



## Department of Electronics and Instrumentation Engineering

### **“AUTOMATION EXPLORER” NEWSLETTER**

Vol 3, Issue -1, 2021

#### ***In this Issue,***

1. About the Department of E&IE
2. Vision, Mission, PEOs and PSOs of Dept. of E&IE
3. NBA Visit to department
4. Departmental activities from JAN 2021 to June 2021
5. RVCE -ISA activities
6. Proposals Submitted
7. Research Centre activities
8. Workshops/seminars/conference attended by faculties
9. Publications by students and faculties
10. Placement details.
11. Awards and Recognition
12. Student activities
13. About PG in BMSP&I
14. Student Major projects

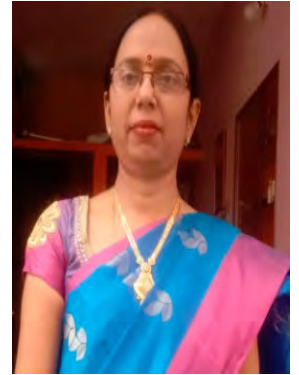
R.V.College of Engineering (RVCE) established in 1963 is one of the earliest self-financing engineering colleges in the country. The institution is run by Rashtreeya Sikshana Samithi Trust (RSST) a not for profit Trust. RVCE is an Autonomous college. Currently, the institution offers 12 Bachelor, 21 Master Programs and all the departments have research centre's, affiliated to Visvesvaraya Technological University (VTU) Belagavi. The institution has set itself a Vision "Leadership in Quality Technical Education, Interdisciplinary Research & Innovation, With a Focus on Sustainable and Inclusive Technology". Recent awards and achievements includes "Engineering College of the Year-2015" by the Higher Education Review Magazine, Certified as 'Global League Institute' by Great Place to Study Research Institute (GPSRI), Ranked 49<sup>th</sup> in the Country by National Institutional Ranking Framework (NIRF- 2017), Ranked 7<sup>th</sup> among the top 113 Pvt. Engg. Colleges by The Week Magazine, Ranked 9<sup>th</sup> among the top 10 of 100 Pvt. Engg. Colleges in the Country by Education World Magazine. The institution has been accredited by NAAC. All the UG programs and eligible PG programs have been accredited multiple times by NBA. The College currently has a student strength of about 5600, faculty strength of more than 400, Technical & Administrative Staff of 256 and about 250 Research Scholars are pursuing Ph.D. RVCE has been conducting several FDPs, Conferences and Workshops under TEQIP to enhance the knowledge base.

#### ***Message from Editor's Desk- Dr. Sandesh R S***

Welcome to this issue of Newsletter from the Department of Electronics and Instrumentation Engineering. We are delighted to launch our Bi annual News Letter "AUTOMATION EXPLORER". This newsletter is a digital way for us to communicate with our students, faculty members, alumni and industrial partners. This newsletter will provide a glimpse of the department activities and achievements within the academic unit. Also it enlightens the readers about the latest happenings in the department, focusing about activities, placement, ISA and institutional club activities. We look forward for more activities and achievements from the department to march towards excellence in the future. I would like to thank all teaching and non teaching staff for their constant support.

## *1. About the Department of Electronics and Instrumentation Engineering*

The 'Instrumentation Technology Department' was established in the year 1981, with an intake of 40 students and the current intake is 60 students for the autonomous 'Bachelor of Engineering' program. The Instrumentation Technology was later given the new nomenclature as "Electronics and Instrumentation Engineering" by VTU in the year 2014. The department also runs an autonomous PG programme in "Biomedical Signal Processing and Instrumentation" and has established a Research Centre in 2011, affiliated to VTU, Belagavi. It offers high quality research, as part of its PhD programs. It also offers Ph.D & M.Sc. (Engg. by Research). The department is well equipped with laboratories and qualified and experienced faculty members, with research experience in allied domains. The department has been accredited by NBA, New Delhi, in the year 2020 for UG program, for a period of 3 years, and in 2014 for PG.



