



RastreeyaShikshanaSamiti Trust
RV College of Engineering®
Department of Electronics and Instrumentation Engineering
8th Mile, Mvsuru 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 Rastreeya Sikshana Samithi 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 63rd in the Country by National Institutional Ranking Framework (NIRF- 2019). The college has 15 research centers recognized by the VTU. The institution has projects funded by organizations such as DST, UGC, CSIR, AICTE, ISRO and many more. 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.

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 from HoD's Desk.....*

Warm greetings to one and all....



Dr. CH.RenuMadhavi,

HoD

It's my privilege to release the department newsletter of Second issue, 2019. There are many updates to present with respect to the department activities, staff and student achievements, and placements details etc 2019.during last six months..

I am happy to say that the department has successfully organised various workshops, industrial visits and technical talks by experts from both national and International organisations. Also conducted Parent teachers meet, final year projects Exhibition.

The placement statistics of UG has been improved and achieved 93% with average package of 6 LPA. PG M.Tech program in BMSP&I, 33.33% have been placed .Happy to share that two students of 2nd Sem M.Tech have got internship in NxP Semiconductors.

I would like to congratulate the Prof. Deepashree D and Prof. Kendaganna Swamy for completing their final Ph.D defence viva voce in June 2019 and Prof. Harsha H for successfully completing comprehensive Viva voce.

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 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, analyse 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 analyse 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. Departmental Activities from JANUARY 2019 to JUNE 2019

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 1: List of activities conducted in the department

Sl.No	Event Organized	Contributory Industry/ Institution/ Faculty	Organized by Department	Date
1.	5 days NI LabVIEW workshop	Industry experts	EIE Dept	03/01/2019 to 8/01/2019
2.	5 days Bio-pack Biomedical workshop	Industry experts	EIE Dept	07/01/2019 to 11/01/2019
3.	AICTE Margadarshan FDP on “Comsole Lab Tool”	Prof.RachanaAkki	EIE Dept	07/02/2019
4.	The workshop on “Training program in Embedded systems for IoT module”	Dr. Padmaja K V Rajasree P Mand Sandesh R S	Dept of EIE, CISCO- RVCE Bengaluru	08//2/2019 09/02/2019 22/02/19 23/02/19
5.	Expert talk on “Potential Research Collaboration possibilities”.	Dr Radhakrishna Prabhu, Robert Gordon University - ,Scotland	EIE Dept	19/02/2019
6.	Parents teachers meet	Faculty	EIE Dept	23/02/2019
7.	Applications of Inst. Tech.in the life of an Aspiring Rocket Scientist	Ms Niharika Anant Patel, Working as Misssion Engineer” at Astrolabs, LLC, Pasadena,California USA	EIE Dept	01/03/2019
8.	Placement Training for 4 th and 6 th semester students	Genesis and Ethnus organisations	EIE Dept	25/02/2019 to 27/02/2019
9.	Training on Simulink for Automation Engineering	Mr. Shrikanth from INTEL	EIE Dept	16/03/2019

10.	ISA Talent Day	ISA Team	EIE Dept	28/03/2019
11.	CARV Fest	Mr. Hemanth Raj, Film Director, EIE Alumni	EIE Dept	29/03/2019
12.	BoS Meeting	Faculty	EIE Dept	27/04/2019
13.	Alumni Meet - 2019	Faculty	EIE Dept	29/06/2019

5. *ISA Investiture ceremony*

The department has conducted many technical and professional workshops under the flagship of ISA, which is a non-profit international body specifically for automation. It sets standards and grades for engineering and technical assistance aimed to improve security, control and management of various large scale industries around the globe. The ceremony witnessed the presence of the Principal, the members of the Bangalore chapter and Prof. S. Venkatesh along with the students passing on their roles and positions to the upcoming batch of 2019.



Fig.1: ISA Investiture Ceremony - 2019

5. Major and Minor Project Details of UG and PG

The students of 8th semester were given an opportunity to showcase their work done in the major projects in the exhibition organized by the department on 25/04/2019. The projects were evaluated by one of the alumni Mr.Shreekanta, Dr.H.V.Ravish Aradhya, ECE Dept, Dr. Badrinath, CSE Dept. and Dr.Rudranna N, HoD of EEE Dept.

Table 2: List of in house UG projects

Sl.N o	Title of the Project
1.	Ambulance priority at an intersection using GPS tracking
2.	Automatic spoken language identification for English and Kannada
3.	Smart Cargo Security System
4.	A Smart Wireless System to Assist Visually Impaired People
5.	Cloud based smart toll e billing system
6.	Development of a fully automated small telescope mount
7.	A smart public ration distribution system
8.	Design and development of an IoT based automatic effluent analysis of Vrishabhavathi river
9.	Design and Development of Smart Lockout-Tagout System.

