

Instrumentation Engineering

Newsletter 2015-16



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.



Summary of Department Activities

1. IAB Meeting

Fourth Meeting of Industry Advisory Board

Fourth meeting of the Industry Advisory Board (IAB) of Instrumentation Engineering Department was held in department of Instrumentation Engineering. The details are as follows:

Venue: Seminar Hall

Day & Date: Saturday, Jan 16, 2016

Time: 11 am to 1:30 pm

The following members were present:

Sr. No.	Name of Member	Organization
1	Mr. C'Shekhar Dhamankar Chairman, IAB	General Manager, Forbes Marshall, Pune
2	Mr. Abhay Bansod Member, IAB	Director, Process Systems and Solutions, Emerson Export Engineering Centre, Pune
3	Mr. Ketan Likhate Member, IAB	Group Program Manager, Emerson Innovation Centre, Pune
4	Mr. Narendra Bari Member, IAB	Sr. Manager Engineering, L & T, Navi Mumbai
5	Mr. Rameshchandra Bhorania Member, IAB	Sr. Manager, Mitsubishi Electric India Pvt. Ltd., Pune
6	Anand Vaishampayan (Invited Member)	Honeywell ltd
7	Mr. R. R. Mali (Invited Member)	DDGM IMD, Pune
8	Mr. Suhas Kulkarni (Invited Member)	Manager, Wavelet Group
9	Mr. Anand Bagade (Invited Member)	Sr. Manager Electronet Equipments Pvt. Ltd., Pune
10	Prof. Pramod Kanjalkar Member Secretary	Head-Instrumentation Engineering Department, Vishwakarma Institute of Technology, Pune



The following department faculty was also present:

1. Prof. (Dr.) Dilip Maghade
2. Prof. (Dr.) Shilpa Sondkar
3. Prof. Praveen Pol
4. Prof. Manisha Mhetre
5. Prof. (Dr.) Sanika Patankar,
6. Prof. Jitendra Gaikwad
7. Prof. Vijaykumar Bhanuse,
8. Prof. Kapil Mundada
9. Prof. Rajendra Patel
10. Prof. Anil Kadu
11. Prof. Tejas Patil
12. Prof. Archana Chaudhari
13. Prof. Sujit Deokar

The following members were busy with its administrative work and the leave has been granted.

Sr. No.	Name of Member	Organization
1	Dr. Vishwas Udpikar	Chairman, SCI-COM Software / WAVELET TECH. Pune
2	Mr. Neville Fernandes	Manager, R&D, Forbes Marshall, Pune
3	Mr. Rajendra Gunjal	TATA Motors, Pune
4	Mr. Nandakumar Kulkarni	General Manager, Boiler and Heater, Thermax Ltd., Pune
5	Mr. Deepak Vyawahare	Director, Inventive Engineering, Pune
6	Mr. Rajendra Nagaonkar	Managing Director, Electronet Equipments Pvt. Ltd., Pune
7	Mr. Rakesh Kedari	Senior Engineering Manager, Group Head- Instrumentation, AKER Solutions, Pune
8	Mr. Dileep Miskin	Head, Engineering Services & Training Centre, UL group of companies, Pune
9	Mr. Pramod Goel	Joint Director, CWPRS, Pune

The IAB members considered the items of the agenda and the items permitted by the Chair and decided as follows:

Item-1 Department Activities in A.Y. 2014-15 and 2015-16

- Resolution 1: The department activities were presented by the faculty members
Proposed by - Prof. Manisha Mhetre
Seconded by- Mr. Suhas Kulkarni



Resolution 1: Various upcoming activities are briefed by the respective faculty coordinators.

Proposed by - Prof. Kapil Mundada

Seconded by- Mr. Rameshchandra Bhorania

2. Department Achievements

Sr. No	Month	Achievement	Details
1.	July 2015 – Dec 2015	Two Online Elective courses offered by Purdue University, USA	Name of courses a) Processing for Embedded Systems Signal b) Electronics for Hybrid Vehicles Power c) S MEM
2.	Aug 2015	Prof. Manisha Mhetre received BCUD, Savitribai Phule Pune University grant for year 2014-16	Amount Granted Rs 1,50,000/-
3.	Aug 2015	Prof. Dr. Dilip Maghade received BCUD grant for 3 days state level workshop on Advances in Non conventional energy and control systems	Amount Granted Rs 1,00,000/- To be held in Feb 2016
4.	Oct 2015	Research Proposal submitted to various funding agencies like ISRO, DST.	Worth Rs 7.5 Crores
5.	Feb 2016	Mitsubishi competition	12th-13th February 2016
6.	Feb 2016	Mitsubishi Factory Automation Lab	Equipments worth Rs.43,8000 lac donated by Mitsubishi
7.	Feb 2016	National Workshop on Atmospheric Instrumentation and Meteorological Sciences	18 th – 20 th Feb2016

3. Courses offered by Industry



Sr. No	Course Name	Industry conducting the course
1.	Project Engineering and Management	Emerson Exports Engg. Centre, Pune.
2.	Water Engineering	Forbes Marshall, Pune