**Dr. CH. Renu Madhavi,  
HoD**

Electronics and Instrumentation Engineering is essential for all automation and process industries, and gaining momentum in the fields of Robotics, Avionics, Medical Instrumentation, Embedded systems, Automation technology, Health care sector and Pharmaceutical industries, etc. Instrumentation technology is an Interdisciplinary branch and has to work in unison with other branches of engineering and liberal arts to meet ever changing trends and technologies in terms of Instrumentation, Process Automation, Man Machine Interface and Analytics. The implementation of outcome based education in the program enhances the knowledge of faculty and students to meet the challenges of new technological world so as to mould the graduates, either as successful professional engineers, researchers or entrepreneurs. The department aims to produce engineering graduates with adequate theoretical and practical knowledge in the areas of Electronics, as well as Instrumentation, Controls and Computers, both hardware and software, so as to make them ready with the state of the art technologies for design, development, implementation and maintenance of advanced Electronics, Instrumentation, and Automation systems.

At the outset, I congratulate the newsletter committee members for their efforts in bringing out the newsletter. Newsletter is an amalgamation of all the events held in the department and it plays a pivotal role in showcasing the achievements accomplished by the faculty and the students.

## *2. Department Vision, Mission, PEOs and PSOs.*

### *Vision*

Achieving academic excellence in Instrumentation Technology by adopting interdisciplinary research with a focus on sustainable and inclusive technologies.

### *Mission*

1. To create an environment for students to excel in domain areas and get motivated to involve in interdisciplinary research by utilizing state of the art infrastructure.
2. To impart technical knowledge, encourage experiential learning and develop future professional leaders.
3. To establish industry-academia networking and develop industry-ready students and future entrepreneurs, to meet societal & industrial challenges.
4. To motivate lifelong learning and research in sustainable technologies to find improved solutions for the betterment of society.

### *Program Educational Objectives (PEOs) of the Department*

1. Apply Instrumentation, Electronics, Controls and Automation concepts to develop technical solutions for industrial problems.
2. Exhibit competency in adapting to various industrial challenges and work in interdisciplinary projects with team spirit and professional ethics for achieving organizational goals.
3. Pursue higher education in technology or management and achieve professional excellence by imbibing leadership qualities and communication skills.
4. Become entrepreneurs with a focus on sustainable technologies and develop innovative solutions to meet industrial and societal needs.

### *Program Specific Outcome (PSOs) of the Department*

- PSO1:** Design, analyze and practice the instrumentation, controls and automation concepts and techniques required for industrial and/or research pursuits resulting in product development, publications or patents.
- PSO2:** Demonstrate the knowledge of basic science, mathematics, electronic system design and programming for real-time applications, towards developing industrial solutions and become technology leaders of future.

### 3. NBA Visit to Department of Electronics and Instrumentation Engineering

It is a matter of great pleasure that, the Instrumentation Technology programme has been accredited by NBA for a period of **three years** starting from March 2021. The NBA team visited the institution on 23<sup>rd</sup> January 2021 and examined the each criteria with proofs.

### 4. Departmental Activities from JAN 2021 to JUNE 2021

The department always endeavored to contribute significantly to the growth of technical education. The department has organized several workshops, seminars and guest lecturers for the benefit of faculty, students and research scholars of educational institutions in and around the region.

Table 1: List of activities conducted in the department

Sl. No	Event Organized	Contributory Industry/ Institution/ Faculty	Organized by Department	Date
1	NEP Presentation and Discussion	All Faculties	E&IE	12/05/2021
2	23 <sup>rd</sup> BoS meeting	--	E&IE	15/06/2021
3	Annual Alumni Meet	--	E&IE	27/06/2021
4	Parent Teachers meet	--		28/06/2021
5	4 <sup>th</sup> SEM and 6 <sup>th</sup> SEM (online Mode)		E&IE	29/06/2021