Table 3: List of internship UG projects at various organizations

Sl.N o	Title of the Project	Name of Organisation
1.	Simulation and verification of Virtual Sensors and actuators for HIL system	Robert Bosch

2.	In-vehicle network of driver assistance systems on autonomous vehicles	Robert Bosch
3.	Design and Development of Software as a Service for a 2-Axis CNC Foam Cutting Machine	Robert Bosch
4.	Perform Quality Testing, Traceability of Data and Productivity, Analysis of Alloy Wheel Manufacturing Process	Robert Bosch
5.	MES implementation for discrete manufacturing	Robert Bosch
6.	Hardware In Loop test setup and Automation of Gateway system	Robert Bosch
7.	Development of RTC infra call map	LogMeIn
8.	Development of A Product Recommendation Engine	Impact Analytics
9.	Adaptive cruise control and accident alert system	KPIT
10.	Promotion sensitivity using machine learning for automated retail kiosks	TheMathcompany
11.	A streamlined solution for interfacing 3rd party PLC's with Honeywell controllers	Honeywell Technology Solutions lab Pvt.Ltd.
12.	Design and development of digital platform to publish content related to UNSDG	Taylor and Francis
13.	Autonomous Road marking detection and lane tracking using Image Processing	Collins Aerospace
14.	Design and Development of a Universal hashing algorithm for authentication in Quantum cryptography	QNu Labs
15.	Real time condition monitoring of system in SCO2 Brayton cycle using deep learning techniques	IISc
16.	Performance optimization of power train in Electrical Vehicle	Greevas Cotton LTD
17.	EMI and EMC on High Speed scooters	Greevas Cotton LTD

Table 4: List of in house PG projects

Sl.No	Title of the Project
1.	Design of Micropump for Microfluidic System Based Diabetes Management
2.	Detection of Hepatitis Viruses (HBV, HAV,HCV) In Serum Using MEMS Based Bio-Sensor With Peizo Crystal
3.	Non-Invasive Diabetes Detection and Classification using Breath analyzer and SVM Classifier
4.	Breast Cancer Detection from Digital Mammogram using Deep Learning Method
5.	Design and Implementation of Hybrid Automated Biometric system
6.	Designing Genomic System for prediction of Rheumatoid Arthritis using Lab view
7.	Detection of Mental Status of Individual using Face Emotion recognition Technique
8.	Hand-Held Medical Device to Detect Osteoporosis

Table 5: List of internship PG projects at various organizations

Sl.No	Title of the Project	Name of Organisation
1.	Design and Development of a Compact real time ECG Device	DEBEL
2.	Development of Smart Helmet	
3.	Design & Development of Digital Spiro meter & analysis	
4.	Machine learning based EEG Classification for real time mental fatigue monitoring	GE

6. RV Dental team visited RVCE

A team of doctors from RV Dental College along with their principal have visited the department labs for the possible project proposals preparation based on the infrastructure and expertise available in the department.



Fig.2: RV Dental Doctors visiting the department

7. Workshops/seminars/conference attended by faculty.

Table 6: List of workshops/seminars/conference attended by faculty

Sl No	Faculty Name	Conference /Workshops /Seminars attended	Venue	Date Attended
1.	Dr. AnandJatti Prof.VeenaDivya K Prof.Tabitha Janumala	The workshop on “Biomedical Signal Acquisition and Processing” using BIOPACK Systems	Dept. of EIE, RVCE	07/01/2019 to 11/01/2019
2.	Dr.CH RenuMadhavi Dr. Ramesh K B Prof.Harsha Prof.Tabitha Janumala Prof.Rajashree P M Prof Sandesh R S	The workshop on “myRIO”	Dept. of EIE, RVCE	03/01/2019 to 07/01/2019
3.	Dr. Padmaja K V Prof.Tabitha Janumala Prof.VeenaDivya K	Attended seminar on “Pedagogy training in How the Teacher in you can make our country prouder”	Civil Seminar Hall	25/1/2019
4.	Dr. Padmaja K V Prof.Tabitha Janumala Prof.Rajashree P M	Attended seminar on “Application of mobile tech and IoT to health diagnostic and behavior monitoring”	MCA Seminar Hall	25/1/2019
5.	Prof.KendagannaSwamy S	Workshop on Road Safety	Robot Bosch, Bengaluru	30 /01/2019 and 31/01/2019

