

Instrumentation Engineering

Newsletter 2023-2024

Vision statement of Department

To be recognized as leading contributor in imparting technical education and research in Instrumentation & Control engineering for development of the society.

Mission statement of Department

- 1.To deliver knowledge of Instrumentation and Control Engineering by strengthening involvement of Research institutions and industries in academics
2. To build conducive environment for advanced learning through participation of faculty and students in collaborative research, consultancy projects, student exchange programs and internships
- 3.To develop competent Engineers with entrepreneurial skills to address socio-economic needs.

Program Educational Objectives (PEO)

The Graduates would demonstrate

1. Core competency in Instrumentation and Control Engineering to cater to the industry and research needs.
2. Multi-disciplinary skills, team spirit and leadership qualities with professional ethics, to excel in professional career and/or higher studies.
3. Preparedness to learn and apply contemporary technologies for addressing impending challenges for the benefit of organization/society.
4. Knowledge of recommended standards and practices to design and implement automation solutions.

PEO – Mission Mapping

	M1	M2	M3
PEO1	3	2	2

PEO2	2	3	2
PEO3	2	3	3
PEO4	2	3	3

Program Specific Outcomes (PSOs)

Graduates shall have the ability to:

1. Evaluate the performance of suitable sensors / Process components/ Electronic / Electrical components for building complete automation system.
2. Analyze real-world engineering problems in the area of Instrumentation and Control.
3. Design or Develop measurement / electronic / embedded and control system with computational algorithms to provide practical solutions to multidisciplinary engineering problems.

Program Outcomes

Engineering Graduates will be able to:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. 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.
3. 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.

4. 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.
5. 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.
6. 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.
7. 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.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. 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.
11. 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.
12. 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.

Department Activities

1. Research Projects and Consultancy

Sr.No	Achievements	Name of Faculty
1	Ongoing Consultancy project	Prof. Dr. Jayant Kulkarni and Dr. Sanika Patankar
2	Ongoing Research Projects	Prof. Pramod Kanjalkar Dr. Manisha Mhetre
3	Applied Research Projects	All Faculty of the Department have applied research projects to following organizations

Faculty Publications in SCI, Scopus and UGC Care listed/ referred Journals

Journal	Number of Papers
SCI	2
Scopus/WOS	1
UGC/ Other	49
Total	52

Faculty Publications with details

Sr. No	Title of paper	Name of the author/s	Name of journal	Year of publication	ISSN number	SCI/Scopus/UGC Care
1.	Cardiac Arrhythmia multiclass classification using optimized FLS-based 3D-CNN	Dr. Rajesh Pashikanti	Journal of Intelligent & Fuzzy Systems, IOS Press	2023-24	1064-1246	SCI

2.	An adaptive Marine Predator Optimization Algorithm (MPOA) integrated Gated Recurrent Neural Network (GRNN) classifier model for arrhythmia detection	Dr. Rajesh Pashikanti	Biomedical Signal Processing and control	2023-24	1746-8094	SCI
3.	ANTI-DRONE SURVEILLANCE SYSTEM	SMT. (DR.) MANISHA RAJESH MHETRE	Strad Research	2023-24	ISSN: 0039- 2049	UGC
4.	Arrow Position Detection System for Archery	SMT. (DR.) MANISHA RAJESH MHETRE	Strad Research	2023-24	ISSN: 0039- 2049	UGC
5.	SENSOR BASED SOCIO-ECONOMICAL LOW-COST AUTONOMOUS GROUND WIPER ROBOT FOR CLEANING	SMT. (DR.) MANISHA RAJESH MHETRE	SIRJANA JOURNAL	2023-24	ISSN: 2455- 1058	UGC
6.	Hybrid Irrigation System using YOLO V3 Algorithm	SMT. (DR.) MANISHA RAJESH MHETRE	Inderscience	2023-24		
7.	Medical Assistance Rover	SMT. (DR.) MANISHA RAJESH MHETRE	Educational Administration Theory and Practice	2023-24	2148-2403	UGC
8.	Personal AI Voice Assistant	SMT. (DR.) MANISHA RAJESH MHETRE	Educational Administration: Theory and Practice	2023-24	2148-2403	UGC

9.	Development of a Smart Shopping Cart for Enhanced Retail Experience	SMT. (DR.) MANISHA RAJESH MHETRE	International Journal for Research in Applied Science	2023-24	2321-9653	UGC
10.	AUTOMATIC HYDROPONIC SYSTEM	SMT. (DR.) MANISHA RAJESH MHETRE	Strad Research	2023-24	0039-2049	UGC
11.	Automated Current Controller for Welding Process	SMT. (DR.) MANISHA RAJESH MHETRE	Journal of Emerging Technologies and Innovative Research	2023-24	2349-5162	UGC
12.	Iot Based Automatic Coolant System For Metal Cutting Machine	SMT. (DR.) MANISHA RAJESH MHETRE	Educational Administration: Theory and Practice	2023-24	2148-2403	UGC
13.	Mine detecting military BOT using IOT	PROF. (DR.) JAYANT VENKATRA O KULKARNI	International Journal for Research in applied science and engineering technology	2023-24	2321-9653	UGC
14.	Autonomous Warehouse Surveillance Bot	PROF. (DR.) JAYANT VENKATRA O KULKARNI	INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH IN ENGINEERING AND MANAGEMENT	2023-24	2582-3930	UGC
15.	Data Encryption using Image Steganography	PROF. (DR.) SHILPA YOGESH SONDKAR	IJRASET	2023-24	2321-9653	UGC

16.	Survey on Waste Segmentation Using Image Processing	PROF. (DR.) SHILPA YOGESH SONDKAR	International Journal for Research in Applied Science	2023-24	2321-9653	UGC
17.	Diesel Level Monitoring System	PROF. (DR.) SHILPA YOGESH SONDKAR	International Journal for Research in Applied Science	2023-24	2321-9653	UGC
18.	Spider-Robot	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal of All Research Education and Scientific Methods	2023-24	ISSN: 2455-6211	UGC
19.	Smart Surveillance Rover: Real-Time Monitoring with ESP32-CAM and Pan-Tilt Servo Motor Integration	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal for Research in Applied Science	2023-24	2321-9653	UGC
20.	Video surveillance system using yolo	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal for Research Trends and Innovation	2023-24	2456-4184	UGC
21.	Cotton Vision: A Machine Learning-Based App for Rapid Diagnosis of Cotton Diseases.	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal for Research in Applied Science	2023-24	2321-9653	UGC
22.	Learn Buddy : Path Following Lab Assistant Robot	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal of Scientific Research in Computer Science, Engineering and Information Technology	2023-24	2456-3307	UGC
23.	Amaan: A Shield for Women: A mobile	PROF. JITENDRA	International Journal for	2023-24	2321-9653	UGC