4. Expert/Guest lecture's conducted: 14

Sr. No	Date/ Month	Resource Person Name and Designation	Topic of Lecture	Faculty Organizer	Year
1.	18 th Aug 2015	Mr. Amit Saxena, Forbes Marshall, Pune	Sensor Selection	Prof. Manisha Mhetre	First Year, M. Tech
2.	20 th Aug 2015	Siddharth Aphale, Oil and Gas industry Houson, Texas	Close loop emission control system	Prof. Manisha Mhetre	Third Year
3.	31 st Aug 2015	Dr. Rajeev Joshi, Dr Mukund Joshi, Surgent Medical	Endoscopy	Prof. Manisha Mhetre	Third Year
4.	11 th Sept 2015	Mr. Chandrashekhar Dhamankar, General Manager, Technical Division, Forbes Marshall, Pune	How COE output can be industry input?	Prof. Archana Chaudhari	Second Year
5.	11 th Sept 2015	Dr. Seva Panda, Konnet Vian Pvt. Ltd	Video Graphics	Prof. Tejas Patil	UG+PG students
6.	11 th Sept 2015	Prof. Dr. S. R. Kulkarni, Chemical Engg. Dept	Analytical Techniques	Prof. Sujit Deokar	Third Year



7.	11 th Sept 2015	Siddharth Aphale, Oil and Gas industry Houston, Texas	O2 sensor for exhaust system	Prof. Manisha Mhetre	Third Year
8.	20 th Oct 2015	Amar Mukadam, Forbes Marshall, Pune	Application based sensor selection and placement	Prof. Manisha Mhetre	M. Tech
9.	20 th Oct 2015	Mr. Omprakash Barure, Analogic Automation, Pvt Ltd, Pune	Industrial Automation	Prof. Anil Kadu	Third Year
10.	15 th Nov 2015	Jr. Scientist at CWPRS	Flow Measurement Technique	Prof. Vijaykumar Bhanuse	Second Year
11.	30 th Jan 2016	Dhananjay Dhamankar, Air India, India	Flight Instrumentation	Prof. Pramod Kanjalkar and Prof. Anil Kadu	First Year M.Tech
12.	21 st April 2016	Dr. Niranjana Khambete, Manager, Clinical Engineering, Deenanath Mangeshkar Hospital and Research centre, Pune	Biomedical Technological Development": Impor tant issues in the Indian context.	Prof. Manisha Mhetre	Third Year
13.	April 21, 2016	Vikas Chaitanya, Technical Director, Electron Ltd., Delhi	EMI EMC Standards	Prof. Rajendra Patel	Honors Course
14.	April 22, 2016	Ulhas Shouche, Vishal Bhosale , Emerson Innovation , Hinjewadi , Pune	EMI-EMC case study and lab visit for EMI- EMC test set up at Emerson	Prof. Pramod Kanjalkar	Honors Course



			Innovation , Hinjewadii , Pune		
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5. Industrial visits organized :19

Sr No	Industry Visited	Faculty Organizer	Class visited	Date
1.	Forbes Marshall, Pune	Prof. Vijaykumar Bhanuse	Third Year	August 2015
2.	CWPRS, Pune	Prof. Vijaykumar Bhanuse	Third Year	August 2015
3.	Coca-cola Plant, Wada, Mumbai	Prof. Kapil Mundada	Third Year	3/9/2015
4.	PCMC Water Treatment Plant	Prof. Kapil Mundada	Third Year	12/9/15
5.	Pune Techrol Pvt. Ltd., Pune	Prof. Vijaykumar Bhanuse	Third Year	August 2015
6.	Forbes Marshall, Pune	Prof. Manisha Mhetre	First Year M. Tech	14/10/15
7.	Compax India Pvt. Ltd, Bhosari, Pune	Prof. Manisha Mhetre	First Year M. Tech	14/10/15
8.	Vinati Organics Pvt. Ltd	Prof. Archana Chaudhari	B. Tech and M. Tech	15/10/15
9.	GMRT, Khodad	Prof. Tejas Patil	Third Year	30/10/15
10.	Indian Space Research Organization, Vikram Sarabhai Space center,	Dr. Shilpa Sondkar	First Year M.Tech	29/9/2015



	Thiruvananthapuram, Kerala			
11.	Poona Diagnostic Center, Poona Hospital	Prof. Tejas Patil	B. Tech	4/11/15
12.	E-square Multiplex	Prof. Archana Chaudhari	B. Tech	15/3/2016
13.	Pune Techrol, J-52 , MIDC, Bhosari, Pune	Prof. Vijaykumar Bhanuse	S.Y.B.Tech	9/4/2016
14.	Electronet Equipment Pvt. Ltd. Pune	Prof. Vijaykumar Bhanuse	T. Y. B Tech	10/4/2016
15.	Katraj Dairy, Pune	Prof. Kapil Mundada	S. Y. B Tech and T. Y. B. Tech	12/4/16
16.	Bharati Hospital	Prof. Manisha Mhetre	T. Y. B Tech	21/4/16
17.	Emmerson Innivation Pvt. Ltd	Prof Pramod Kanjalkar	T. Y. B. Tech	22/4/16
18.	Center of Instrumentation Facility, Chemistry Department, SPPU Pune	Prof. Sujit Deokar	TY B.Tech	29/4/2016
19.	Central Water and Power Research Station Khadakwasla, Pune	Prof. Vijaykumar Bhanuse	TY B.Tech	7/4/2016