6.	Dr. Padmaja K V	Attended seminar on “Potential Research Collaboration possibilities”	MCA Seminar Hall	25/02/2019
7.	Dr. Padmaja K V	Attended seminar on “ITS-vehicle on Internet”	TC Seminar Hall	27/02/2019
8.	Prof. Sandesh R S	Attended Conference on Neural Engineering (NER 19) “Labview based Control of the Simulated and Real –Time Root Using SSVEP Signal”	San Francisco, California, USA	20/03/2019 to 23/03/2019
9.	Prof.Venkatesh S Prof.Harsha	Attended a training on DCS and SCADA	Dept of EIE, RVCE	16/03/2019
10.	Dr. Padmaja K V	Time and stress management	IEM Auditorium, RVCE	20/03/19
11.	Dr. AnandJatti Prof.Rachana s Akki	Conference on “Computational Control System and Optimization (CCSO-2019)”	Dr. AIT, Bengaluru	25/04/2019 and 26/04/2019
12.	Prof. Harsha	Workshop on “IoT Industrial Applications Froted and Backend Co design “	RNSIT, Bengaluru	29/04/2019 and 30/04/2019
13.	Prof.Tabitha Janumala Prof.Rajasree P M	Design and Thinking workshop using AI & Machine Learning in Health Care	Bioinnovation Centre Bengaluru	16 th May 2019

8. Industry/Hospital Visit:

Table 7: List of Industry/hospital Visits

Sl.No	Name of the Organization	Contributory Industry/ Institution/ Faculty	Students attendant	Date
1.	“Shapetronics” and “ShasvatiPalstics”, Hootagally, Mysuru,	Mrs. VeenaDivya, Mrs. Rajasree P M, and Mr. Suresh	6 th sem	18/01/2019
2.	Coco Cola, Bidadi	Mr. KendagannaSwamy, Mrs. Tabitha Janumala and Mr. Murali Krishna.	4 th sem	11/02/2019
3.	Human Brain Bank – a National Research Facility Department of Neuropathology National Institute of Mental Health & Neurosciences NIMHANS, Bangalore	Prof. Sandesh R S , Dr. AnandJatti and Mrs. Chandrakala	2 nd Sem M.Tech	10/05/2019

10. Awards and Recognition

- Dr. Padmaja K.V, Professor and Associate Dean, conducted training program and Presented a Technical talk on “Sensor and Instrumentation”, in a CISCO-RVCE training program in Embedded systems for IoT module during January 5th ,6th and 7th , 2019.

- Prof. Sandesh R S and Prof. Rajasree P M, conducted training program and presented a Technical talk on “Embedded for IoT”, in a CISCO-RVCE training program in embedded systems for IoT module during February 8th, 9th, 22nd and 23rd, 2019.
- Dr. S. C. Prasanna Kumar, Professor, Prof. Deepashree Devaraj, Asst. Professor, and Prof. Kendaganna Swamy S, Asst. Professor, were felicitated by RSST for publication in Scopus Journal on January 26th, 2019.
- Dr. Padmaja K.V, Professor and Associate Dean, was invited for Final PhD Colloquium as Doctoral committee member to permit the PhD Research scholar to go for final submission of Thesis at Oxford College of Engineering, Department of ECE, Bengaluru on February 9th, 2019.
- Dr. S. C. Prasanna Kumar, Professor, was invited to attend BOS Meeting of E&IE Dept at Dayanand Sagar College of engineering on February 23rd, 2019.
- Prof. Sandesh R S, Asst. Professor, visited MBIL Pune along with ADAM students for Industrial visit.
- Prof. Deepashree Devaraj, Asst. Professor, and Prof. Kendaganna Swamy S, Asst. Professor, have completed the Ph.D final defence viva voce on June 10th and 13th, 2019, respectively.



Fig.3: Prof. Deepashree Devaraj (left) and Prof. Kendaganna Swamy S (right) have completed the Ph.D final defence viva voce

- Prof. Harsha Herle has obtained Elite certification by NPTEL in JAVA programming in May-2019.



Fig.4: Prof. Harsha Herle has obtained Elite certification by NPTEL

11. Publication details of faculty and students.

1. Prof. Deepashree Devaraj, Dr. S. C. Prasanna Kumar, “Development of a Hybrid framework to characterize red lesions for Early Detection of Diabetic Retinopathy”, Indonesian Journal of Electrical Engineering and Computer Science, Volume & No 13, Issue 3, pp 962-973.
2. Prof. Veena Divya K., Dr. Anand Jatti, “A Correlative Study of Contrary Image Segmentation Methods Appending Dental Panoramic X-ray Images to Detect Jawbone Disorders”, Advanced Computing and Intelligent Engineering, Volume & No 713.
3. Prof. Tabitha Janumala, “Ambulance Priority at an intersection using GPS Tracking”, IRAJ International Conference, pp 32-34

4. Dr. Padmaja K V, “An Iterative Approach for Optimal Number of Balanced Clusters and Placement of Cluster Heads in WSN with Spatial Constraints”, Recent Trends on Electronics, Information, Communication & Technology (RTEICT-2019), 978-1-7281-0630-4/19.
5. Dr.CH RenuMadhavi , “Fatigue analysis on car alloy wheels using sensors and instrumentation and comparison with a FEA simulation”, International Journal of Electronics Engineering ISSN: 0973-7383.
6. Dr.CH RenuMadhavi, “Development of a Telescope tracking mount system based on image processing”, International Journal of Electronics Engineering ISSN: 0973-7383.
7. Dr.CH RenuMadhavi, “Automatic to access CNC Foam cutting machine for aerofoil design with inter of thing capabilities”, International Journal of Electronics Engineering ISSN: 0973-7383.