	Application with SOS Built in Feature	ASHOKRAO GAIKWAD	Research in Applied Science			
24.	Underwater Image Restoration System	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal for Research in Applied Science	2023-24	2321-9653	UGC
25.	IOT based Soldier Health Monitoring and Position Tracking System	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal for Research in Applied Science	2023-24	2321-9653	UGC
26.	Embedded System Solutions for Manhole Chamber Safety and Sensor Integration: Next-Gen Smart City Management	PROF. JITENDRA ASHOKRAO GAIKWAD	INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY	2023-24	2349-6002	UGC
27.	Automatic Drug Dispenser System using ESP32	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal of Scientific Research in Engineering and Management (IJSREM)	2023-24	2582-3930	UGC
28.	Advanced Tactical Helmet for Military Use	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal for Research in Applied Science and Engineering Technology (IJRASET)	2023-24	2321-9653	UGC
29.	Object scanner for 3D reconstruction	PROF. JITENDRA ASHOKRAO GAIKWAD	International Journal for Research in Applied Science and Engineering Technology (IJRASET)	2023-24	5724-5728	UGC

30.	FeedingCommunities: From Excess to Access	PROF. KAPIL GANGABISA N MUNDADA	STRAD RESEARCH	2023- 24	0039- 2049	UGC
31.	POULTRY INTRUSION AND MORTALITY DETECTION USING COMPUTER VISION	PROF. PRAMOD MADHAVRA O KANJALKAR	Journal of Emerging Technologies and Innovative Research	2023- 24	2349- 5162	UGC
32.	Enhancing Interview Preparation: The Rise of AI-powered Mock Interview Chatbot	PROF. PRAMOD MADHAVRA O KANJALKAR	International Journal for Research in Science Engineering	2023- 24	2394- 739X	UGC
33.	Enhanced Handwritten Text Recognition through Bidirectional LSTM and CNN Fusion	PROF. PRAMOD MADHAVRA O KANJALKAR	International Journal for Research in Applied Science	2023- 24	2321- 9653	UGC
34.	Stock Market Prediction Model using LSTM	PROF. VIJAYKUMA R RAYAPPA BHANUSE	International Journal for Research in Applied Science	2023- 24	2321- 9653	UGC
35.	Devlopment of roof cleaning drone	PROF. VIJAYKUMA R RAYAPPA BHANUSE	Mukt shabd journal	2023- 24	2347- 3150	UGC
36.	SIMULATED ANNEALING ALGORITHM FOR TOURIST TRIP PLANNING	PROF. VIJAYKUMA R RAYAPPA BHANUSE	ijrar	2023- 24	2348- 1269	UGC
37.	WebSocket based Smart Attendance System	PROF. VIJAYKUMA R RAYAPPA BHANUSE	Grenze International Journal of Engineering	2023- 24	2395- 5287	UGC
38.	Yoga Pose Detection using MoveNet Architecture	SMT. (DR.) ARCHANA KEDAR CHAUDHARI	Sirjana	2023- 24	2455 – 1058	UGC

39.	OPTICAL CHARACTER RECOGNITION FOR BUSINESS CARDS	SMT. (DR.) ARCHANA KEDAR CHAUDHARI	Alochan Journal	2023-24	2231-6329	UGC
40.	Vehicle Speed Detection and Count using Arduino UNO	SMT. (DR.) ARCHANA KEDAR CHAUDHARI	Sirjana	2023-24	2455 – 1058	UGC
41.	Speech to Text and Text to Speech Converter	SMT. (DR.) ARCHANA KEDAR CHAUDHARI	International Journal for Research in Science Engineering and Technology	2023-24	2394-739X	UGC
42.	A Comprehensive Evaluation of Spectral Unmixing Methods in Hyperspectral Imaging	SMT. (DR.) ARCHANA KEDAR CHAUDHARI	International Journal of Image, Graphics and Signal Processing(IJIG SP)	2023-24	2074-9074	Scopus
43.	Design and Development of Low Cost Automated Ration System Using IOT	PROF. ANIL BABAN KADU	IJRASET	2023-24	2321-9653	UGC
44.	IOT Based Fuel Theft Monitoring System	PROF. ANIL BABAN KADU	IJRASET	2023-24	2321-9653	UGC
45.	QR code-based Smart Parking System	PROF. ANIL BABAN KADU	Journal of Emerging Technologies and Innovative Research	2023-24	2349-5162	UGC
46.	Greenhouse Mangement System Using ESP 8266 for Smart Farming	PROF. ANIL BABAN KADU	Journal of Emerging Technologies and Innovative Research	2023-24	2349-5162	UGC
47.	Temperature Control Using Feedback Control	PROF. ANIL BABAN KADU	GIS SCIENCE JOURNAL	2023-24	1869-9391	UGC

48.	Accident alert system integration with ADXL335 accelerometer, GSM and GPS	SMT. (DR.) SANIKA SARANG PATANKAR	Journal of Emerging Technologies and innovative Research	2023-24	2349-5162	UGC
49.	Design of Controller for Gravity Drained Tank	SMT. (DR.) SANIKA SARANG PATANKAR	Journal of Emerging Technologies and innovative Research	2023-24	2349-5162	UGC
50.	Switchable Solar Powered Batteries for Electric Vehicles	SMT. (DR.) SANIKA SARANG PATANKAR	International Journal for Research in Applied Science Engineering Technology	2023-24	2321-9653	UGC
51.	Underwater Image Enhancement and Object Detection	SMT. (DR.) SANIKA SARANG PATANKAR	Journal of Emerging Technologies and Innovative Research	2023-24	2349-5162	UGC
52.	Accident Prevention Road Safety Model	PROF. VIKAS NANDESHWAR	The Indian Journal of Technical Education	2023-24	0971-3034	UGC

Faculty Patents

Patents Filed/Published and Granted Summary

Patents Granted	8
Patents Filed and Published	23
Total	31

Sr. No	Name of Faculty	Title of Patent	Application No	Publication date	Patent No
Academic Year 2023-24					
1.	Prof. Pramod Kanjalkar	An intelligent retro-fit add on device for two wheeler automobiles to avoid forward collision	201921016931	Feb 2024	525476
2.	Dr. Manisha Mhetre	Non-invasive Haemoglobin level screening and indication system	2023/03196	28-06-2023	2023/03196
3.	Dr. Manisha Mhetre	Advanced Digital Board using Board Virtual Pen	2023/03285	28-06-2023	2023/03285
4.	Dr. Manisha Mhetre	A portable device to convert text language to Braille language and vice versa	202221042161	15-02-2024	511055
5.	Prof. Kapil Mundada	Hacksaw Handle	395143-001	02-11-2023	395143-001
6.	Prof. Kapil Mundada	Augmented Reality Screen	401419-001	31-01-2024	401419-001
7.	Dr. Archana Chaudhari	A system for vegetables and Fruits ripeness detection by color W/TF	2023/03293	29-06-2023	2023/03293
8.	Dr. Rajesh Pashikant	Method of an intelligent bottle for ensuring the safety of children	202221065625	16/11/2022	539809