6. Student's Achievements:

Sr. No	Name of the Student	Class	Rank/ Achievement



1.	Sujit Deshpande and Tejas Barhate (B. Tech 2014-15)	B. Tech	Project was shortlisted for AVSHIKAR, project competition held by Savitribai Phule Pune University
2.	Shubha Havaladar, Shoubik Sarkar, Vismaya Wavalvalkar, Ajit Borude	B. Tech	National level Project Competition Mitsubishi Electric Cup
3.	Shubha Havaladar	B. Tech	Received scholarship from International society of Automation (ISA) USA of \$1000
4.	Bhagyashri Shirke M. Tech (2014-15)	M. Tech	Awarded 'Chatrapati Award'
5.	Tanvee Panse (B. Tech 2015-16)	B. Tech	Member of Indian Roll ball team for Roll ball world cup Dec., 2015 (Team secured runner up position)
6.	Nachiket Patil	Alumina	Filed Patent in the area of Energy Harvesting from speed breaker using piezo electric material
7.	Final Year B. Tech student to "World Business Dialogue 2016" at Germany in March 2016		
8.	Vanderlande Industries selected 5 students for 6 months paid internship on 27th April 2016. The names of the students are Akshay Sawant, Swapnil Shinde, Suresh Shelake, Siddharth Patil, Sonam Raut.		

7. Students Placements : No of students placed- 33

Sr. No	Name of student	Name of Company
1.	PatwardhanSoham Sanjay	Tata Elxsi
2.	ShivaniBurad	Honeywell
3.	IraniKhudabuxFarokh	Honeywell



4.	BhushanWalnuskar	Tata Elxsi
5.	HemantNadkar	Tata Elxsi
6.	PayalDabhade	Tata Elxsi
7.	PanditNeelkanthKedar	Tata Elxsi
8.	Rathi Shubham Shankarlal	Tata Elxsi
9.	ShraddhaLahuPabale	Tata Elxsi
10.	UtkarshaSonje	Tata Elxsi
11.	NavhalAnand	Cognizant
12.	ShindeRohitRajendra	Emerson
13.	Sarkar SoubhikPradip	Tejas Network
14.	Kulkarni KeshavNarayanrao	Emerson
15.	NitinBaburaoSonkamble	Tata Elxsi
16.	HarshalSantoshwar	Emerson
17.	Mahamulkar Pranav Surendra	Mu Sigma
18.	AkshayDharmal	Monalisa
19.	Rajesh Sontakke	Sudarshan chemical
20.	Mali NileshDilip	Emerson
21.	PatilRushikeshGanpat	Accenture
22.	AtulSonune	Accenture
23.	GundepallyAshwathRadhakrishna	Tata Elxsi
24.	RohitKamble	Tata Elxsi
25.	MahuliVrushaliSatish	Mu Sigma
26.	SiddeshBorse	Emerson
27.	AkshayMundhe	Tata Elxsi
28.	SachinChavan	Monalisa
29.	ShrikantChavan	Monalisa
30.	YogeshKokare	Monalisa
31.	KunalManore	Monalisa
32.	Sarang Kale (updated on 19/8/16)	Emerson Innovation
33.	SonaliSant	Schneider

8. Staff Achievements

Sr .No	Achievements	Number
1.	Ph. D Completed in 2015-16	1
2.	Conference Attended by staff	5



3.	Workshops/ Seminars Attended	8
4.	Workshop/ Seminar Organized	1
5.	Ongoing Funded Research Projects	1
6.	Ongoing Consultancy Projects	3

9. Workshops attended by Faculty

1. The following faculty attended Faculty Induction Program organized by VIT, and conducted by NITTTR Indore in two phases from 15th Dec 2015 to 30th Dec 2015
 - a. Prof. Vijaykumar Bhanuse
 - b. Prof. Rajendra Patel
 - c. Prof. Sanika Patankar
 - d. Prof. Tejas Patil
 - e. Prof Archana Chaudhari
 - f. Prof. Sujit Deokar
2. Prof. Anil Kadu attended workshop on Advanced control Engineering, NIT Trichurapalli, from Oct 9-10 2015.
3. Prof Anil Kadu attended One day workshop on industrial automation system and Siemens PLC on 26th Dec 2015, V K Edutech Pvt Ltd, Pune.
4. Prof Kapil Mundada attended national workshop on Medical Imaging in June 2015 at IIT Mumbai
5. Prof Kapil Mundada attended workshop on Technical writing for scientist and Engineers organized by IIT Mumbai in Nov 2015.
6. The following faculty attended International Conference on Information Processing held in Vishwakarma Institute of Technology, Pune in Dec 2015
 - a) Manisha Mhetre
 - b) Jitendra Gaikwad
 - c) Kapil Mundada
 - d) Archana Chaudhari



7. Prof. Kapil Mundada attended a "One day workshop on Eligibility and Rules for Admission to various Professional Technical Courses" arranged by DTE Mumbai at COE Pune on 26th April, 2016.

8. Prof. Tejas Patil attended "One day conference and Matlab EXPO 2016", on 26th April 2016 at Westin, Pune. Applications of Gesture control in automotive industry, type identification of cars using video analytics and Analytics in engineering were covered.

