

# Instrumentation Engineering

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Newsletter 2018-19



## **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. Courses offered by Industry

Sr. No	Course Name	Industry conducting the course	Details
1.	Project Engineering and Management	Emerson Exports Engineering Centre, Pune.	Third Year students Sem 1 and 2
2.	Batch Process Control	Emerson Exports Engineering Centre, Pune	Final Year students Sem 1

#### 2. Research Projects and Consultancy

Sr .No	Achievements	Number
1.	Ongoing Funded Research Projects	1
2.	Ongoing Consultancy Projects	3

3. Project engineering course lectures conducted by experts from Emerson Exports Engineering Centre, Pune in the Department



Expert for EEEEC conducting lecture

4. Inauguration of Batch Process Control Lectures by Emerson Exports Engineering Centre, Pune, in the Department

Emerson Exports Engineering Centre, Pune conducted course on Batch Process control in Academic Year 2018-19 semester I.



Mr. Abhay Bansode speech on inauguration along with experts from EEEEC

**5. Inauguration of IIOT platform set up by Ascent Intellimation worth Rs. 800000/- in the department on 26<sup>th</sup> Oct 2018.**

Glimpses of the Event



Signing of MOU with Mrs. Sujata Tilak CEO Ascent Intellimation



Felicitation of Mrs. Sujata Tilak CEO Ascent Intellimation by Hon. Director Dr. Rajesh Jalnekar



Faculty of Instrumentation Department at inauguration



Inauguration in the lab



Welcome Speech by Head of Department Dr. Shilpa Sondkar



Speech by Mrs. Sujata Tilak CEO Ascent Intellimation

## 6. Student Internships for Academic Year 2018-19

Sr. No	Roll No	Name of Student	Name of the Industry
1.	1	Kolte Aditya Mahesh	Forbes Marshall
2.	2	Patil Aniket Manish	Yun Solutions
3.	3	Gokhale Yash Prasanna	Manman India
4.	4	Swami Veena Shrikant	Emerson Export Engineering Center
5.	5	Baviskar Bhushan Kishor	Four Eyes Research Pvt.Ltd.
6.	6	Inamdar Chaitanya Satish	Manman India
7.	7	Borse Nikhil Bhalchandra	SBEM Pvt. Ltd.
8.	8	Kulkarni Amruta Ashok	Forbes Marshall
9.	9	Urane Pooja Laxmikant	Logicon technosolutions Pvt. Ltd
10.	10	Jagtap Nikhil Sharad	Sonai Karkhana
11.	11	Jadhav Harshavardhan Janamejay	Inventive Engineering Technology, Pune
12.	12	Thote Aditya Shivraj	IFM
13.	13	Pimpale Mayur Prakash	SBEM Pvt. Ltd.
14.	14	Bora Shubham Satishkumar	Yun Solutions
15.	15	Sawant Bhagyashree Prakash	in college for Ethosh designs
16.	16	Jadhav Akash Nitin	sic com
17.	17	Jangam Amit Purushottam	Forbes Marshall
18.	18	Choudhari Anuja Ashwinikumar	in college for Ethosh designs
19.	19	Mandhare Vinod Shankar	Emerson Export Engineering Center
20.	20	Nagvenkar Param Raju	Toyota
21.	21	Bade Kanchankumar Navnath	Emerson Export Engineering Center
22.	22	Loya Harshalkumar Jaynarayan	Emerson Export Engineering Center
23.	23	Bhalerao Kedar Rajesh	Emerson Export Engineering Center
24.	24	Deshpande Tejaswini Devidas	Annapurna Automation and control