9.	Prof. Kapil Mundada	An electric meter for energy optimization	TEMP/E1/372 64/2024- MUM	12th April 2024	Published
10.	Dr. Praveen Pol, Dr. Archana Chaudhari, Dr. Shilpa Sondkar	Thermo Electric Storage Vessel	202321070501	24-11-2023	Published
11.	Prof. Pramod Kanjalkar	An artificial Intelligence based real time wearable audio visual system for sign language interpretation	202321026374	09-06-2023	Published
12.	Prof. Pramod Kanjalkar	An early Fire detection system with audio visual alarm	202321029531	09-06-2023	Published
13.	Prof. Pramod Kanjalkar	A portable automatic extinguishing and collection system for highly polluting lit cigarette butts	202321030183	09-06-2023	Published
14.	Prof. Pramod Kanjalkar	A bike engine oil monitoring system	202421031936	12th April 2024	Published
15.	Prof. Pramod Kanjalkar	A secure conference room system	202421031938	12th April 2024	Published
16.	Prof. Pramod Kanjalkar	Autonomous Disinfectant Holonomic Interactive Cobot	202421031658	12th April 2024	Published
17.	Prof. Pramod Kanjalkar	An automated onion storage system	202421031656	12th April 2024	Published

18.	Prof. Pramod Kanjalkar	Personalised voice assistance intelligent system based on facial expression for homey feeling	202421031657	12th April 2024	Published
19.	Prof. Pramod Kanjalkar	A semi automatic cotton harvesting system	2023/09839	12th April 2024	Published
20.	Prof. Vijaykumar Bhanuse	An automatic Coolant system for metal cutting	09848	12th April 2024	Filed
21.	Prof. Vijaykumar Bhanuse	A smart distribution control system in building	09850	12th April 2024	Filed
22.	Dr. Archana Chaudhari	A portable low-cost eye disease detection and classification system	202421031655	12th April 2024	Published
23.	Prof. Anil Kadu	Face Recognition based Vehicle Ignition System for Two Wheeler	202321070806	25-05-2023	Published
24.	Prof. Anil Kadu	A real time energy monitoring system	202321073487	12th April 2024	Filed
25.	Prof. Anil Kadu	A Smart motorcycle Helmet	202321073565	12th April 2024	Filed
26.	Vikas Nandeshwar	Tailored Ayurvedic Medicine Recommender for Individual Wellness	202421024659	3/05/2024	Published

27.	Vikas Nandeshwar	Machine Learning based psychology evaluation o college students for building innovative health service system	202421050754	26/07/2024	Published
28.	Dr. Manisha Mhetre	An IOT Based Sensing and Automation in Kabaddi Courts	2024/03397	2/05/2024	Filed
29.	Dr. Jayant Kulkarni, Dr. Sanika Patankar, Vijaykumar Bhanuse	An IOT Based object locator	202421040421	2/05/2024	Filed
30.	Prof. Kapil Mundada	A System for Engineering college recommendation based on MHT-CET and JEE Scores	2024/03678	13/05/2024	Filed
31.	Dr. Sanika Patankar	River Cleaning RoBot: A sustainable approach for cleaning Rivers	202421040747	25/05/2024	Published

2. Silver Jubilee Alumni Batch 1998 Get Together on 26th Aug 2023

On 26th August 2023, an alumnus Get Together of 1998 batch has been arranged in Instrumentation department from 11.00 am to 1.00 pm. This batch has completed 25 years after passing that it is a silver jubilee year of that batch. Total 25 alumni visited the department; some specially come from US and from some parts of India.

Some Ex VIT faculty, Dr. Sujata Agashe madam, Prof. Nitsure sir, Prof. Mandar Marulkar sir and Ex Head Mr. Gangal sir , VIT Dean Academics Dr. Marathe , Head of the department Dr. Shilpa Sondkar and Dr. Manisha Mhetre madam were there for the meet.

Meet started with greeting of each Alumni by Mhetre Madam followed by Alumni Introduction. Dean Marathe sir briefed about different college initiatives. HOD briefed about department achievements and how Alumni can take initiative for the department involvement.

Alumni shared their experiences and current scenario and role of Instrumentation engineer with us and current students.

An informal discussion with students and Alumni, faculty takes place with sharing of old memories. This was followed by snacks and vote of thanks.

Few Glimpses of the events





3. Report on Faculty Development Program on Industrial Robots

The Department of Instrumentation organized Faculty Development Program on Industrial Robots from 1st to 5th April 2024 in association with Professional Body International Association for Automation (ISA) Pune Chapter. The FDP was organized in online mode via Zoom platform. Around 220 participants from all over India participated in the program. Participants from academia as well as industry attended the FDP.

Eminent personalities from industries were invited as Speakers for the FDP. The FDP was a blend of both hands on sessions, lectures and demonstrations on industrial Robots.

The FDP was organized by the Prof. Pramod Kanjalkar, Prof. Jitendra Gaikwad and Dr. Archana Chaudhari from the Instrumentation Engineering.

**ONE WEEK ONLINE
FACULTY DEVELOPMENT
PROGRAM ON
INDUSTRIAL ROBOTS**

ORGANIZED BY

DEPARTMENT OF INSTRUMENTATION ENGG
VISHWAKARMA INSTITUTE OF TECHNOLOGY, PUNE

IN ASSOCIATION WITH
INTERNATIONAL SOCIETY OF AUTOMATION
PUNE SECTION

FDP CONVENER

PROF. (DR.) SHILPA SONDKAR
PROF. & HEAD, DEPARTMENT OF INSTRUMENTATION
ENGINEERING, VIT, PUNE

WHY CHOOSE FDP?

- SPEAKERS FROM EMINENT INDUSTRY .
- CERTIFICATE WILL BE PROVIDED ON SUCCESSFUL COMPLETION .

FDP COORDINATORS

PROF. PRAMOD KANJALKAR,
MOB: 9860321752
PROF. JITENDRA GAIKWAD,
MOB: 9860633903
PROF. (DR.) ARCHANA CHAUDHARI,
MOB: 7020072427

**2PM-6PM
APRIL
1-5 2024**

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Following was the FDP schedule for all 5 days in online mode.