### 5. RVCE- ISA activities

The Instrumentation Technology program has conducted many professional activities under lead International societies like ISA, which is a non profit professional body that sets the standard for those who apply engineering and technology to improve the management, safety, and cyber security of modern automation and control systems used across industry and critical infrastructure. ISA develops widely used global standards; certifies industry professionals; provides education and training and provides career development programs for its members. RVCE-ISA student section is active since 2000 in the department. The RVCE- ISA activity is headed by **Prof. S. Venkatesh**. Below are the lists of activities conducted during Jan 2021 to June 2021,

Table 2: RVCE-ISA activities conducted in the department

Sl. No	Name of the Speaker	Date of seminar	Targeted audience	Topic
1	<b>Dr. S. Meenatchi Sundaram</b> Associate Professor,	07/05/ 2021	6 <sup>th</sup> and 4 <sup>th</sup> SEM	<b>Analysis and Simulation of Process Controllers</b>

	Department of Instrument and Control Engineering, MIT, Manipal			
2	<b>Mr. Abhinav Kalamdhani</b> , <i>CEO of Synedyn Systems Pvt Ltd</i>	15/05/2021	6 <sup>th</sup> and 4 <sup>th</sup> SEM	<b>Entrepreneurial Journey of an Engineer</b>
Wokshop on Engineers Toolkit				
3	<b>Anoosh Ram K</b> <i>President, ISA RVCE Student Section</i>	26/06/2021	2 <sup>nd</sup> SEM	Virtual Labs
	<b>Rohit Vivek Kamat</b> <i>Vice President, ISA RVCE Student Section</i>			
4	<b>Anusha TA</b> <i>Exhibit Chair, ISA RVCE Student Section</i>	27/06/2021	2 <sup>nd</sup> SEM	P-spice software
	<b>Uthank Nandin</b> <i>Content Creator, ISA RVCE Student Section</i>			
	<b>Niriksha Ramesh</b> <i>Treasurer, , ISA RVCE Student Section</i>			
5	<b>Sinchana Sharon</b> <i>Publication Chair, ISA RVCE Student Section</i>	03/07/2021 and 04/07/2021	2 <sup>nd</sup> SEM	Logisim software and TinkerCAD
	<b>Dhanya H U</b> <i>Secretary, ISA RVCE Student Section</i>			
	<b>Nihal Hegde</b> <i>Program chair, ISA RVCE Student Section</i>			
6	<b>Dr. Abhay Deshpandae</b> <i>Associate Professor, Dept. of ECE</i>	10/07/2021	2 <sup>nd</sup> SEM	Fundamentals of SIMULINK
7	<b>Prof. Harsha H</b> <i>Assistant Professor, Dept of EIE</i>	11/07/2021	2 <sup>nd</sup> SEM	Introduction to LabVIEW

## 6. Proposals submitted,

1. Dr. Kendaganna Swamy submitted a proposal to DBT on “*Development of sleep-interface olfactometer and its application in target Memory Reactivation in mild cognitive impairment – A proof of concept study*”, to Department of Bio Technology April 2021.
2. Dr. Prasanna Kumar S C, Dr. Sandesh R S, “*Design and Integration of smart sensors automation system lab for industrial and Biomedical applications*”, to Vision Group of Science and Technology, Karnataka on February, 2021.

## 7. Research Centre activities

Table 3: List of PhD Viva Voce completed

Sl. No	Name of the Candidate	PhD Guide	PhD Title	Date of PhD Viva-Voce
1	Mrs. Manujakshi B C (1RV15PEJ37)	Dr. K B Ramesh	Design and development of Framework Architecture for sensor network data using cloud computing technique	01/02/2021
2	Mrs. Tabitha Janumala (1RV15PEJ01)		Development of automated software module for the detection and progression of Scoliosis disease	22/03/2021

- The Pre-Ph.D Open Seminar-I of research scholar Mrs Rashmi R. Deshpande (USN:1RV12PEN31), under the guidance of Dr. CH. Renu Madhavi, Associate Professor and HOD, Department of Electronics and Instrumentation Engineering is scheduled on 07/05/2021 at 11.30AM to 12.30PM, online mode.
- The Ph.D Open seminar-II Presentation of research scholar Mr. Harsha (1RV13PEN16) under the guidance of Dr. Padmaja KV, Professor, Department of Electronics and Instrumentation Engineering is scheduled on 19/03/2021, Friday at 11.00 PM through online mode.