25.	25	Gadhe Prasenjeet Madhav	Inventive Engineering Technology, Pune
26.	26	Gogawale Sacchidanand Sandip	Wyse Biometrics
27.	27	Navale Vijay Vishnu	Forbes Marshall
28.	28	Varkhede Rutuja Suresh	Forbes Marshall
29.	29	Bagave Pratik Gorkhanath	Ryka Engineering Solutions
30.	30	Sunny Prakash	in college for Ethosh designs
31.	31	Deodhe Atharwa Prashant	Emerson Export Engineering Center
32.	32	Deshmukh Ahmed Arif	Emerson Export Engineering Center
33.	33	Matre Pratik Rajendra	Emerson Export Engineering Center
34.	34	Borlepawar Shrawani Arun	SBEM Pvt. Ltd.
35.	35	Jadhav Roshan Babu	oneness control panels pvt. Ltd
36.	36	Munde Vaibhav Mahadev	Emerson Export Engineering Center
37.	37	Dharmapurikar Siddhant Maheshrao	SBEM Pvt. Ltd.
38.	38	Puranik Aishwarya Kishor	Logicon technosolutions Pvt. Ltd
39.	39	Baviskar Saurabh Mahendra	power Control Nasik
40.	40	Patil Lavish Kishor	PowerCon Aurangabad
41.	41	Naik Sharada Shrinivas	in college for SENSITIVE CRYSTALIZATION
42.	42	Sasturkar Pushkaraj Dinesh	Tata Motors
43.	43	Sudrik Omkar Bhairavnath	Malai Sugar
44.	44	Salaskar Ankita Hareesh	Forbes Marshall
45.	45	Kawadiwale Rajat Jagadish	Precision Automation and Robotics India(PARI)
46.	46	More Sanket Sopanrao	SBEM Pvt. Ltd.
47.	47	Desai Rohit Ratnakarrao	Akhilesh Electricals
48.	48	Sakpal Suniket Rajendra	RINL/Vizag Steel Plant
49.	49	Kakad Rohit Vilasrao	RINL/Vizag Steel Plant
50.	50	More Aditya Umesh	Forbes Marshall
51.	51	Walke Dhanashri Arunrao	Forbes Marshall
52.	52	Pawar Manjiri Chandrakant	SBEM Pvt. Ltd.
53.	53	Pushkar Kadhane	in college for SENSITIVE CRYSTALIZATION
54.	54	Dake Saurabh Laxman	bhimashankar sugar factory
55.	55	Ghodeswar Sanket Rahul	Akhilesh Electricals
56.	56	Hambarde Shubham Digambarrao	Supreme Gold Irrigations Pvt.Ltd.
57.	57	Ladhake Anushree Siddharth	Emerson Export Engineering Center
58.	58	Walekar Sandesh Budha	Agaste Suge factory
59.	59	Upadhyay Sudarshan Hanmantrao	Flash Point Pune
60.	60	Marda Onkar Rajendra	oneness control panels pvt. Ltd
61.	61	Mukkawar Shubham Santosh	Flash Point Pune
62.	62	Pawar Prasad Amarsing	oneness control panels pvt. Ltd
63.	63	Deshpande Abhijeet Sunil	Emerson Export Engineering Center



64.	64	Ahmed Adeeb Abdul Rahman Humran	Electro med
65.	65	Ahmed Fahmi Esmail Mohammed	Pt.Pacific Medan Industry
66.	68	Date Abhijit Ashok	WebHub Technology
67.	69	Deo Pranav Hemant	Akhilesh Electricals
68.	70	Khade Sanjukta Ramesh	SBEM Pvt. Ltd.
69.	71	Mhashelkar Shekhar Santosh	Sudharshan Chemical Industries Ltd
70.	72	Pawar Tanvi Vijay	ACG capsules Pvt. Ltd., Shirwal
71.	74	Rathod Ashok Babarao	Mohatadevi Sugar Parbhani
72.	75	Shinde Ajay	Akhilesh Electricals
73.	76	Shivange Rajesh Dnyaneshwar	Unitary Technologies Pvt. Ltd
74.	78	Thakur Kaustubh	Supreme Petrochemicals
75.	79	Wadgave Vidyan Narendra	IPAC Automation
76.	80	Zadbuke Rohan Rajendra	Skymate weather
77.	ND	Twinkle	Serum Institute of India