Schedule of FDP on "Industrial Robots"			
Day & Date	2 pm to 3 pm	3 pm to 4 pm	4 pm to 6 pm
Mon. 01-04-2024	Mr. Prateek Nagras, CEO, ACCELERATION ROBOTICS, Pune Topic: Robot Operating System (ROS)	Mr. Ramesh Bhorania, Vice President - Robotics and FA Business, PRAMA HIKVISION PVT. LTD. Mumbai Topic: Vision based Automation	Hands on Robot Operating System (ROS)
Tues.	Mr. Sunil Mehta, General Manager – e-F@ctory Strategic Planning, MITSUBISHI ELECTRIC INDIA PRIVATE LIMITED, Pune	Mr. Neelesh Chipade Sr. Product Manager, MITSUBISHI ELECTRIC INDIA PRIVATE LIMITED, Pune	Case Study: Delta Robot

02-04-2024	Topic: Mitsubishi Electric Corporate Presentation	Topic: Robotics and Technology Trends	
Wed. 03-04-2024	Prof. (Dr.) Girish Kotwal, Head, Department of Industrial and Production Engg, V.I.T, Pune	Topic:Industrial Robot Introduction and Demonstration	Hands on Robot Operating System (ROS)
Thur. 04-04-2024	Mr. Anand Iyer Principal Consultant at ICI, Bangalore	Mr. Shubham Sonigra, Robotics Lead, INNOVATIVE SOLUTIONS INDIA PRIVATE LIMITED, Pune	Case Study on Self balancing bike using PID and LQR
	Topic:Field Operated Robo	Topic: Robotics and Automation in Manufacturing (focus on Robotics and Machine Vision)	
Fri. 05-04-2024	Mr. Gaurav Vikhe, Chief Product Officer, ACCELERATION ROBOTICS, Pune	Mr. Ganesh Pandit Suryawanshi, Founder, COMBAT ROBOTICS INDIA PRIVATE LIMITED, Pune	Hands on Robot Operating System (ROS) and Valedictory function
	Topic: AI/ML tools and frameworks available for prototyping and production in robotics	Topic: Use of robotics in defence: an overview	

Inauguration on 1st April 2024

The inauguration of the FDP kick started with opening remarks by Prof. Dr. Shilpa Sondkar, Head of Instrumentation Engineering Department in the presence of Hon. Director of Vishwakarma Institute of Technology Prof. Dr. Rajesh Jalnekar. Mr. Kushbir Singh, President of ISA Pune Chapter along with few ISA members graced the occasion.

Few Glimpses of the inauguration of the Faculty Development program

Zoom Meeting

Participants: Jitendra Gaikwad, Instrumentation Engin..., pramod kanjalkar, Lenovo, Dr. Shilpa Sondkar - In..., Prateek Nagras

Video feeds: Rajesh Jalnekar, Gurmeet Anand

Unmute, Start Video, Security, Participants (95), Chat, Share Screen, Record, Raise Hand, Apps, Whiteboards, Notes, More, Leave

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Zoom Meeting

Participants: Jitendra Gaikwad, Rajesh Jalnekar, Instrumentation Engin..., Gurmeet Anand, Lenovo, Prateek Nagras

Video feed: Dr. Shilpa Sondkar - Instru

Remove Pin

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35°C Partly sunny, Search, ENG IN, 14:10 01-04-2024

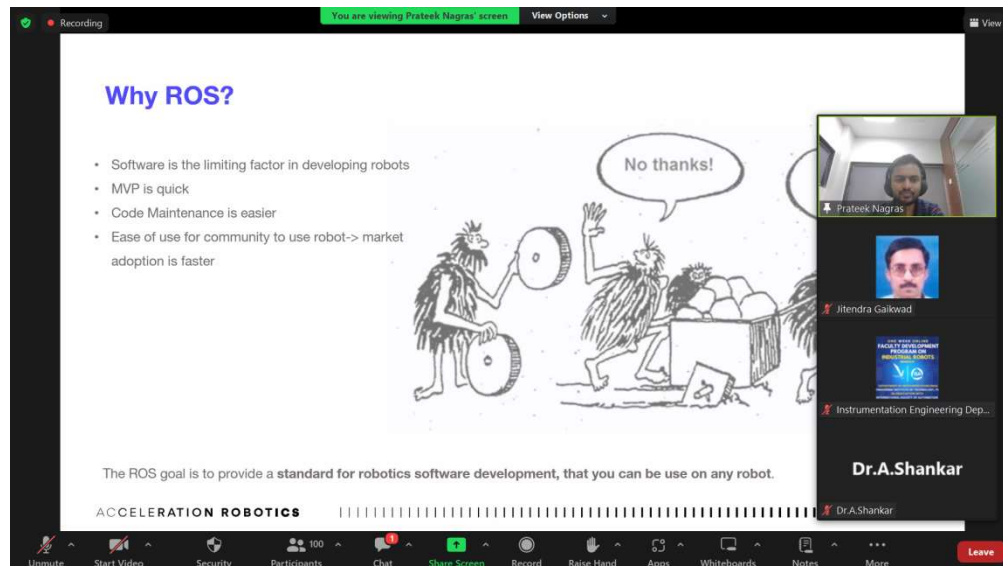
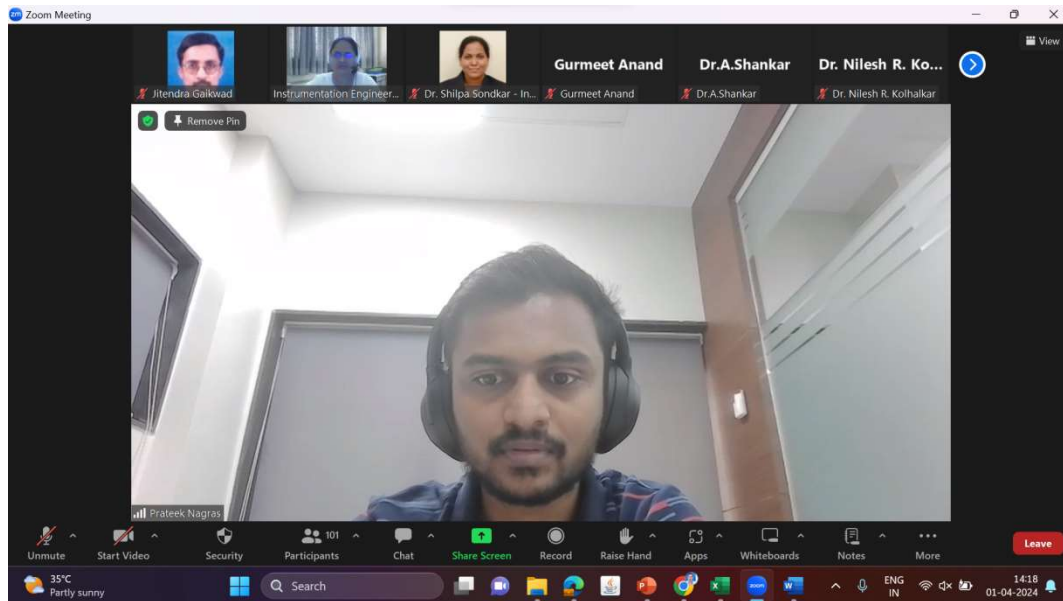
Zoom Meeting

