**
  - ❖ Mr. Kader Shaikh
  - ❖ Mrs. Sangeetha Prasanna Ram
  - ❖ Mrs. Kanchan Chavan
  - ❖ Mrs. Nilima Warke

## Training for L&T GET

L&T Graduate Engineer Trainees (GETs) training was conducted by Instrumentation Department, V.E.S.I.T., Chembur from 28<sup>th</sup> July to 9<sup>th</sup> Aug, 2017 for 234 GETs. Main aim of this training was to provide hands-on on the module Instrumentation and Control Engineering to GETs of Electronics/ Instrumentation /Electronics & Communication/ Computer/Information Technology/ Mechanical/Production Engineering.

This training was coordinated by Mrs. Nilima Warke. The training sessions conducted by Mrs. Nilima Warke, Mr. P. K. Godse, Mrs. Kadambari Sharma, Mrs. Kanchan Chavan and Mrs. Amudha S. During this training, the importance of safety, quality, productivity, cost, planning and organizing and creativity was delivered. Lab sessions on temperature, pressure measurement, pressure control loop, level control loop, control valves, current to pneumatic converters were explained and performed. At the end of the session, quiz was conducted based on the theory and lab sessions.



*“Strive not to be a success, but rather to be of value. – Albert Einstein.”*



## Staff Activities

- ❖ Ten Days Workshop on “Probability and statistics for scientists & engineers” at Terna Engg. college, Navi Mumbai., Nerul in June 2018.

### ✓Attendees:

Mrs. Sangeetha Prasanna Ram,  
Mrs. Amudha Senthilkumar

- ❖ One day Workshop on “Orientation Program of Advanced Sensor” in July 2018 at VESIT Instrumentation Dept.

### ✓Attendees:

Mrs. Sangeetha Prasanna Ram,  
Mrs. Nilima Warke,  
Mrs. Kadambari Sharma.



## Biology for Engineers

A week-long Short-Term Training Program saw organized from 2nd July to 6th July, 2018 on **‘Biology for Engineers’**. This course was designed to provide an introduction to that interface, presenting biology from an engineering perspective.

The lectures were conducted by six eminent professors from the **‘Department of Biosciences and Bioengineering’**, IIT-Bombay. The sessions included modules on **‘Biophysics’** and **‘Role of Entropy in determining protein structure’** conducted by Dr. Ambarish Kunwar, **‘Movement science and rehabilitation engineering’** by Dr. Neeta Kanekar, **‘Introduction to cells and cellular processes’** and **‘Understanding Viruses’** by Dr. Kiran Kondabagil and **‘Tissue engineering’** by Dr. Prakriti Tayalia, followed by an interesting session on **‘Stem cells and Cancer’** by Dr. Shamik Sen and **‘Nano-Medicine and Drug Delivery’** by Dr. Rinti Banerjee.

The highlight of this STTP was the visit to the technologically rich labs of the Department of Biosciences and Bioengineering, IIT-B. Participants got to see the working and visual representation of BIO-AFM facility, Confocal Laser Scanning Microscope and FACS (Fluorescent Activated Cell Sorting) facility.



**“But still try; for who knows what is possible! – Michael Faraday”**

## Alumni Speaks

VESIT is amongst the top ranked colleges for all its branches but particularly it has the best advanced laboratories and staff for the Instrumentation branch. VESIT Instrumentation department consists of various laboratories such as process instrumentation lab, control system lab, Analytical & transducer lab, DSP lab and Biomedical Lab. The department also has R&D center for research studies.

Although Instrumentation is a challenging field still our department and staff has taken great efforts to build a strong foundation in developing confident and aspiring instrument engineers. The advent of the new process instrumentation lab has enabled students to envisage the complete process of plant which will help them to grow in the energy industry. Students who want to pursue their careers in commissioning field also can build their foundation by using hands-on training in DCS and PLC systems of our lab. The scope for Biomedical and nuclear instrumentation has also expanded to a greater extent. The laboratory facilitates use of transducer and embedded systems providing greater opportunities in research work. Furthermore, the department has created courses and job opportunities for ME students. I would like to thank our HOD Mr. P.P. Vaidya for introducing M.E. students for their project works to be completed in collaboration with IIT Bombay. Moreover, I would like to thank our Principal Dr. Mrs. J. M. Nair for providing the latest facilities and taking initiatives for our college for the development of Instrumentation Department.

I am Niharika Athavale an Ex. B. E. and M.E. student of VESIT and currently working with L&T Hydrocarbon as an Assistant Manager Procurement.

- **Niharika Athavale (B. E. 2010-11)**

It makes me very proud to be an Instrumentation Engineer from one of the best colleges for this stream of Engineering. Getting knowledge from the faculty who have had a great Industrial as well as Academic background, and having to perform practical in the State of Art Instrumentation Labs, makes learning here a very nourishing experience. This not only gives us an edge over other colleagues at work but also instills a sense of confidence while handling responsibilities pertaining to Technical know-how. About my learning journey here, I can definitely say that every mile, was worthwhile.

The encouragement, enlightenment and motivation which I received from the faculty is one of the things that still pushes me to do better. I am still in contact with most of the faculty, and they still help me out!

- **Ms. Mrugakshi (B. E. 2013-14)**

*Thank  
you*

