KUMARAGURU
college of technology
character is life

DEPARTMENT OF MECHATRONICS ENGINEERING

NEWSLETTER

Edition: Vol:1 No: 1
June to Sep. 2017

INSITUTION

VISION

The vision of the college is to become a technical University of International Standards through continuous improvement.

MISSION

Kumaraguru College of Technology is committed to providing Quality Education and Training in Engineering and Technology to prepare students for life and work equipping them to contribute to the technological, economic and social development of India. The College pursues excellence in providing training to develop a sense of professional responsibility, social and cultural awareness and set the students on the path to leadership.

DEPARTMENT

VISION

The vision of the department is to achieve academic and industrial excellence in industrial automation research and innovative product development driven by mechatronics systems.

Mission

- Impart the right blend of knowledge and skills to students and enable them to apply it in real life situations.
- Motivate the students towards interdisciplinary research to cater to the local and global needs.
- Achieve innovation in developing industrial products with social responsibility

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

1. Develop innovative and sustainable products with multidisciplinary Engineering expertise.
2. Solve complex engineering problems by applying mechanical, electrical and computer knowledge and engage in lifelong learning in their profession.
3. Work or pursue higher education in multicultural, multilingual and multinational environment with competent oral and written communication.
4. Lead and contribute in a team entrusted with professional, social and ethical responsibilities.

PROGRAM OUTCOMES (PO)

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 team work: 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.

Program Specific Outcomes (PSOs)

1. Design and develop Mechatronics systems to solve the complex engineering problem by integrating electronics, mechanical and control systems.
2. Apply the engineering knowledge to conduct investigations of complex engineering problem related to instrumentation, control, automation and robotics to provide solutions.

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DEPARTMENT ASSOCIATION INAUGURATION 24.08.17

KUMARAGURU
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DEPARTMENT OF MECHATRONICS ENGINEERING

Cordially Invites you for the

INAUGURATION CEREMONY OF

MECHATRONICS ENGINEERING ASSOCIATION

Thursday 24th August 2017
10.30am-12.30pm
Seminar Hall Complex
Dr. N. Mahalingam Vigyan Bhavan
Kumaraguru College of Technology
Coimbatore

Chief Guests

Mr. N. Govindarajan	Presidential Address
Director	Shri. SHANKAR VANAVARAYAR
Mahle Letrika Roots India Pvt. Ltd.	Joint Correspondent Kumaraguru College of Technology, Coimbatore.
Principal's Address	**HOD's Address**
Dr. R.S. KUMAR	Dr.R.VENKATESAN
Principal Kumaraguru College of Technology, Coimbatore.	Professor & Head Department of Mechatronics. Kumaraguru College of Technology, Coimbatore.

For More Details, Contact
Mr.Hari Krishnaa . S
President, MCE - Student Leadership Council

DEPARTMENT EVENTS

FACULTY ACHIEVEMENTS – TEACHERS DAY AWARDS

FACULTY ACHIEVEMENT

FACULTY ACTIVITIES

Industrial visit-Dr.R.Venkatesan, Mr.A.Ramkumar, Mr.Kathikeyan,MD,Synetics Automation pvt limited,Coimbatore

Japanese language training programme

Workshop -UAV 21 & 22 SEP.2017

WORKSHOP ON UAV 21 & 22 SEP.2017

Workshop on UAV in Autonomous Mode: Fabrication and Testing

FACULTY ACTIVITIES

SEMINARS, WORKSHOPS, FDP ATTENDED BY FACULTY

S.No	Name of the Staff	Seminars, Workshops, FDP attended by Faculty
1	Dr.Akila , AP (SRG) Ms.B.Sabitha AP-II	Two days workshop on Embedded Robotics at PSG
2	Mr.R.Saravanan Mr.K.Murugesan	Two days certification course on "UAV in Autonomous Mode: Fabrication and Testing" 21s to 22nd, September 2017
3	Mr.J. Sivaguru	Three days training on AURIX Controllers and Diesel Engine Management System(DEMS) at Infineon Technology India pvt ltd, Bangalore
4	Dr.A.Vasuki Dr.K.Akila Ms. B. Sabitha Mr. P. Anush	FDP on "MATLAB for Research and Computing" on 04-10-17 to 10-10-17 conducted by MathWorks.