Participants: Gurmeet Anand, Shravni, Sharmila G, Prateek Nagras, Dr. Nilesh R. Ko..., vikas karade, Pallavi Blalaji sh..., Abid Mulla, Pidugu Purusho..., Mamta Bhamare, Nandibhatla Ha..., Sneha K, Naheem M R, Dr. Vivek Kadam, Vijay Sarode, KIRUTHIKA PRABHAKAR, G.velvizhi

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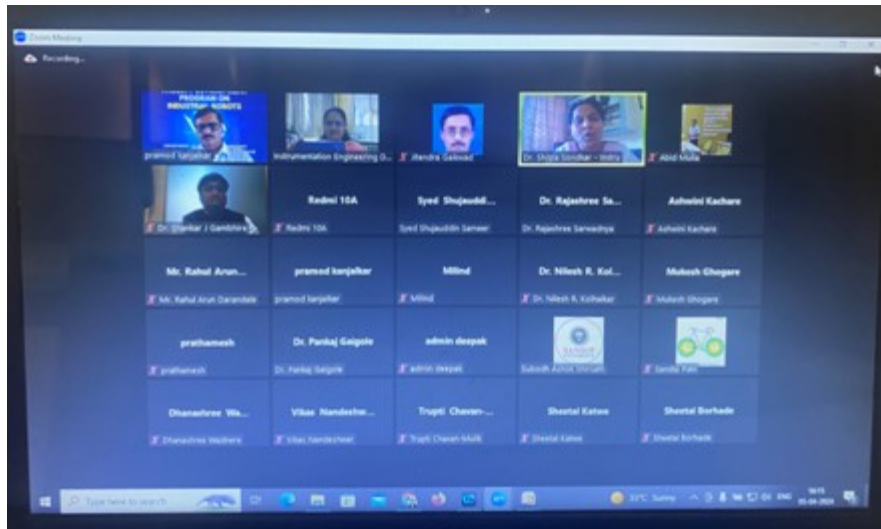
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Glimpses of the Keynote of the Faculty development program by Mr. Prateek Nagras, CEO Acceleration Robotics.



Valedictory Function on 5th April 2024

The valedictory function started with a note from Head of Department Prof. Dr. Shilpa Sondkar. The participants shared that the FDP was very enriching and added value to their knowledge as both hands on sessions and demonstrations were conducted. The vote of Thanks was proposed by Prof. Pramod Kanjalkar.



Few Glimpses of feedback shared by the participants online



4. Expert Sessions conducted in the Department

a) Expert session conducted by Honeywell Pune for Placements and Internships

The Department organized by experts from Honeywell on Friday 8th Sept 2023 from 4.00 pm to 6.00 pm. The session focused on the placements and industry readiness of students in the Department.

The session was attended by all second year, third year and final year students. Total number of students attending the session were around 300.

Few snapshots of the session



Photograph of experts and students of the Instrumentation Engineering department 8th Sept 2023



Instrumentation Engineering students seated in Auditorium 8th Sept 2023



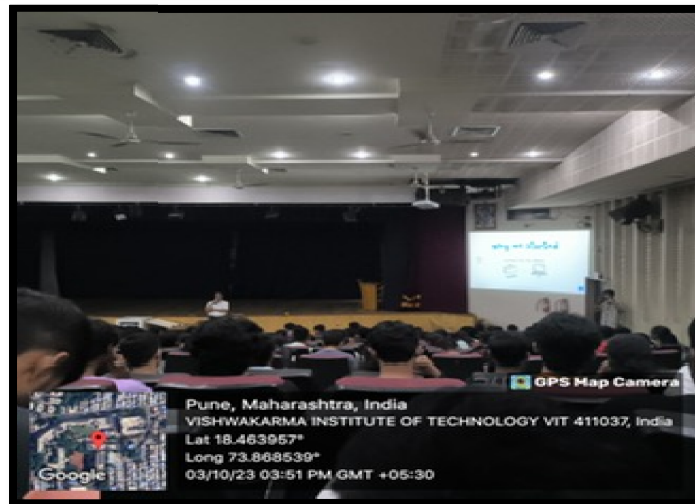
Experts from Honeywell with head of Department Dr. Shilpa Sondkar 8th Sept

2023

b) Expert Session conducted by Siemens PLM for Third Year Instrumentation Students

An expert session on Siemens MNDX software and its applications was organized on Tuesday, 3/10/2023 at VIT auditorium by Siemens PLM Pune.

Few Glimpses of the Session



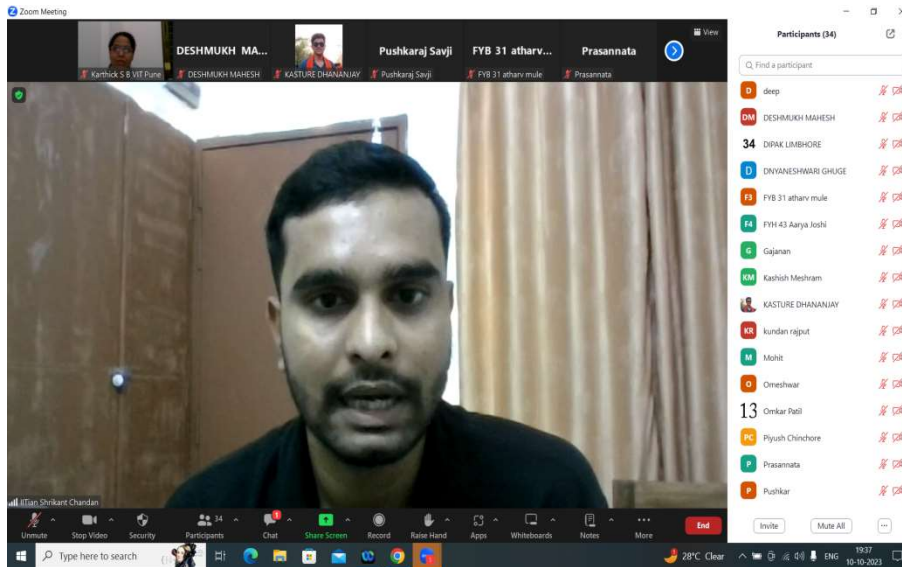
c) Alumina Session on Opportunities in IC Design by Alumina Kanad Mainkar on 14th Aug 2023

The guest lecture on Integrated Circuit (IC) Design provided valuable insights into the diverse aspects of this field, encompassing digital, analog, and RF domains. IC design is a pivotal

discipline underpinning modern electronics and communication systems, and the lecture highlighted key points that are essential for both novices and experts. The lecture concluded by outlining the essential knowledge and skills common to all subfields of IC design, such as network analysis, control theory, and fundamental electronics. Analog and RF-specific skills included control theory, RC circuits, and knowledge of inductors, while digital-focused skills encompassed Verilog coding and familiarity with logic gates, latches, and flip-flops. In conclusion, the guest lecture provided a comprehensive overview of IC design, covering digital, physical, and RF aspects, and underscored the critical knowledge and skills required to excel in this dynamic field. IC design remains at the forefront of technological innovation, shaping the future of electronics.



