



**RastreeyaShikshanaSamiti Trust**  
***RV College of Engineering<sup>®</sup>***  
***Department of Electronics and Instrumentation Engineering***  
8<sup>th</sup> Mile, Mysuru Road, Bengaluru-560 059

***“AUTOMATION EXPLORER”***  
***NEWSLETTER***  
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RV College of Engineering (RVCE) established in 1963 is one of the earliest self-financing engineering colleges in the country. The institution is run by RastreeyaSikshanaSamithi Trust (RSST) a not for profit Trust. RVCE is an Autonomous college. Currently, the institution offers 12 Bachelor, 19 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 7th among the top 113 Pvt. Engg. Colleges by The Week Magazine, Ranked 9th 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- Prof. Tabitha Janumala***

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 departmental activities and achievements. Also, it enlightens the readers about the latest happenings in the department, focusing about different activities like placement, ISA, institutional club activities, student and faculty achievements. We look forward for more activities and achievements for the department to march towards excellence in the future. I would like to thank all teaching, supporting staff and our beloved students 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 2017 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 inter-disciplinary projects with team spirit and professional ethics for achieving organizational goals.
3. Pursue higher education in technology or management and achieve professional excellence by imbining 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. M.Tech in Biomedical Signal Processing & Instrumentation***

The department of Electronics and Instrumentation Engineering started PG program (M.Tech in Bio Medical Signal Processing and Instrumentation) with an intake of 18 students in the year 2005 affiliated to VTU,

Belagavi and reached autonomous status in the year 2016. The PG program has one Professor, Two Associate professors and one Assistant Professor.

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

**PEO1:** Apply basic Physiological concepts and provide technical solutions for medical problems.

**PEO2:** Exhibit competency for achieving excellence in Industry, Academics, R&D organizations, Entrepreneurial pursuit and consulting firms.

**PEO3:** Demonstration and develop sustainable biomedical engineering skills for betterment of society and ethics.

**PEO4:** Exhibit leadership qualities and engage in life-long learning through independent study and research.

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

**PSO1:** Design and analyze basic and advanced biomedical appliances required for medical domain and research pursuits.

**PSO2:** Apply the concepts of signal and image processing techniques to address the problems in healthcare.

### **4. Placement training conducted in the Department**

The department has conducted the Placement training program under the flagship of Personality Development Program (PDP) for 3<sup>rd</sup> and 5<sup>th</sup> semester students. The program was scheduled on 26<sup>th</sup> -28<sup>th</sup> September 2018, which imparted the required skill set to efficiently increase the employability and industry oriented preparation of the students. The students were briefed and exercised throughout the program to inculcate the necessary skill set making them industry ready.

The students who have performed well and exhibited excellent skills throughout the program have been awarded with Momentos: Vidhya Shree, Ajay Arvind and Devanshu Mukherjee



Fig.1: Felicitation of Awards to students for PDP sessions

## 5. Minor Project Exhibition organized by the department for 7<sup>th</sup> Semester Students

The students of 7<sup>th</sup> semester were given an opportunity to showcase their work done in the minor projects in the exhibition organized by the department on 27/11/2018. All the projects were evaluated by one of the alumni Mrs. AnkurBhodhe.



Fig.2: Students addressed by the Alumni Mr. AnkurBodhe during the minor project exhibition

## 6. Student Achievements

The students of 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> semesters were motivated to take up the NPTEL courses in various domains and have successfully completed the courses.