## 8. Workshops/FDPs/seminar/conference/Event attended by faculty.

Table 4 : List of workshops/seminar/conference attended by faculty

SI No	Faculty Name	Conference/FDP/ /Workshop /Seminar	Title	Date (s) Attended
1	Dr. Anand Jatti	Online FDP	Universal Human Values, conducted by AICTE	08/03/2021 to 12/03/2021
2	Dr. S C Prasanna Kumar			22/03/2021 to 26/03/2021
3	Dr. CH Renumadhvai			14/06/2021 to 18/06/2021
4	Dr. Rachana S Akki			01/02/2021 to 05/02/2021
5	Prof. Harsha			08/03/2021 to 12/03/2021
6	Dr. Deepashree Devraj			
7	Prof. S Venkatesh			
8	Dr. Kendaganna Swamy			
9	Dr. Kendaganna Swamy	Conference (Attended)	8 <sup>th</sup> International Conference on Transformation in	08/01/2021 to 10/01/2021



			Engineering education	
10	Dr. Padmaja K V	Online Elementary FDP	Developing Academic Leaders for quality HET	05/06/2021 to 09/06/2021
11	Dr. Kendaganna Swamy	Symposium	Regional research symposium on PBL, IUCEE.	18/06/2021 to 19/06/2021

### 9. Publications details of faculty/students.

1. Nayana R Shenoy, Anand Jatti, "Ultrasound image segmentation through deep learning based improvised U-Net", Indonesian Journal of Electrical Engineering and Computer Science, Vol 21, No.3, March 2021,pp:1424-1434.
2. R. R. Deshpande, C. Renu Madhavi and M. R. Bhatt, "3D Image Generation From Single Image Using Color Filtered Aperture and 2.1D Sketch-A Computational 3D Imaging System and Qualitative Analysis," in IEEE Access, vol. 9, pp. 93580-93592, 2021, doi: 10.1109/ACCESS.2021.3089938, Print ISSN: 2169-3536, Online ISSN: 2169-3536
3. Shwetha V , Dr CH. Renu Madhavi.. "Design techniques for detection of brain tumor in MRI images" International journal of Advances in Engineering and management Volume 3, Issue 1, Feb 2021 pp: 683-701.
4. Harsha Herle and Padmaja K V, "Relative Merits of Data Mining Algorithms of Chronic Kidney Diseases" International Journal of Advanced Computer Science and Applications(IJACSA), 12(6), 2021. <http://dx.doi.org/10.14569/IJACSA.2021.0120667>.
5. Harsha Herle, Padmaja K V , Machine Learning Based Techniques for Detection of Renal Calculi in Ultrasound Images, 5th International Conference on Advances in Computing and Data Sciences (ICACDS 2021), Springer CCIS -presented on online Mode., April 23-24,2021
6. Mr. Harsha, Dr. K V Padmaja "Performance Assessment of Ultrasound Kidney Images using De-speckling algorithms" Indian Journal of Computer Science and Engineering (IJCSE), Vol. 11 No. 6 Nov-Dec 2020, pp 880-891(Scopus Indexed Journal)
7. Aayushii G., Nagarjun M.G., Sirurmath S.U., Swamy K. (2021) A Survey on Various Total Body Water Detection Techniques to Develop a Wearable Device. In: K V S., Rao K. (eds) Smart Sensors Measurements and Instrumentation. Lecture Notes in Electrical Engineering, vol 750. Springer, Singapore. [https://doi.org/10.1007/978-981-16-0336-5\\_10](https://doi.org/10.1007/978-981-16-0336-5_10). (Scopus).