9. Prof. Anil Kadu attended workshop on "Real time interfacing with Matlab, Simulink and Guide for process control" from 11-15 July 2016 at Manipal, Manipal University, Karnataka.

10. Details of Research Proposal applied to various funding agencies

Sr. No	Date	Funding Agency	Title of Proposal	Amount	Name of PI an CO-PI
1.	28/10/15	ISRO	HySR sensing for water quality	58,17,000/-	Dr. R. M. Jalnekar, P. M. Kanjalkar
2.	31/10/2015	ISRO	Characterization of piezoelectric actuators and MFC for precision position control application and Design and Development of control algorithm for precise position control	27,02000/-	Dr. Shilpa Sondkar
3.	30/10/15	DST, SATYAM	Investigation of improved levels on neuro chemical effects of Yoga and Meditation for holistic healing	22,00,000/-	Prof. P. M. Kanjalkar, M. R. Mhetre, D. S. Dhande
3	30/10/15	DST, SATYAM	Investigation of effect of Sudarshan Kriya on brain activities	51,57,000/-	Dr. Jayant Kulkarni, Sanika Patankar, Archana Chaudhari, Dr. Abhijeet Pawar,
4		DST, WTI	Design and development of SMART water distribution network for PCMC area with optimal synchronization of ESR.	6,20,80,763/-	Prof. P. M. Kanjalkar, J A. Gaikwad, V. R. Bhanuse



5	7/7/15	BCUD, SSPU Research Grant	Experimental setup for Adaptive control of a Non linear system component	3,00,000 0/-	Dr. Shilpa Sondkar
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11. Faculty Publications

1. Vivek Zulzule, Pravin Pol, S. L. Patil, “A4 switch transformer isolated single phase push pull inverter topology, Design and Experimentation,” ICPAC 2015.
2. Anup Deshmukh, Sanika Patankar, Tejas Patil, Jayant Kulkarni, “Feature based classification of Hard Exudates,” ICACCI, Kochi, Aug 2015.
3. Anuj Somkuwar, Sanika Patankar, Tejas Patil, Jayant Kulkarni, “Intensity based features for classification of Hard Exudates,” INDICON, Delhi, Dec 2015.
4. Sujit Deshpande, Tejas Barhate, Kapil Mundada, “Design and Development of cost effective and integrated water distribution system for residential establishments” ICIP, Pune 2015.
5. Rafat Sayyad, Kapil Mundada, “Enhancement and denoising of ECG signal using EKF and EKS,” ICIECE, Hyderabad, Aug 2015.
6. Sujit Deshpande, Tejas Barhate, Kapil Mundada, “Design and Development of Cost effective and integrated water distribution system for residential establishment,” IEEE international conference on information processing, Vishwakarma Institute of Technology, Pune, Dec 2015.
7. Neha Narkhede, A. B. Kadu, Dr. S. Y. Sondkar “Lab VIEW based system for PID Tuning and implementation for a flow control loop, IEEE International Conference on Advanced communication control and computing Technologies (ICACCCT) Ramanathapuram, Tamilnadu, India, May 2016.
8. Payal Kulkarni ,Vijaykumar Bhanuse, Dileep Miskin “Enhancing efficiency of Industrial Hardware Documentation workflow using Engineering platform”
9. Aditi Patil, J. A. Gaikwad, Dr. J. V. Kulkarni “Bearing Fault Diagnosis Using Discrete Wavelet Transform And Artificial Neural Network, IEEE International Conference on



- Applied and Theoretical Computing and Communication Technology (ICATCCT), June 2016.
10. Smita Chopade, J. A. Gaikwad, Dr. J. V. Kulkarni “Bearing Fault Detection using PCA and Wavelet based Envelope Analysis, IEEE International Conference on Applied and Theoretical Computing and Communication Technology (ICATCCT), June 2016.
 11. Priyanka Mehta, J. A. Gaikwad, Dr. J.V. Kulkarni “Roller bearing fault detection using Multi-scale Fuzzy Entropy and classification based on VPMCD under varying speed , IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology(RTEICT), May 2016.
 12. Neha Narkhede, A. B. Kadu, Prof. (Dr). S. Y. Sondkar “Lab VIEW based system for PID Tuning and implementation for a flow control loop, IEEE International Conference on Advanced communication control and computing Technologies (ICACCCT) Ramanathapuram, Tamilnadu, India, May 2016.
 13. Adwait Borwankar, Prof. (Dr). Shilpa Y. Sondkar, Neville Fernandes, “ LabVIEW Based Adaptive Modeling of Piezo Actuators Used in Electro Pneumatic Positioner”, International Conference on Advanced Communication Control and Computing Technologies (ICACCCT) 2016, Ramanathapuram, Tamilnadu, India ,May 2016
 14. Parmanand Jadhav, Prof. (Dr.) Sanika Patankar, Vijay Bhanuse, Prof. (Dr). Jayant Kulkarni and Prof. Jitendra Gaikwad, “Determination of Steel Plate Deformation Using Vibration of Impact Testing”, International Conference on Automatic Control and Dynamic Optimization Techniques (ICACDOT), July 2016.
 15. Ketan Mahajan, Prof. R. R. Patel, Prof. P. M. Kanjalkar, Prof. K. G. Mundada “Identification of Lightning Electric Field using HHT and Time Domain Approach” International Conference on Advanced Communication Control and Computing Technologies (ICACCCT) 2016, Ramanathapuram, Tamilnadu, India, May 2016.
 16. Anuragsing Deshmuk ,Prof. K. G. Mundada ,Prof. P. M. Kanjalkar “Endoscopic Image Enhancement using Blind Denoising” ICIECE-16 Hyderabad, July 2016.
 17. Pratik Paradhe, Prof. P. M. Kanjalkar, “Compressive Sensing Approach For Data Recovery From Incomplete Measurements For One Dimensional Signal”. International