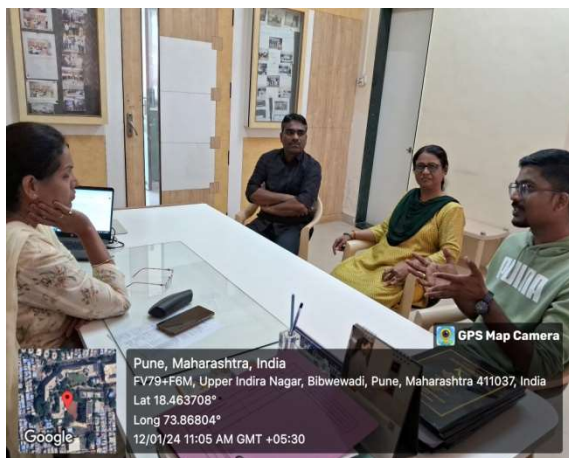
D. Session by Alumina Shrikant Chandan M.Tech (Photonics) IIT Kanpur, currently working in Nuclear Power Plant India on Why to Give Gate Exam? on 10th Oct 2023



E. Expert Session by Alumina Mr.Abhijeet Murgunde on 12 Jan 2024

The expert lecture on “Future In Instrumentation” was organized by Department Of Instrumentation Engineering from 11.00 am to 12.00 pm. Around 70 students benefitted from the program. The talk was given by Mr. Abhijeet Murgunde, an alumnus of Vishwakarma Institute Of batch 2014. He is an Senior Automation Engineer Working at MNC company in Dubai Ireland ,continuing the passion of sharing his knowledge. It was organized with the focus to transfer the knowledge directly from the people belonging from core Instrumentation & Automation and other various domains related to it .

The lecture was well organized with the start from the basics of Instrumentation and Control technology to the modern manufacturing and infrastructure industries, along with the scope of instrumentation over the globe.





F. Hardware Product Development Workshop from 3rd Oct to 5th Oct 2023

The Hardware Product Development Workshop, spanning three days, aimed to provide a holistic experience to 25 enthusiastic students from various engineering departments. The workshop was meticulously structured to guide participants through the entire process of conceiving, designing, prototyping, and assembling a Minimum Viable Product (MVP). Led by industry experts and academic professionals, the workshop encompassed theoretical insights, practical demonstrations, hands-on activities, and engaging discussions.



G. Readiness in Startup Centric Market expert lecture held on 23rd Jan 2024 from 3.30 pm onwards

The expert lecture on “Readiness in startup centric market” was organized by Department Of Instrumentation Engineering. The talk was given by Mr.Pushkaraj Sasturkar an alumnus of Vishwakarma Institute of Technology batch 2019. He was working with ‘Honeywell ‘ and late he started his own startup . He developed a website related to all the necessary items including food, daily care products, accessories for the pets. By this he gave us an idea about how to select a project & how to work on the problem statements as well as selection of a project as per market need, along with various he introduced us to various business and startup terms which are required basically like market research ,surveys , and working accordingly as per social need. How to work upon your idea and how one can evolve the idea into reality.



H. “Aajol” Orphanage children Visit To VIT College on 19th Jan 2024

On Friday, 19 April 2024 ; Students of Aajol orphanage visited Vishwakarma Institute Of Technology along with adhyaksh (caretaker) of Aajol Orphanage Shri. Mangesh Kanpathak Sir. There was a group of 8 students who visited the college. The students reported to the institute around 3 PM. We also met the caretaker. While interacting with the caretaker, we got to know the history of the orphanage how it was established , and about his true love ,affection and care

towards the children and about the part of their life . Head of the Department Dr. Shilpa Sondkar and coordinator Dr.Manisha Mhetre interacted with the students . Head Of Department Of Instrumentation Dr. Shilpa Sondkar Ma'am greeted the students and gave them idea about the Instrumentation Engineering & the scope of Instrumentation across the globe. The instrumentation faculty was introduced to the children. The children interacted enthusiastically with the students of Instrumentation engineering after greeting.



I. Industry Visit Report at Katraj Dairy, Pune

The Department of Instrumentation organized an Industrial Visit to Katraj Doodh Dairy Pune on 1st March 2024 from 10. 00am onwards. The visit was attended by 60 Third Year Instrumentation Engineering students.

The visit was planned as follows: Initially a small documentary about the dairy was shown to the students. After that various departments were shown and working and automation and process equipments were explained to the students.

In the visit the students were able to view working of Boilers, Condensers, Cooling Towers, Evaporators and all other automation for Dairy industry and packing.

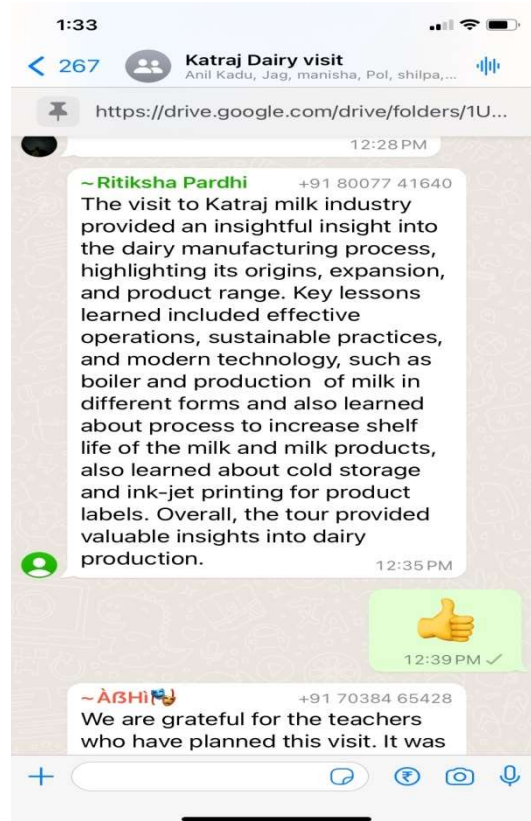
Following Faculty members from the department attended the industry with the students