Table 1: List of students who completed NPTEL courses successfully

Sl.No	Name	NPTEL Course	Certification Year and type
01	AayushiGoswami	Discrete Mathematics	Elite Nov, 2018
02	AayushiGoswami	Mathematical modelling: Analysis and applications	Elite Nov, 2018
03	SherinSteaphen	Matrix analysis with applications	Elite Nov, 2018
04	Vinay Balamurali	Introduction to Probability and statistics	Elite Nov, 2018
05	HolagundiPrameeth	Calculus of one real variable	Elite Nov,2018
06	Ashutosh Kumar Singh	Applied optimization for wireless, machine learning, big data	Pass Nov, 2018
07	Avani	Problem solving through Programming in C	Pass Nov, 2018
08	S Arjun	Problem solving through Programming in C	Pass Nov, 2018
09	Shashwat Raj	Introduction to Probability and statistics	Pass Nov, 2018
10	Shaun QienYeau Tan	Introduction to Probability and statistics	Elite Nov, 2018



11	Shaun QienYeau Tan	Human Resource Development	Elite Nov, 2018
12	Veena M B	Introduction to Operations Research	Elite Nov, 2018
13	Devanshu Mukherjee	Advanced linear control system with Matlab and simulink	Elite Nov, 2018
14	Somali Roy	Advanced linear control system with Matlab and simulink	Elite Nov, 2018
15	Riya Saini	Advanced linear control system with Matlab and simulink	Elite Nov, 2018
16	Riya Saini	Programming in C++	Elite Nov, 2018
17	Vidhya Shree	Hardware modelling using verilog	Elite Nov, 2018
18	RIMA RAJ	Programming in C++	Pass Nov, 2018



Fig.3: Mr. Anish, Project leader of Team Antariksh, receiving cash price of Rs. 50,000/- at QuESTIngenium 2018



Fig.4: Miss Vidhyashree, presented “NUTRI SHAKTHI” for AICTE Sponsored, “CHHATRA VISHWAKARMA AWARDS” 31<sup>st</sup> October 2018.



Fig.5: Miss. Nireeksha Ramesh won third price in VTU swimming competition, 2018



Fig.6: Mr.Ashish Nair VTU Zonals Basket ball held at VKIT – WINNERS

## 7. Departmental Activities from JULY 2018 to DEC 2018

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

Table 2: List of activities conducted in the department

Sl.No	Event Organized	Contributory Industry/ Institution/ Faculty	Organized by Department	Date
1.	Graduation Day of UG and PG	Faculty	EIE Dept	28.7.2018 and 29.7.2018
2.	Motivation talk on “Motivation to do Instrumentation”	Mr.Deepak Belvadi , Alumni	EIE Dept	19.8.2018
3.	Parents teachers meet	Faculty	EIE Dept	22.9.2018
4.	Technical talk on “How to write funding Research Proposal”	Dr. Aravind .A.S, HoD, Dept. of Aerospace Medicine, IAF	EIE Dept	29.9.2018

5.	One day work shop on ROBOTICS	Mr. Tejas, Director, Log in ware software	EIE Dept	29.9.2018
6.	Three days work shop on Calibration	Mr. Shrikanth, Intel	EIE Dept	21.7.2018, 25.8.2018 and 1.09.2018
7.	ISA-RVCE, Student Section	Home Automation	EIE Dept	13.10.2018
8.	Embedded IOT Workshop- CISCO RVCE, Centre of Excellence	Dr.Padmaja K V, Prof. Rajasree P M, Prof. Sandesh R S	EIE Dept	28.12.2018 and 29.12.2018