#### 78. Students Placement for Academic Year 2018-19

Sr. No	Roll No	GR No.	Name Of Student	Company/ Industry Name
1.	4	151007	Swami Veena Shrikant	Emerson Exports Engg. Centre, Pune
2.	5	151073	Baviskar Bhushan Kishor	Infosys
3.	8	162005	Kulkarni Amruta Ashok	Honeywell (HBS)
4.	11	151206	Jadhav Harshavardhan Janamejay	Emerson Exports Engg. Centre, Pune
5.	12	151276	Thote Aditya Shivraj	Emerson Exports Engg. Centre, Pune
6.	15	162013	Sawant Bhagyashree Prakash	Honeywell (HBS)
7.	18	151001	Choudhari Anuja Ashwinikumar	Honeywell (HBS)
8.	19	162077	Mandhare Vinod Shankar	Emerson Exports Engg. Centre, Pune
9.	20	151156	Nagvenkar Param Raju	
10.	21	151005	Bade Kanchankumar Navnath	Emerson Exports Engg. Centre, Pune
11.	22	151136	Loya Harshalkumar Jaynarayan	Emerson Exports Engg. Centre, Pune
12.	24	151143	Deshpande Tejaswini Devidas	Infosys
13.	25	151330	Gadhe Prasenjeet Madhav	Honeywell (HBS)
14.	30	151342	Sunny Prakash	Infosys
15.	32	162103	Deshmukh Ahmed Arif	Emerson Exports Engg. Centre, Pune
16.	33	151345	Matre Pratik Rajendra	Emerson Exports Engg. Centre, Pune
17.	34	151512	Borlepawar Shrawani Arun	Wipro
18.	38	151124	Puranik Aishwarya Kishor	Emerson Exports Engg. Centre, Pune
19.	41	151055	Naik Sharada Shrinivas	Honeywell (HBS)
20.	42	151419	Sasturkar Pushkaraj Dinesh	Honeywell (HBS)
21.	53	151389	Pushkar Kadhane	Honeywell (HBS)

### **Faculty Achievement**

1. Prof. Jitendra Gaikwad won the Well Appraised Teacher Award for Academic Year 2017-18 on Foundation Day celebrated in the institute on 5<sup>th</sup> Sept 2018.



Felicitation of Prof. Jitendra Gaikwad as Well Appraised Faculty

2. Prof Anil Kadu won the Best Teacher Award for Academic Year 2017-18 on Foundation Day celebrated in the institute on 5<sup>th</sup> Sept 2018.



Felicitation of Prof. Anil Kadu as Well Appraised Faculty

3. Prof. Kapil Mundada received the runner up prize as project mentor for ABHIKALP in innovative project competition by SPPU Design Innovation Centre (MHRD\_GOI Funded Scheme) on 13th June 2018.

4. Prof. Kapil Mundada received prize in India Innovation Challenge in appreciation for fostering an ecosystem bridging Government, Industry and Academia by DST and Texas Instruments in Oct 2018.
5. Prof. Archana Chaudhari will represent SAIT Games 2019 as Faculty Advisor under International Society for Automation at Southern Alberta Institute of Technology Calgary Canada from 13<sup>th</sup> – 15<sup>th</sup> March 2019.

### **Department Highlights**

#### **1. Workshops conducted / attended**

Dr. Shilpa Sondkar, Prof. Jitendra Gaikwad, and Prof. Vijaykumar Bhanuse underwent training on IIOT Platform provided by Mr. Pavan Pawar from Ascent Intellimation set up in month of 23<sup>rd</sup> Oct 2018.



Faculty and students attending training on IIOT platform



Felicitation of Mr. Pavan Pawar from Ascent Intellimation, Pune

#### **Expert Lecture's conducted in the Department**

2. Lecture by Mr. Rajendra Suryawanshi , Manager at Miunda Control, “ Automotive Electronics “ on 29<sup>th</sup> August 2018 at 11.00 am to 2.00pm for third year Instrumentation students. Rajendra Suryawanshi presented the 12V/24V automotive electronics perspective in VIT separately involving why and how the sensors are required and used respectively. He showcased the applications in automotive sector more from component standpoint. Rajendra also covered body controllers and their usage giving a broader viewpoint of automotive electronics and what to pursue while doing engineering. Later he invited the students to visit his organization to show how the controller or sensor modules look like



3. Session by Mr. Adwait Desai from Manager , John Deere, on 22<sup>nd</sup> November 2018 for third year students on Electrification in Automotive , he covered Off Highway industry and how electrification is not limited to traction application only and how it is bringing the differentiation at auxiliary applications as well. He covered the rationale behind electrification (not to follow buzz but the real PUC benefits), high level electric vehicle architectures (HEV & BEV), key components in electric vehicles (HEV & BEV), interdisciplinary engineering aspects (Integration, cooling/thermals, enclosures, manufacturability etc.).



4. Mr. Vinod Joshi, Sales and Marketing Division, Forbes Marshall, Pune and Education Chair for ISA Pune Section conducted expert lecture on Communication Protocol for Third year students on 30<sup>th</sup> Oct 2018 under ISA Professional Body.