- Conference on Advanced Communication Control and Computing Technologies (ICACCCT) 2016, Ramanathapuram, Tamilnadu, India, May 2016.
18. Yogesh Patil, Mrs. M. R. Mhetre” Design and evaluation of turbine spirometer: A new approach”, Innovations in Electronics and communication Engineering ICIECE, Hyderabad July 2016.
 19. Rashmi Dandge, Mrs. Manisha Mhetre “Evaluating broadband ultrasound Attenuation using piezo transducer”, Innovations in Electronics and communication Engineering ICIECE, Hyderabad ,July 2016
 20. Sujit Deokar, “Abnormality detection in ECG Signal Using Wavelets and Fourier Transform”, American Journal of Engineering and research, Vol. 5, Issue 5, May 2016.
 21. Ajay Ladket, Prof. (Dr.) J.V. Kulkarni, Prof. (Dr.) S. S. Patankar “Modified Matched Filter Kernel for Classification of Hard Exudates” ICICT -16 Coimbatore, Tamilnadu, Aug 2016.
 22. Abhishek Taori, Prof. (Dr.) J.V. Kulkarni Prof. (Dr.) S.S. Patankar, Prof. A. K. Chaudhari “Segmentation of Macula in Retinal Images using Automated Seeding Region Growing Technique” ICICT -16 Coimbatore, Tamilnadu, Aug 2016.
 23. Nachiket Patki, Prof. (Dr.) J. V. Kulkarni Prof. (Dr.) S. S. Patankar “Registration of Facial Images with Out of Plane Rotation for Surveillance Application” ICICT -16 Coimbatore, Tamilnadu, Aug 2016.
 24. Pravin Pol “Development of a system for automation of electronic energy meter calibration” ICIECE-2015 Hyderabad
 25. Venketesh, Prof. (Dr.) J. V. Kulkarni, Prof. V. R. Bhanuse “Vibration analysis of cracked beam using Fuzzy logic technique” ICACDOT -16 Hinjawadi, Pune (to be presented in Sept 2016)
 26. Swatik Bhandhri, Prof. (Dr.) D. K. Maghade “Solid Fuel Fired Boiler Combustion Control using Fuzzy Logic Algorithm” ICACDOT -16 Hinjawadi, Pune (to be presented in Sept 2016)
 27. Sunil Zode, Prof.(Dr.) D. K. Maghade” Gamma Radiation Source Identification Algorithm For Multisource Radiation Environment” ICACDOT -16 Hinjawadi, Pune (to be presented in Sept 2016)

12. Details of Consultancy work

Sr. No	Date	Name of Organization	Title of consultancy Project	Amount	Duration	Name of Faculty members involved
1.	5/11/15	Magnaflux	APFC controller	60,000/-	4 months	P .M. Kanjalkar, R. R. Patel
2.	5/11/15	Liebherr appliances	Test jig for refrigeration	2,00,000/-	6 months	P .M. Kanjalkar, R. R. Patel
3.	24/11/15	Pridex Medical System	CO2 insufflator	1,20,000/-	2 months	P .M. Kanjalkar, R. R. Patel

13. National level workshop on Atmospheric Instrumentation and Meteorological Sciences to be held from 19th -21st Jan 2016



National Workshop On Atmospheric Instrumentation and Meteorological Sciences: Theory & Challenges (19th - 21st January, 2016)

Organized by:

Department of Instrumentation Engineering Vishwakarma Institute of Technology, Pune
In association with

India Meteorological Department (IMD)
(In the Service of Nation Since 1875)
Ministry of Earth Sciences (MoES)
Government of India

About Institute:
Bansilal Ramnath Agarwal Charitable Trust's Vishwakarma Institute of Technology, Pune highly commendable private institute, occupies a place of pride amongst the premier technical institutes of the western region of India. Established in the year 1983, it is an autonomous institute affiliated to Savitribai Phule Pune University. Within three decades, the institute march towards the pinnacle of glory through its remarkable achievements and laurels in the field of engineering education of high caliber. The institute is running nine under graduate, eight post graduate and six doctoral programmes. The institute is accredited ('A' Grade) by NAAC from July 2013.

About India Meteorological Department.
India Meteorological Department (IMD) Ministry of Earth Sciences, Government of India, established in 1875, is the National Meteorological Service provider of the country and the principal government agency in all matters relating to meteorology, seismology and allied disciplines and provides weather and climate services to different sectors. Modernization of its infrastructure to deliver value added services, which encompass refurbishing and enhancing its Observational capabilities, Forecasting techniques and Communication facilities.