12. Student Achievements

Prashanth Mypadi of 6thsem, has represented the college at the International event of AIAA Design Build Fly 2019, held in USA in the month of April. As a part of the technical club, Project Vyoma, he has been one among the 6 member team from India.

Nitish Narendra of 8th sem, has represented the college at BAJA SAE INDIA 2019, as a part of the team Helios, at IIT Ropar winning the cash prize of 4.65 lakhs at the event held during 7th to 11th March, 2019.

Suraj Kumar of 4th sem, is the VTU Interzones winner and is a leading run scorer in the tournament And also has won 25g Silver Medal.



Fig.5: Prashanth Mypadi, 6thsem



Fig.6: Nitish Narendra, 8th sem



Fig.7: Suraj Kumar ,4th sem

13. Placement Details of UG and PG:

Table 9: UG Placement Details of 2019 Batch

Total Strength of class	51
Eligible students for placements	46
No. of students placed	43
Total no. of multiple offers	61
Percentage of placement	93.47
Maximum Package in LPA	13
Average Package in LPA	6
Minimum Package in LPA	3.75

Table 10: PG Placement Details of 2019 Batch

Total Strength of class	12
Eligible students for placements	12
No. of students placed	04
Total no. of multiple offers	04
Percentage of placement	33.33
Average Package in LPA	3.75

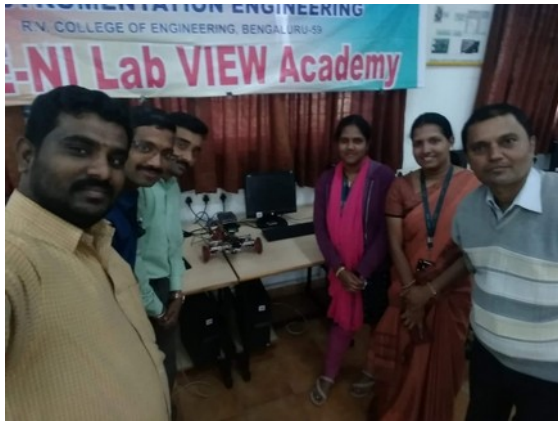
Two students of 2nd sem, M.Tech in BMSP&I have got internship in NxP semiconductors organization. The internship drive is still in process where yet many organisations are yet to visit.

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Ms. Vidyshree, 6th sem student

Gallery Section



NI LabVIEW Workshop



Bio-pack Biomedical Workshop



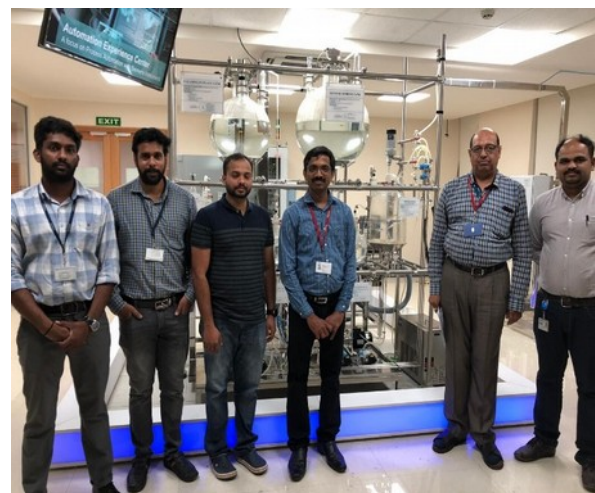
Industry visit to Coco Cola



Shasvati Palstics, Hootagally, Mysuru



Visit to Human Brain Bank, NIMHANS



Training on DCS and SCADA at SIEMENS



8th Semester Major Project Exhibition



2nd Sem, M.Tech in BMSP&I, Minor Project Demo

Invited Talk by Dr.Fletcher



Sports Meet – 2019



Expert talk by Dr Radhakrishna Prabhu,
Robert Gordon, University - ,Scotland



Simulink Training by Mr. Shrikanth from INTEL



APC Lab Demonstration by Company Experts



BoS Meeting 2019



CARV Fest, Mr. Hemanth Raj, Film Director, EIE Alumni



Margadarshan FDP on “Comsole Lab Tool”



Parents Teachers Meet - 2019



PG -2019 Batch



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B.E - ELECTRONICS & INSTRUMENTATION ENGINEERING - 2019

UG -2019 Batch