8. Dr. Kendaganna Swamy, Aayushii Goswami, Prameeth.H, Prajwal.M,” "System Verilog/UVM Verification of Nvme Controller" Journal of Huazhong University of Science and Technology, Volume 50, Issue 06 – 2021, ISSN-1671-4512. (Scopus)
9. Dr. Kendaganna Swamy S, Shaila H Kopal, Sushmitha N, Shruthi P., Dr. Uma B V,” "An Effective Practice of ICT Tools in Higher Education to Improve the Teaching Learning Process”, Journal of University of Shanghai for Science and Technology, Volume 23, Issue 6, June -2021, ISSN: 1007-6735. (Scopus)
10. Dr. Kendaganna Swamy S, Dr. Subramanya KN, Prof. Shruthi.P, Dr. Ramaa A,” "Metacognitive Proactive Hybrid Learning Model Using ICT Tools”, Journal of University of Shanghai for Science and Technology, Volume 23, Issue 6, June -2021, ISSN: 1007-6735. (Scopus).
11. Manasa Potta, Esha Shashibhushan, Annesha Dasgupta, Kendaganna Swamy. S “Design and Analysis of Various Full Subtractor Methods to Propose a Customized Design for Enhancing the Performance of a SoC”, International Journal Of Scientific & Engineering Research, Volume 11, Issue 12, December-2020, ISSN 2229-5518.
12. Dr. Kendaganna Swamy S, Shaun Q. Y. Tan, Dr. Vishwanatha C.” "Acquisition and Analysis of Gait Characteristics using an Inertial Sensor Array” Proceedings of the 2<sup>nd</sup> International Conference on Sports Engineering (Accepted)

### ***10.Placement Details:***

As on 30<sup>th</sup> June 2021, 36 out of 45 students of 2020-2021 pass out batch of department of Electronics and Instrumentation Engineering have been placed in various companies like Accenture, Cognizant, Infosys, Wipro and TCS, with the percentage of placement is 80%. Of 36 students, 21 students have got multiple offers, and 03 students offered for higher studies. The placement activities are co-ordinated by **Dr. Tabitha Janumala.**

### ***11.Awards and Recognition***

- The department faculty members congratulate Dr. Anand Jatti for being elected as Secretary of RVCE-ISTE chapter and coordinating with ISTE office bearers to conduct Teachers Day function on 04/03/2021.
- Dr. Pdamaja K V, was one of the resource person for the topic “Self exploration, harmony in self” for e-Student Induction Program phase II, scheduled on 26/05/2021.
- Dr. Rachana S Akki, Dr. Kendaganna Swamy and Dr. Sandesh R S, were the faculty coordinators for e-Student Induction Program phase II, scheduled on 26/05/2021.



- The department faculty members congratulate Dr. Kendagannaswamy, for the Design and developed a stable version touch free automated hand sanitizer device.



## 12. Student Internships

The below are the list of students internships (table 5) carried out by students as a part of academic major projects from Jan 2021 to June 2021,

Table 5: List of UG student Internships from Jan 2021 to June 2021

Student Internships			
Sl.No	Student Name	Title	Company/ Organization
1	Ms. Manasa Potta	Intel accelerator SoC VR design and Verification Through Circuit Simulation and Board Layout Analysis	INTEL Technologies
2	Ms. Annesha Dasgupta	Radio Frequency Interference Analysis of High Speed Interface	
3	Ms. Vaishaka N Raj	Design of AI accelerator Board Management and Monitoring System Using SMBUS Interface	
4	Ms. Meghana DR	Signal Integrity Analysis on High Speed interface	
5	Ms. Ananya Rao	Traffic vs Test Data – Model Building and Test Verdict Prediction	HPE
6	Ms. Esha Shashibhushan	Global Order Processing Automation	
7	Ms. Veena M B	Self Service Analytics Platform	
8	Mr. Archit Srivastava	Holds Dashboard Automation	
9	Mr. Vinay Balamurali	Enabling Support for new I/O cards through Data Collection Daemon	