Services provided by IMD:

About workshop:
Atmospheric Instrumentation field is continuously growing over last few decades. This is one of the thrust areas for research and technology development, keeping this in mind, Department of Instrumentation Engineering, V.I.T. Pune is organizing one-of-its-kind national workshop on Atmospheric Instrumentation and Meteorological Sciences: Theory & Challenges, in association with IMD Pune. This workshop is designed to addresses the UG/PG students of Engineering and Sciences, Research Scholars and Industry Personnel at one platform. The speakers from Research organizations and Industry will throw light on various aspects of this field. The workshop also covers the visit to IMD labs and product exhibition by Industry.

Information brochure for National level workshop on Atmospheric Instrumentation and Meteorological Sciences



The department of Instrumentation engineering, Vishwakarma Institute of Technology, Pune in association with India Meteorological Department (IMD) Pune has organized a National workshop on Atmospheric Instrumentation and Meteorological Sciences: Theory & Challenges during 19th to 21st January, 2016 with an aim of getting IMD scientists, senior academicians and research scholars working in the area of Atmospheric Instrumentation under one platform to emphasize the importance of this area of research and development.

Total 53 participants have registered from various renowned institutions across the country including IIT, Agricultural universities.

The inauguration of the workshop on “Atmospheric Instrumentation and Meteorological sciences: Theory & Challenges” was held on 19th January, 2016 at V.I.T. auditorium in the esteemed presence of Dr. L. S. Rathore, Director General of Meteorology, Indian Meteorological Department, Ministry of Earth Sciences, Govt. of India, New Delhi. During this event Shri. B. Mukhupadhyay, ADGM IMD Pune, Shri. R. R. Mali DDGM (SI) IMD Pune, Prof. (Dr.) Rajesh Jalnekar Director V.I.T. Pune and Prof. Pramod Kanjalkar workshop convener and Head of Instrumentation Engg. Department, V. I. T. Pune were present on the dais.

Shri. B. Mukhupadhyay mentioned about various verticals of IMD Services. Shri. R. R. Mali described about the laboratory and surface instrumentation technology available at IMD Pune. Dr. Rajesh Jalnekar briefed about the various achievements of the institute and new initiatives taken by the institute. Prof. Pramod Kanjalkar, mentioned objectives and highlights of the workshop. Many industrialists and senior academicians were present during this event. Prof. Kapil Mundada hosted the event. Prof. Sae Peshave presented vote of thanks.



Dignitaries on the dais: LtoR: Shri. R.R.Mali, Shri. B.Mukhopadhyay, Dr. Rajesh Jalnekar, Prof. Pramod Kanjalkar, Dr. L.S.Rathore



News about the workshop in daily news paper

Third day was very encouraging for the participants as there was a visit to IMD labs planned. All participants were taken to IMD Pune office for the lab visit. It was a mesmerizing experience for everyone.

Valedictory function of the workshop was conducted in presence of Dr. S D Attri, Scientist-F, IMD, and New Delhi. Shri. B. Mukhupadhyay, Shri. R.R. Mali and Prof. Pramod Kanjalkar were also present on the dais. Participants expressed their views and opinions about the workshop.

14. Mitsubishi Electric Cup to be held in Instrumentation Engineering Department on 12th -13th Feb 2016





Poster of Mitsubishi Electric Cup

Mitsubishi Electric India and Vishwakarma Institute of Technology, Pune are jointly organized National Level Automation Competition for undergraduates and postgraduates students on 12-13 February 2016. As per the theme “Eco Imagination through Smart Manufacturing”, it is expected to include IoT, interfacing through web based solutions, connectivity with upper layer of Manufacturing Execution Systems (MES). e-F@ctory promises enhanced productivity. It makes full use of leading control technologies and network technologies to “visualise” production information, including quantitative and qualitative production data and equipment information, and links production equipment to higher manufacturing execution systems to allow production information to be incorporated into production plans be utilised to ensure quality traceability. eco-Factory allows “visible management” of power usage through the introduction of measuring equipment and technologies that support energy conservation efforts by meticulously measuring power usage. It also promotes the effective installation of inverters and other energy saving devices to not only eliminate wastefulness and surges in energy consumption but to reduce overall power usage. To summarize, *e&eco-F@ctory* based solutions provide a means to “Measure, Visualise, Reduce and Manage” Energy Usage in the Manufacturing Industry. It was expected from the students to develop innovative models to cater social, environmental and industrial challenges. The competition includes innovative design and application which will be held every year.

Organizing committee consists of faculties from IIT Bombay, VIT and CoEP, and members from MEI, was formed to execute this Mitsubishi Electric Cup. This event was launched officially in July’15 through webinar, website and posters. Registration was free for the competition and the winner, first and second runner up teams will get prizes of Rs. 1,00,000/- , 75,000/- and 50,000/- respectively along with the trophy. There are 7 appreciation prizes each worth of Rs. 10000/- and one most popular team decided by Participants, Delegates and visitors.

We have received 70+ proposals from various institutes across India. Through rigorous evaluation process 24 teams are shortlisted. Selected 24 institutes were provided Factory Automation components worth of Rs. 1,75,000/-. We have appointed Technical mentor for each

team from FAC department and arranged intensive training for each team on all the products. Also technical support provided during the complete development of model.

It was proud to us that VIT team has received the second prize in this competition worth of Rs. 75,000/- and silver trophy. First and third prize winners were Dayalbagh Educational Institute, Agra and CVR collage of engineering respectively.