Felicitation of Expert Mr. Vinod Joshi by Head of Department Dr. Shilpa Sondkar

5. Expert lecture under Alumina activity

Lecture on "Future In Engineering & Personality Development" on 7<sup>th</sup> Sept 2018 by Mr. Abhijit Murgunde and Mr. Onkar Bagwat from 10.00am to 12.00pm for third year students . topics covered 1) In detail , about "Future in Engineering". Key areas to focus during engineering in order to bright career in engineering 2) Various exams for engineering students for their placement. How to apply , where to apply for below exams: PSU's Company exams, GATE, CSIR, BARC, DRDO, ISRO, SSB, CAT, GRE, AFCAT, IES etc 3) Personality Development key notes with examples 4) Industrial requirements from fresher's

6. Training session by Alumina

Session on Group discussion by Ms. Tanvi Dongre (2010 batch) on 27<sup>th</sup> Oct 2018, Saturday at 10.00am to 1.30pm for third year student. Session started with Self Introduction, techniques for presenting yourself, Group discussion techniques etc. Total 30 students grab this opportunities



7. Training of interview techniques by Alumina

A workshop on "Interview technique workshop" taken by Mr. Abhijit Murgunde and Mr. Onkar Bagwat, 2014 batch for third year instrumentation on 24/1/ 2019 from 8.30 to 2.00pm

Workshop was focused on 1) Face to Face Interview (technical & non technical) 2) Resume making guidance 3) Group discussion. Best performing students got prizes. After the

workshop Individual candidate has given his/her report, which includes your overall performance during workshop & also accordingly key areas of improvements. Total 8 students attended the workshop.



Abhijit Murgunde and Omkar Bhagwat conducting training sessions with Third year students

8. Workshop on "Interview technique workshop" taken by Mr. Abhijit Murgunde and Mr. Onkar Bagwat, 2014 batch for third and second year instrumentation on 9/2/ 2019 from 8.30 to 12.30pm.

Workshop was focused on Face to Face Interview (technical & non technical), HR interview, storytelling, Resume making guidance, Group discussion, Aptitude test, motivational videos for the students. After the workshop Individual candidate has given his/her report, which includes your overall performance during workshop & also accordingly key areas of improvements. Total 12 students attended the workshop.



Abhijit Murgunde and Omkar Bhagwat conducting training sessions with Third year students

9. Expert Lecture on " IOT and its Applications" has been delivered by Mr. Akshay Ghadge (2014 batch pass out) , CEO and Director of IOBOT, for third year students on 5<sup>th</sup> Feb 2019



Abhijit Murgunde and Omkar Bhagwat conducting training sessions with Third year students

#### 10. Expert lecture on IIOT

"IIOT vision: Industrial perspective" from HMS industrial Networks India Pvt. Ltd from 2.00pm to 3.00pm for Third year, second year students. Mr. Santosh Tatte, Country Manager and Tushar Saikhedkar Channel Manager. HMS Industrial Networks India Pvt. Ltd. He covered IIOT concepts, importance and requirement, security issues, IOT protocols used in the industry.



#### **Industrial Visit**

1. Visit of Third Year students to Mundhwa sewage water treatment plant on 20<sup>th</sup> Nov 2018





## **2. Industrial Visit To Endress+Hauser, Aurangabad**

Dept of Instrumentation Engineering arranged an industrial visit to Endress+Hauser Flowtec (India) Pvt. Ltd for second year students on 20<sup>th</sup> March, 2019. The visit was initiated by Prof. Kapil Mundada (Faculty, Dept of Instrumentation Engineering).

Endress+Hauser provide customized manufacturing services of flow measurement instruments. They are pioneers in the field of flow, level, temperature, pH and conductivity sensor manufacturing. They have also filed the patent for level measurement using capacitive principle. The plant in Aurangabad serves India, other Asian countries and Australia. The company manufactures flow meters based on five principles (electromagnetic, vortex, thermal-mass, ultrasonic, coriolis). The stated plant is the only plant of E+H group in India and it manufactures on make to order basis.

The introductory session briefed us about the company history, their products and their spread across the world. The visit was bifurcated into two slots covering different aspects (production process and technical).

### **1. Production process:**

In this slot, we were explained the flow of manufacturing process in the plant. Listed below are 6 departments working in coordination:

- Marketing
- Order Processing
- Procurement
- Manufacturing
- Quality Assurance
- Logistics

### **2. Technical:**

The technical slot included brief detailing of sensor principles and whole manufacturing process of electromagnetic flow meter. The accuracy of E+H's electromagnetic flow meter is 0.2% to 0.5%.