10	Mr. S Arjun	Test Automation using IDART	
11	Mr. H Prameeth	UVM Verification of NVME Controller	Samsung Semiconductor
12	Mr. Prajwal M		
13	Ms. Aayushii Goswami		
14	Mr. Harsimran Singh	BMS,BTMS,Cell Balancing System For Space Applications	ISRO, Begaluru
15	Mr. Shaswat Raj		
16	Mr. Naman Jain		
17	Ms. Abhilasha A M	Container Orchestration Using Kubernetes	Infinite Computer Solutions
18	Ms. Pooja Kumari		
19	Mr. Sachin Malgond		
20	Mr. Guruprasad P	Visualization and Data Analysis of Automatic Parking Assistance for Vehicles	Robert Bosch
21	Mr. Vikas N G	MAE Connectivity for Industry 4.0	
22	Ms. Sherin Steaphen	Software in Loop testing	
23	Ms. Anushka Mittal	Supply Planning and Inventory Planning for an Organization	o9 solutions
24	Mr. Ashutosh Kumar Singh		
25	Ms. Avani R Shesh	Implementation of Kafka Connect and Deploying to AWS Lambda	JP Morgan Chase
26	Mr. Abhinav Murli		
27	Mr. Gururaj Mhetre	Excavation and Intrusion Detection of Gas Marks	GAIL
28	Mr. Harish B		
29	Mr. Snehil Behar	Mac OS application development using X code SDK and Swift Language	CISCO
30	Mr. S J Ruthvik	Design of In-House Telematic Control Unit For Electric Vehicles	Log9Materials
31	Ms. Raghavi R	Software Hub: Development of Software Marketplace	Epsilon
32	Mr. Srinivas Prabhu B	Development of an Application to Monitor The Health Status of Guard Device for Gated Community	MyGate
33	Mr.Ravi Kashyap	Power Management in 4G-LTE Uplink Transmission	SignalTron (SignalChip)
34	Ms. Aisiri HR	Digitalization of Loan Origination System - SME Loan	Kuliza Technologies
35	Mr. Nagarjun M G	Parts Inspection and Quality Check Using LabVIEW	Citriot
36	Ms. Srilakshmi U S	Secured Cloud Storage System for Single Server System and CRM platform	Goldman Sachs

### ***13. About M.Tech in Biomedical Signal Processing & Instrumentation***

The department of Electronics and Instrumentation Engineering started PG programme M.Tech in Bio Medical Signal Processing and Instrumentation with an intake of 18 in the year 2005 affiliated to VTU, Belagavi and reached autonomous status in the year 2016. The PG programme has one Professor, Two Associate professor and one Assistant Professor. The PG programme is headed by Professor and Associate Dean **Dr. Padmaja K V.**

#### ***Program Educational Objectives (PEOs)***

1. **PEO1:** Apply basic Physiological concepts and provide technical solutions for medical problems.
2. **PEO2:** Exhibit competency for achieving excellence in Industry, Academics, R&D organizations, Entrepreneurial pursuit and consulting firms.
3. **PEO3:** Demonstration and develop sustainable biomedical engineering skills for betterment of society and ethics.
4. **PEO4:** Exhibit leadership qualities and engage in life-long learning through independent study and research.

#### ***Program Specific Outcomes (PSO)***

1. **PSO1:** Design and analyze basic and advanced biomedical appliances required for medical domain and research pursuits.
2. **PSO2:** Apply the concepts of signal & image processing techniques to address the problems in healthcare.

### ***14. Student Major Projects.***

The below are the list of students internships (table 5) carried out by students as a part of academic major projects from Jan 2021 to June2021,

*Table 5: PG Major projects details*

Sl. No	Name	USN	Internship	Minor Project
5	Ms. Asha Vadde	1RV16LBI03		

***Editorial Committee: Dr. Sandesh R S***