Inauguration of Mitsubishi Electric Cup and Key note speech by Yokoyama San - Director MEI, BUH-FAID



Evaluation of project models by judges



Winner of Mitsubishi Electric Cup

15. Mitsubishi Electric donated Factory Automation Lab worth Rs 43,8000/- to the department



It was proud moment when Mitsubishi Electric India signed MoU with VIT, Pune for funding the state of the art factory automation equipments worth of Rs.44 Lakhs and lab is inaugurated on 13 Feb by the hands of Mr. Makoto Kitai, MD, Mitsubishi Electric India.



Inauguration of Mitsubishi Electric FA Lab



Mitsubishi Electric FA Lab by Amasaki San, MELCO Japan

16. Three day state level workshop on “Advances in Non-Conventional Energy and Control Systems” during 22nd to 24th February, 2016 funded by Savitribai Phule Pune University

The department of Instrumentation engineering, Vishwakarma Institute of Technology, Pune has organized a three day state level workshop on “Advances in Non-Conventional Energy and Control Systems” during 22nd to 24th February, 2016 with an aim of getting scientists, senior academicians and research scholars working in the area of Non-Conventional Energy and Control Systems under one platform to emphasize the importance of this area of research and development.

The inauguration of the workshop was held on 22nd February, 2016 at V.I.T. auditorium in the esteemed presence of Prof. (Dr.) G. M. Takwale, Former Vice Chancellor, Shivaji University, Kolhapur. Prof. (Dr.) G. M. Takwale presented current need of non-conventional energy sources like solar, wind, Tidal Power, Geothermal power, Hydropower, Biomass etc and key challenges. Also he had discussed specifically the solar and wind energy systems as case studies, those are very helpful for researchers who are willing to work in these areas. Prof. (Dr.)

G. M. Takwale has shared list of organizations which provides financial support the research projects in these areas.



Felicitation of Prof. (Dr.) G. M. Takwale



Speech by Prof. (Dr.) G. M. Takwale



Glimpses of the sessions conducted

Following industry experts were invited for talk

1. Mr. Sanju Thomas, Senior Associate Fellow & Head, Centre for Solar Energy National Institute of Wind Energy (NIWE) Pune.
2. Mr. Puneet Chugh, Strategic Marketing - Suzlon Energy Limited Hadapsar, Pune.

17. State Level Project Competition in association with International Society of Automation, Pune Section on 2nd June 2016 held in the Instrumentation Engineering Department



Instrumentation department of Vishwakarma Institute of Technology, Pune, had organized a state level project competition for all the final year students from the circuit branches of Engineering on June 2nd, 2016. The main objective was to provide a platform for students to showcase their innovative engineering through their final year projects.

The participants were fortunate to be judged by highly qualified stalwarts from the instrumentation industry. The judging panel included,

- i. Mr. J. G. Bapat, Forbes Marshall, Pune
- ii. Mr. Vishwas Kale, Vijayesh instruments Pvt. Ltd.
- iii. Mr. Ramani Iyer, Forbes Marshall, Pune
- iv. Mr. Vikas Anwekar, ISA Pune Section

Few Glimpses of the Competition





18. Board of Studies Meeting in Instrumentation and Control Engineering held at Instrumentation Engineering Department, VIT, Pune, on Saturday 16th April 2016

A meeting of the Board of Studies in Instrumentation and Control Engineering was held in Instrumentation Engineering Department, VIT, Pune, on Saturday 16th April 2016 at 10.00 am.

The following members from industry and academia were present, Prof. (Dr.) C. Y. Patil, Mr. Shirish Chaphekar, Mr. Ajay Nagarkar, along with few invited staff members. After discussion on various academic activities and previous meeting review, following points were discussed and approved by the BOS

- i) Approval for six months internship for Final Year B. Tech. Students
- ii) Approval for new Honor course: VLSI
- iii) Approval for new Professional Development courses : Advance Factory Automation and DCS Programming
- iv) Approval for Graphical User Interface for Embedded Systems as skill development course for S.Y. B. Tech. Students

19. Glimpses' of Expert Lectures conducted in the Department

- a) Expert lecture by Mr. Chandrashekhar Dhamankar, General Manager, Technical Division, Forbes Marshall, Pune on topic “How COE output can be industry input conducted for Second Year on 11th Sept 2015”



Mr. Chandrashekhar Dhamankar conducting expert lecture

- b) Expert lecture by Dr. Sema Panda, Konnet Vian Pvt. Ltd for undergraduate and post graduate students on the topic “Video Graphics” on 11th Sept 2015.



Expert lecture by Dr. Sema Panda from Konnet Vian Pvt. Ltd

- c) Expert lecture by Omprakash Barure, Analogics Automation Pvt. Ltd on “Industrial Automation” conducted for Third year students on 20th Oct 2015.



Expert lecture by Mr. Omprakash Barure, Analogics Automation Pvt. Ltd

- d) Expert Lecture by Dhananjay Dhamankar, Air India on Flight Instrumentation conducted for first year M. Tech students on 30th Jan 2016.