The process of electromagnetic flow meter manufacturing follows below stated steps:

- a. For the pipe if the required diameter is below 300 mm, tubes are used otherwise sheet metal is folded
- b. Flange-alignment
- c. Welding
- d. Blasting (zinc coating), not required for SS



e. Lining for insulation

f. Calibration, done using two methods (Gravimetric and Master Meter method that is using Coriolis meter)

Smart Features:

- Smart Bean System: used to automatically place order when the quantity of components falls below a certain threshold with the help of strain gauge.
- ERP (Enterprise resource planning) software: Using ERP, every small update regarding production is reflected on screen and data is maintained.
- 50% of the power requirement of the whole plant is satisfied by solar cells installed on the roofs.



**S.Y. B.Tech Students with Prof. Kapil Mundada and Experts from E+H, at Aurangabad**



**S.Y. B.Tech. Students with Prof. Kapil Mundada outside E+H plant, at Aurangabad**

The visit concluded with the students being able to better understand flow sensors and manufacturing process in an industry.

### **Students Achievement**

#### **a) Technical and Co-curricular Activities**

1. Student Ranjeet Upadhaya from Academic Year 2016-17 batch was selected as Flight Cadet for Indian Air Force.
2. Students won first prize in Smart India Hackthon 2019 held from 1<sup>st</sup> to 4<sup>th</sup> March 2019 at Jaipur, Rajasthan. Pratamesh Sonawane Third Year student from Instrumentation department participated was one of the team member in Christopher group. Second year student Amrish Moharil also one of the team members.
3. Third year students Shubham Chavan, Mukund Laddha and Bhushan Wadi were finalist for Siemens Make it Real Hackthon held in Oct 2018 at Bangalore for the project smart Energy meter.
4. Third year students Shubham Chavan, Mukund Laddha and Bhushan Wadi were finalist for NSE innovation awards for the project smart Energy meter. The project was shortlisted among top 50 projects.



5. Third Year student Yogesh Ravan and Tulsidas Kulkarni were shortlisted and Yogesh Ravan was selected under ISA student charter to represent in SAIT- Games at Southern Alberta Institute of Technology Calagry Canada from 13<sup>th</sup> – 15<sup>th</sup> March 2019.
6. Abhiraj Sutara participated in team Veloce Racing in Formula One Bharat at Coimbatore, Tamilnadu organized from 22-27 Jan 2019.

**b) Extracurricular activities**

1. Third Year student Shalom Daniel won Best Drummer second prize in Firodiya Karandak 2019.
2. Third Year student Nachiket Khare Best keyboard artist Drummer second prize in Firodiya Karandak 2019.
3. Student's achievements in Vishwa Karandak-2018, an intercollegiate sports and cultural festival held in college from 10<sup>th</sup> Oct to 13<sup>th</sup> Oct 2018.

Sr. No.	Event Name	Position	Participants
1	UV Act	Winner	Hiten Doshi, Apurva Mali, Sudarshan Bhalkar, Rushikesh Kashikar, Kalyani Jaware, Rohit Sangale, Sayli Patil, Aniket Nake, Siddhant Narode, Abhinu Paika, Rutvij Wagh, Shubhangi Gajdhane, Aishwarya Kadam, Anshu De, Johnathan Fernandes
2	Drama	Runner Up	Aditya More, Sanket Warale, Swaraj Ahire, Pratamesh Ketkar, Satyam Patil, Prannay Deshpande, Sharvari Shirke, Dishant Sonawane
3	Footloose	Runner Up	Rajat Kawadiwale, Tanvi Pawar, Aishwarya Lokhande, Keul Patil, Janhavi Pawashe, Nikita Saner, Nachiket Khare, Apoorva Joshi, Reubin Jacob, Shraddha Sukale, Aniket Ighe, Anaya Pawar
4	Table Tennis mix doubles	Runner Up	
5	Kho Kho(girls)	Winner	
6	Penalties	Winner	
7	Kabaddi	Winner	
8	Cricket	Winner	Prathmesh Ketkar, Suraj Darekar, Keul Patil, Satyam Patil, Onkar Shete, Chandrashekhar

			Kasture, Abhinu Paika, Ashish Sawant
9	PLC Workshop	Winner	
10	Logic X	Winner	
11	Catapult	Winner	
12	Carrom	Runner Up	
13	Vocab	Winner	

FEW GLIMPSES



UV ACT



DRAMA



**DANCE**



**KHO-KHO**