1. Prof. Archana Chaudhari
2. Prof. Manisha Mhetre
3. 3. Prof. Praveen Pol
4. Prof. Jitendra Gaikwad
5. Prof. Anil Kadu

Few Glimpses of the visit:

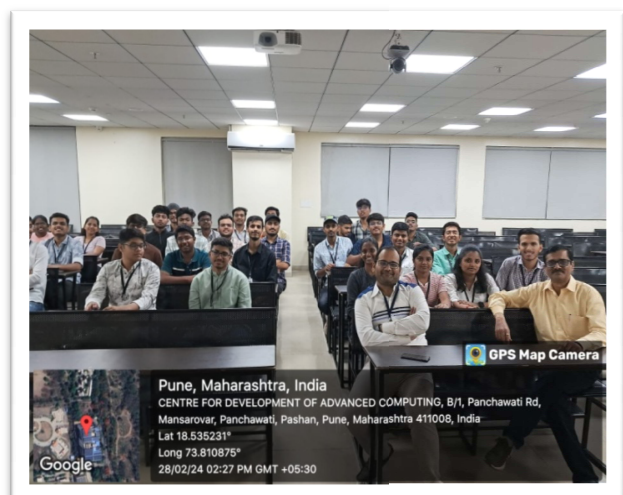
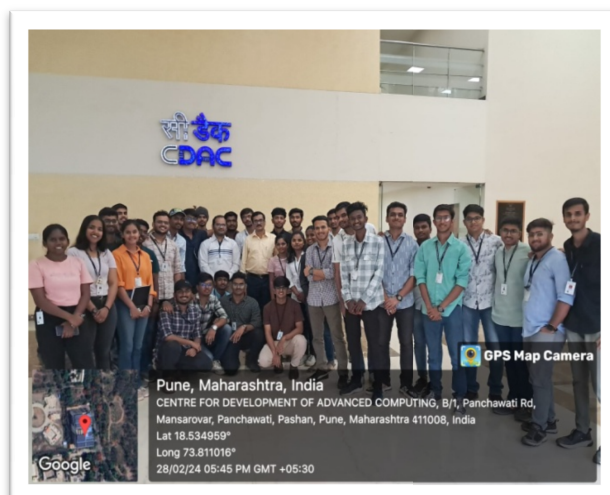


The students had an enriching experience from the visit.



J. Industry Visit to C-DAC on 28th Feb 2024

Industry Visit of Second and Third year Instrumentation Engineering students to C-DAC on Science Open Day 28th Feb 2024 from 1.00 pm onwards.



4. Professional Body Activities

A. ANDROID APP DEVELOPMENT WORKSHOP

The **IEEE IMS VIT Pune & TRY Engineering Android App Development Workshop** held on 21st July 2023 engaged 32 students and 7 volunteers. It began with an introduction by Neelema Patke ma'am, Principal (VidyaVikasVidyalaya) followed by informative sessions on the invention of the first telephone, Android basics, and types of apps. Hands-on practice in the computer lab included Android Studio installation and creating "Hello World" and Calculator Applications. The event concluded with a challenge to design a Stationery Application interface, leaving participants inspired and grateful to the organizers.

On the auspicious day, the IEEE IMS Club in collaboration with TRY Engineering organized an exciting Android App Development Workshop at SVM's Vidya Vikas Vidyalaya. The event witnessed an enthusiastic participation of 32 students, along with the support of 7 dedicated volunteers, including the Vice-Chancellor and the Secretary of the club.

The workshop commenced with an honorable introduction session where the attendees had the privilege of meeting the esteemed Principal of who graced the occasion with her presence. The Principal warmly welcomed everyone and expressed her enthusiasm for the innovative workshop.

The workshop's core speeches were delivered by two distinguished speakers - Prof. Khurjekar and Prof Dr. Sanika Patankar. Prof. Khurjekar took the stage first and captivated the audience with a captivating presentation on the invention of the first telephone. He shared valuable insights into the history of communication technology, which set the foundation for the day's Android App Development journey.

Following this enlightening historical perspective, Prof. Khurjekar dived straight into the basics of Android, enlightening the participants about the significance of mobile applications in today's world. He elaborated on the need for apps and their impact on various industries and daily life.

The session continued with an in-depth discussion on the different types of apps that are prevalent in the app market. From utility apps to gaming applications, the students gained a comprehensive understanding of the vast opportunities that the world of app development offers.

In the later part of the workshop, participants were given a hands-on experience in the computer lab. The volunteers helped the students install Android Studio, the essential integrated development environment (IDE) for Android app development. The participants were then introduced to the interface of Android Studio, getting acquainted with the various tools and functionalities.

Hands on

To provide a practical demonstration of the concepts covered, the workshop proceeded with the creation of a simple "Hello World" application, where the students successfully executed their first lines of code for Android development. Building on this foundation, they were guided through the development of a basic Calculator Application.

As the workshop drew to a close, Prof. Sanika, the second speaker, took the stage once again to recapitulate the essential topics covered throughout the day. Her engaging recap session reinforced the learning outcomes, ensuring that the students left the workshop with a solid understanding of Android app development.

The participants were then presented with an exciting challenge by the organizers. They were tasked to design a basic interface for a Stationery Application, encouraging them to put their freshly acquired skills into practice and fostering their creativity.

Conclusion

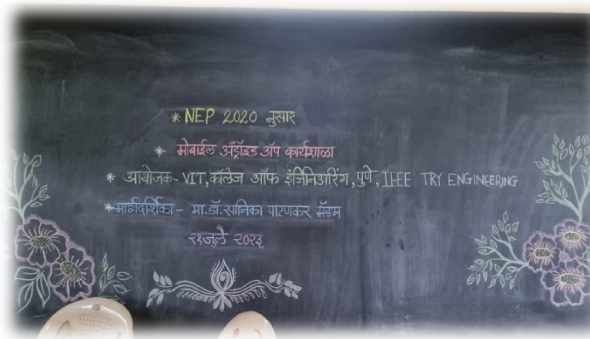
The event concluded with a heartfelt vote of thanks from the staff and organizers. The students expressed their gratitude to the IEEE IMS Club and TRY ENGINEERING for arranging such an enlightening workshop that not only provided valuable insights into Android app development but also served as a platform for practical learning and exploration.

The "IEEE IMS VIT Pune & TRY ENGINEERING presents Android App Development Workshop" was undoubtedly a resounding success, leaving the participants inspired and eager to continue their journey into the dynamic world of mobile app development.