Felicitation of Mr. Dhananjay Dhamankar, Air India by Prof. Pramod Kanjalkar

- e) An expert lecture by Dr. Niranjn Khambete, Manager, Clinical Engineering, Deenanath Mangeshkar Hospital and Research centre on 26th April at 11.30am for third year students. Topic was " Biomedical Technological Development": Important issues in the Indian context.



Dr. Niranjn Khambete conducting expert lecture for Third Year B. Tech students

20. Alumni meeting at Department of Instrumentation Engineering

Date: 12 Dec 2015, Saturday Venue : HOD cabin, Department of Instrumentation Engg.

Meeting started at 9. 30 am in HOD cabin.

Following points were discussed:

- a. Industry projects and Research projects should be balanced for overall development of the department. Outcome of research projects in terms of paper or patents increases thinking and experiential ability of the students by Chaitrali Dhole.
- b. Industry projects give discipline and time bound activity of the project. Students learn good Communication when works in the industry Mane and Deepak Raikar.

c. Automation and Embedded area is upcoming area and hence more emphasis should be given on that as suggested by Ajay Nagarkar and Yogesh Mahaparale.

d. Students should get state of the art knowledge by arranging industry visits and guest lectures.

21. Snapshots of Industrial visit

a) Visit to Coca-cola plant on 3rd Sept 2015



Third year students visited Coca-cola plant

b) Visit to GMRT, Khodad on 30th Oct 2015



Third year students visited GMRT Khodad
c) Visit of Final year students to Vinati Organics Pvt. Ltd Mahad on
15th Oct 2015



Final year students visited Vinati Organics Pvt. Ltd, Mahad

d) Visit of Third year student to CWPRS



Third Year student visit CWPRS

e)
Marshall, Pune

Visit of Third Year students to Forbes



Third Year students visit Forbes Marshall, Pune

- f) Visit of final year B. Tech students to E-square Multiplex



Industrial Visit to E-square Multiplex on 15th March 2016

- g) Visit of Second Year B. Tech students to Pune Techtrol, Bhosari



Industrial Visit to Pune Techtrol, Bhosari

- h) On 29th April 2016 a visit of student from TY B. Tech Q division students from our department was organized. Demonstrations were conducted on the following instruments DSC, FTIR, XRD, HPLC, GCMS, NMR spectroscopy.



Industrial Visit to Chemistry department SSPU, Pune

- i) Industrial Visit conducted to Pune Techtrol, for S.Y.B.Tech on 9th April 2016.



Industrial Visit to Pune Techtrol

- j) Industrial Visit conducted to Electronet Equipment Pvt. Ltd., for T.Y.B.Tech on 10th April 2016.



Industrial Visit to Electronet Equipment Pvt. Ltd

- k) Industrial Visit conducted to Central Water and Power Research Station Khadakwasla, Pune for T.Y.B.Tech on 7th April 2016 for the subjects to Calibration and Standards.



Industrial Visit to Central Water and Power Research Station Khadakwasla

- l) Visit of Third Year and Second Year students to Katraj Dairy on 12th April 2016.



Second Year students visit to Katraj Dairy, Pune

- m) Visit of First Year M. Tech students to
Vikram Sarabhai Space center, Thiruvananthapuram, Kerala on 29th Sept
2016



First Year M. Tech students to Vikram Sarabhai Space center, Thiruvananthapuram, Kerala



22. Alumni meeting at Department of Instrumentation Engineering

Date: 20th May 2016, Saturday Venue: HOD cabin, Department of Instrumentation Engg.

1. Meeting started at 10.00 am with welcome of alumni to department of Instrumentation Engineering.
2. Head of Department Prof. S. Y. Sondkar introduced the agenda as contribution of Alumni in Project evaluation.
3. Anand Chordia initiated that he will try for project sponsorship at KPIT Cummins.
4. Project areas of the department are discussed and it was suggested that live project gives more understanding to the students by Alok Modak, Tejas Mulhekar.
5. Deepak Raikar initiated visit of Building Automation students to Honeywell.
6. Kapil Mundada sir explained evaluation process of projects and its importance to the Alumni
7. Alumni appreciated the project work of the students.

23.

Workshop conducted for students

MATLAB workshop for the Third Year Students was organized under ISA Students' Section on the 8th of August 2015. The workshop was taken by Nachiket Patki, and Ajay Ladkat, students of M.Tech, Second Year.



Third year students attending MATLAB workshop

24.

Student's Achievements

a)

M. Tech student Bhagyashri Shirke receiving the prestigious “Chatrapati Award” for excellence in Athletics.



Snap shot of press note of Bhagyashri Shirke receiving Chatrapati Award at the hands of Sports Minister Shri Vinod Tawade

2. Visit of final Year B. Tech student to “World Business Dialogue 2016” at Germany in March 2016

Highlights of the Visit:

A 5- day conference with an excellent visit to the industry to network, learn, engage and gain knowledge from the people of diverse background. The conference had also arranged a visit

to Deutz AG, the first factory by Nikolaus August Otto who was the German engineer of the first internal-combustion engine to efficiently burn fuel directly in a piston chamber.

Post conference Virendra also visited the following companies

1. BMW groups Welt which had the Mini and Rolls royce brands under its flagship
2. Stuttgart, the home of the Porsche

Snapshots of Virendra's Visit to Germany:



Virendra at the conference



Virendra at Porsche, Stuttgart