## 8. Awards and Recognition

- In the View of super annuation of, **Mr. Narayanappa K R**, Instructor, Dept of E&IE for his 36 years long service to institution, department of E&I Engineering honored him on 31<sup>st</sup> July, 2018.
- **Dr. C H Renumadhavi, Associate Professor**, achieved NPTEL “ELITE” certification for Digital Circuits course during Nov, 2018.
- **Dr. Padmaja. K. V., Professor & Associate Dean**, Technical Committee member for ICCSN 2018, 10th international conference on communication software and networks, Chengdu, China during July 6th to 9th ,2018
- **Dr.AnandJatti** was invited to Conduct expert hands on session on Control System laboratory Experiments on 4th September 2018 at P.V.P.Polytechnic, Dr.AIT Campus, Mallathahalli, Bengaluru-56
- **Prof. Kendaganna Swamy** conducted two days workshop on “Blended learning using ICT tool”, at Sri Sai Engineering College on 10<sup>th</sup> and 11<sup>th</sup> October, 2018, Bengaluru.
- **Prof. Harsha Herle** conducted a training program by IIOT team of RVCE-CISCO for professionals from L&T, from 10<sup>th</sup> to 14<sup>th</sup> December, 2018 at Mechanical Department, RVCE, BOSCH Lab.
- **Prof. Kendaganna Swamy**, delivered a lecture on 14<sup>th</sup> December 2018, “ICT for Education”, at Govt. Engineering College, Ramanagara.
- **Prof. Tabitha Janumala** organized a hospital visit for 3<sup>rd</sup> sem PG students to Sita Batheja Hospital in Nov to December, 2018.
- In view of the completion of comprehensive viva voce examination the department congratulates **Prof. Tabitha Janumala, Prof. Rajasree P M and Prof. Harsha Herle**.

## 9. Workshops/seminars/conference attended by faculty.

Table 3: List of workshops/seminars/conference attended by faculty

Sl No	Faculty Name	Conference /Workshops /Seminars attended	Venue	Date Attended
1.	Dr.Padmaja K V	Activities to be carried out for celebration of 150 years of Mahatma Gandhiji birthday”	Gandhi Bhavan	07/07/18.
2.	Dr.Padmaja K V, Dr.AnandJatti and Tabitha Janumala	Workshop on “New Model Curriculum for PG courses”	BNMIT	06/08/2018
3.	Dr.Anand Jatti	Workshop on “Smart Sensors and Systems”	IIT (BHU)	22/10/2018 to 27/10/2018



4.	Dr.Anand Jatti	PMSS Workshop	Venkatehwara Engineering College	30/10/2018
5.	Tabitha Janumala	IETE International Conference on “IoT, Bigdata Analytics & 5G”	IETE Bangalore Centre, ISRO	13/12/2018 to 15/12/2018
6.	VeenaDivya K and Rajasree P M	QIP Short term Course on “Deep Learning – Theory and Practices”	IIT- BHU	12/12/2018 to 17/12/2018

## 10. Student activities

The students are constantly encouraged to participate in techno-cultural events and internships. Below Table 4 gives list of activities from students, for past 6 months.

Table 4: Student activities from July 2018 to Dec 2018

Sports				
Sl. No	Event	Name of Student	Awards won	Venue
1.	21 <sup>st</sup> Dr. M.S.Ramaiah Inter Engineering colleges cricket tournament 29 <sup>th</sup> October to 9 <sup>th</sup> November 2018	Suraj Kumar	Runners	MSRIT, Bengaluru
2.	4X50 mixed relay Skies 18 on 6/10/18	Niriksha Ramesh	3 <sup>rd</sup> place	Bangalore Medical college
3.	100m Breast stroke-women Skies 18 on 6/10/18	Niriksha Ramesh	3 <sup>rd</sup> place	Bangalore Medical college