Brochure of the workshop



Snapshots of the Android App Development Workshop



B. ECG and EEG Basics to Analysis Workshop

The workshop titled "ECG and EEG: Basics to Analysis" was conducted under the esteemed guidance of Prof. Mandar Khurjekar (Chairman IEEE IMS Pune Section) & Prof.(Dr.) Manisha Mhetre(Assistant Professor) on 13th Oct 2023. With a total attendance of 36 enthusiastic participants, the event aimed to provide a comprehensive understanding of Electrocardiography (ECG), Electromyography (EMG), and Electroencephalography (EEG). The workshop's primary objective was to equip attendees with practical insights into medical monitoring tools and techniques. All the sessions are conducted by Dr.manisha Mhetre and Prof.Mandar Khurjekar sir jointly.

Workshop Activities

- ECG Practical Lesson:

The workshop commenced with a hands-on ECG practical session. Participants delved into the fundamentals of Electrocardiography, where they were introduced to the effective use of ECG devices. A special emphasis was placed on the interpretation of the PQRST wave, ensuring that participants grasped the intricacies of ECG analysis.

- Informative Session on EMG and EEG:

In addition to ECG, the workshop featured an enlightening session on Electromyography (EMG) and Electroencephalography (EEG). Experts in the field elaborated on techniques for observing muscle and brain activity. Participants had the opportunity to interact with these specialists, asking questions and gaining valuable insights into the nuances of EMG and EEG applications.

- Calculating BPMs (Beats Per Minute):

The instructors took the learning experience a step further by demonstrating how to calculate Beats Per Minute (BPM) using the ECG data, specifically focusing on the PQRST wave. Attendees gained in-depth knowledge about the computational aspects, enabling them to accurately estimate vital signs, a crucial skill in medical monitoring.

The workshop proved to be immensely successful, providing participants with a profound understanding of ECG, EMG, and EEG technologies. Equipped with hands-on expertise, attendees can now proficiently operate medical monitoring devices and compute vital parameters. This newfound knowledge is anticipated to positively influence future healthcare practices, ensuring accurate diagnostics and patient care.

We extend our heartfelt appreciation to all attendees for their active participation, enthusiasm, and engagement throughout the workshop. Special gratitude is extended to the esteemed instructors whose knowledge and leadership were instrumental in making this event a success.

In conclusion, the "ECG and EEG: Basics to Analysis" workshop not only empowered participants with practical skills but also fostered a collaborative learning environment, setting benchmark for future educational initiatives in the field of medical monitoring and diagnostics.

Snapshots of the Workshop



C. Industrial Visit to Pune metro Station on 23 Feb 2024 by students of IEEE IMS VIT Students Chapter



D. Automation Expo by Department of Instrumentation Engineering along with ISA and IEEE IMS Students Chapter

Department of Instrumentation in collaboration with IEEE IMS student chapter at VIT and ISA student chapter organized “AUTOMATION EXPO 2024” on Tuesday 5th March 2024 specifically for school children of 9th and 11th class of various schools in the nearby areas. The event was inaugurated at the hands of Mrs Sujata Tilak, MD, Ascent Intellimation in presence of Dr. Rajesh Jalnekar, Honourable Director VIT. Pune. Approximately 400 students from schools as SAM’s Vidya Vikas School, Vishwakarma Vidyalyaya and Clara Global school visited the expo.

The expo offered a unique opportunity to explore the world of automation. School student groups, guided by second-year engineering students from Instrumentation department, were led through the expo. Engineering students showcased projects focusing on specific sensors and various automation-related aspects. They covered fundamental concepts such as PLC (Programmable Logic Controller) and SCADA (Supervisory Control and Data Acquisition) systems. And explained the functionality of Various sensors including RTD, thermocouple, level, flow, PID control, and biomedical equipment, were showcased, providing a comprehensive understanding of these critical components in the automation landscape. The explanation of their functionality offered valuable insights and enriched the knowledge during the event. The organizers also incorporated graphical representations of systems, enriching the learning experience with visual aids. This approach made complex concepts more accessible to the students. This interaction not only benefited school students but also provided engineering students with an opportunity to enhance their presentation skills. This hands-on approach allowed school students to learn directly from peers of a similar age, making the experience relatable and engaging.



The poster for the Automation Expo 2024 features a dark blue background with a glowing, abstract pattern of lines and dots. At the top, logos for VIT Pune, IEEE IMS Pune Chapter, ISA, and TRV Engineering are displayed. The main title "AUTOMATION EXPO" is in large, bold, white letters, followed by the subtitle "Empowering Young Minds in Sensor based Automation". Below this, a white box contains the tagline "Unleash Sensor Exhibition - Explore Automation Technology". The text continues with "Celebrate the power of innovation and the limitless possibilities of the Sensor world." and "EXPO EVENT HIGHLIGHTS:" followed by a list of topics: Level Sensor, Infrared Sensor, Pressure Sensor, Motion Sensor, PLC, SCADA, DCS, Live-Projects, and Sensor & Automation. The inauguration is by Sujata Tilak, MD-Ascent Intellimation Pvt. Ltd. The event is on 5th March 2024, from 9:30 AM to 4:30 PM, at Vishwakarma Institute of Technology, Pune, Building 4. Co-ordinators are Prof. Dr. Sanika Patankar, Prof. Vijay Kumar Bharuse, and Prof. Pramod Karjalkar, with their respective contact numbers. A note states "(NO PRE-REGISTRATION REQUIRED)". At the bottom, it says "Join us at the Automation Expo and celebrate the power of Sensor & Automation that is shaping the world of tomorrow!"

AUTOMATION EXPO
Empowering Young Minds in Sensor based Automation

Unleash Sensor Exhibition - Explore Automation Technology

Celebrate the power of innovation and the limitless possibilities of the Sensor world.

EXPO EVENT HIGHLIGHTS:
Level Sensor • Infrared Sensor • Pressure Sensor • Motion Sensor
PLC • SCADA • DCS • Live-Projects • Sensor & Automation

INAUGURATION BY : SUJATA TILAK,
MD-ASCENT INTELLIMATION PVT. LTD.

Date : 5th March 2024
Time : 9:30 AM - 4:30 PM
Vishwakarma Institute of Technology, Pune
Venue: 4 Building, Instrumentation Engineering Department

CO-ORDINATORS:
Prof. Dr. Sanika Patankar
Contact: +91-9604890046
Prof. Vijay Kumar Bharuse
Contact: +91-888821770
Prof. Pramod Karjalkar
Contact: +91-9860321752

(NO PRE-REGISTRATION REQUIRED)

Join us at the Automation Expo and celebrate the power of Sensor & Automation that is shaping the world of tomorrow!

Glimpses of the Automation Expo