## 11. Publication details of faculty and students.

1. Prof. VeenaDivya K, Assistant Professor, Ethical Committee Clearance Presentation was held and appended on 13<sup>th</sup> July, 2018, from D.A.P.M.R.V. Dental College and Hospital, Bengaluru.
2. Dr. C.H.RenuMadhavi, “Estimation of Spectral Entropy of HRV Data and its Application to Depression and Thyroid Subjects to Predict Cardiac Risk”, Biomedical and Pharmacology Journal, volume 11, Issue 4, December, 2018.
3. Simran A Singh, Praveen Kumar Gupta, M. Rajeshwari, Tabitha Janumala, Detection of Stress Using Biosensors, Materials Today: Proceedings, Volume 5, Issue 10, Part 1, 2018, Pages 21003-21010, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2018.06.492>. (<http://www.sciencedirect.com/science/article/pii/S2214785318316250>)
4. Dr.Revan Joshi, Veena Divya.K, DR. Anand Jatti, Dr.Subhash.BV, Dr. Seema Patil, presented a clinical paper “Computer-aided Extraction of Characters in Radiographic Images and their application in Diagnosis, Treatment Planning and Follow Up”, presented at 23<sup>rd</sup> International Annual Meeting of Diagnostic Imaging for Oral and Maxillofacial Lesions; Clinical Imaging Conference of the Japan (diagnostic Imaging section of Congresses of Japanese Society for Oral and Maxillofacial Radiology -JSOMR) October 13-14<sup>th</sup>, 2018, Tokyo, Japan.
5. Veena Divya K., Jatti A., Revan Joshi P., Deepu Krishna S. “A Correlative Study of Contrary Image Segmentation Methods Appending Dental Panoramic X-ray Images to Detect Jawbone Disorders”, In: Pati B., Panigrahi C., Misra S., Pujari A., Bakshi S. (eds) Progress in Advanced Computing and Intelligent Engineering. Advances in Intelligent Systems and Computing, vol 713. Springer, Singapore.December (2018)
6. Rajasree.P.M, Dr.Anand Jatti, ”Patch based feature extraction algorithm for mammographic cancer images”, In: Pati B., Panigrahi C., Misra S., Pujari A., Bakshi S. (eds) Progress in

**12. Placement Details:** The total number of students admitted for 2018-19 batch are 51. The eligible students for the placement are 47. Students interested in higher studies are 2. Students not eligible are 2. The placement details are as shown in the table 5.

Table 5: Placement details of the academic batch 2018-19

Sl. No	Name of the Organization	No. of Offers offered	Domain	Package (LPA)	Offer Date
1	BOSCH	8	Core	4	July 30 <sup>th</sup>
2	MuSigma	1	Business Analyst	7	August 4 <sup>th</sup>
3	EPSILON	1	Software Developer	10	August 30 <sup>th</sup>
4	<b>LOGMEIN</b>	<b>1</b>	<b>Software Developer</b>	<b>13</b>	<b>August 31<sup>st</sup></b>
5	AIRTEL	1	Customer	11	September 5 <sup>th</sup>
6	WIPRO TURBO	2	IT	6.5	September 12 <sup>th</sup>
7	TREDENCE	1	Business Analyst	6.5	September 17 <sup>th</sup>
8	O9 Solutions	1	Consultant	7.6	September 18 <sup>th</sup>
9	The Math Company	1	Business Analyst	4.6	September 25 <sup>th</sup>
10	Impact Analytics	1	Business Analytics	8.5	September 27 <sup>th</sup>
11	Taylor and Francis	1	Software	8	September 28 <sup>th</sup>
12	Infosys	3	IT	3.9	October 7 <sup>th</sup>
13	Cognizant	2	IT	3.9	October 7 <sup>th</sup>
14	Accenture	4	IT	3.9	October 7 <sup>th</sup>
15	Standard chartered	1	Business Analyst	4.67	October 10 <sup>th</sup>
16	KPIT	4	Core	5.5	October 15 <sup>th</sup>
17	<b>IBM</b>	<b>1</b>	<b>IT</b>	<b>3.75</b>	<b>October 24<sup>th</sup></b>
18	BYJUS	1	Creative Associate Engineer	6	November 5 <sup>th</sup>
19	Greaves Cotton	1		4.75	November 22 <sup>nd</sup>
20	Honeywell Intern	1		5	November 27 <sup>th</sup>
	<b>Total Offers:</b>	<b>37</b>		<b>Average: 6.2085</b>	

**13. Industry/Hospital Visit:** The 3rd Semester PG Students of Biomedical Signal Processing and Instrumentation had visited the Sita Batheja Hospital to explore the imaging tool used in the operation theater while spine operation was performed by Dr. Raghavendra, Spine surgeon. The students were explored to the various biomaterials used in the manufacture of screws, pins and plated used in spine surgery.

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## Gallery Section