S.No	Name of the Student	Student Participation
1	Mr.D.Harisaravanan Mr.P.Dinesh Mr.Harish Mr.V.Baranidaran	ROBOWAR - contest won I prize at Johnson Engineering College, Coimbatore
2	Mr.P.Dinesh Mr.Harish Mr.V.Baranidaran	ROBOWAR – Runner , Bannari Amman Institute of Technology, Sathyamangalam
3	Mr.E.M.Praveen Mr.T. Nithyaprasath	Paper presented in FUTURA 2017 – Dr.NGP Institute of Technology, Coimbatore
4	Mr.K.Balamurugan Mr.A.M.Gowtham	Paper presented FUTURA 2017 , Dr.NGP Institute of Technology, Coimbatore

SEMINARS, WORKSHOPS ATTENDED BY FACULTY

RESEARCH

Publication		
1	Dr. R. Venkatesan	"**Optimization of process parameters of Pulsed Electro Deposition Technique for Nanocrystalline Nickel Coating using Gray Relational Analysis** (GRA)', International journal of Nanoscience, Vol.16, No.3, pp.1-8,(2017).
	Dr. R. Venkatesan & Mr.P.Murugaesan	**"Extrusion Process Parameters Optimization Using Hybrid Algorithm** " in I-STEP 2017 International conference on Science, Technology and Engineering Promotion 2017
2	Dr. A.Vasuki	**Certain Applications and Case Studies of Evolutionary Computing Techniques for Image Processing,** Book Title : Biologically Rationalized Computing Techniques for Image Processing Applications, Lecture Notes in Computational Vision and Biomechanics, Vol. 25, Springer International Publishing, pp. 273 – 296.
		"Automated Integrated Clustering Algorithm for Mammographic Mass Segmentation", Pakistani Journal of Biotechnology, Vol. 14, Special Issue II, pp. 6 – 9.
		Shiji Shajahan, A.Vasuki, **"Broad banding Microstrip Patch Antenna using Electromagnetic Band gap Structures"** I-STEP EECL-008.
		"Dimension Reduction of Multispectral Images using PCA and Folded PCA", I-STEP EECL-0017.
		Book Chapter Title : Certain Applications and Case Studies of Evolutionary Computing Techniques for Image Processing, Book Title : Biologically Rationalized Computing Techniques for Image Processing Applications, Lecture Notes in Computational Vision and Biomechanics, Vol. 25, Springer International Publishing, pp. 273 – 296.
3	Mr. T. Suresh	**Automatic Railway Gate Control** in I-STEP 2017 International conference on Science, Technology and Engineering Promotion 2017
4	Mr. R. Saravanan, Mr. K.Murugesan	**Power Optimization Of Unmanned Aerial Vehicles Using Solar Energy** in I-STEP 2017 International conference on Science, Technology and Engineering Promotion 2017

RESEARCH Cont..

5	Ms. B. Sabitha	**Open CV Based Autonomous Re Car** in I-STEP 2017 International conference on Science, Technology and Engineering Promotion 2017
6	Dr. K.Akila	International Journal Publication – "**Automated Integrated Clustering Algorithm For Mammographic Mass Segmentation"** in Pakistan journal of biotechnology
7	Mr.P.Magudapathy. Mr.R. Saravanana, Mr.K. Murugesan	International Journal of Advanced Research in Basic Engineering Sciences and Technology **–"Design and Development of Semi Automated Painting booth for Pump Manufacturing Industries"**
8	Dr. K.Akila & Ms. B. Sabitha	**Automated Ph Monitoring System For Semi-Organic Dyeing Process** in International conference on Science, Technology and Engineering Promotion 2017
9	Dr. K. Akila	**Pharmaceutical Inspection Using Machine Vision** in I-STEP 2017 International conference on Science, Technology and Engineering Promotion 2017
Consultancy		
1	Dr.R.Venkatesan	**"Design of Hydraulics - fixture for bearing Assembly** " Fine Automation
2	Mr.P.Anush & Mr.J.Sivaguru	**"LED board design"** for ARM Technologies , Ganapathy

RESEARCH

INDUSTRIAL VISIT – FOUNDRY DIVISION

On the 7th September 2017, the department of Mechatronics had organized an industrial visit for 58 students of the fourth semester BE who were accompanied by 3 of the faculties of the department. The visit was to the **Ram Prasad tubes and Bars- Foundry Division , Coimbatore.**

A foundry is a factory that produces metal castings. Metals are cast into shapes by melting them into a liquid, pouring the metal in a mold, and removing the mold material or casting after the metal has solidified as it cools. The most common metals processed are aluminium and cast iron.

Cupola furnace: The cupola furnace is used to melt the aluminium and other raw material into molten metal to form the cast.
A cupola or cupola furnace is a melting device used in foundries that can be used to melt cast iron, Ni-resist iron and some bronzes. The cupola can be made almost any practical size.

Pattern: The pattern is the replica of the object to be cast. In general, there will be two patterns. A pattern is a replica of the object to be cast, used to prepare the cavity into which molten material will be poured during the casting process. Patterns used in sand casting may be made of wood, metal, plastics or other materials.

At first one pattern is placed in the flask and sand is filled in it and rammed to form the cope, Later the other pattern is prepared using the same process to form a drag. The cope and drag are placed one over the other. A gating system is created for the flow of molten metal. After the molten metal is poured the cast is cooled for some time so that the cast can solidify. After solidification the sand is removed and the formed cast is slightly machined for finishing process. The formed cast is tested for the strength and the size as required by the customers. If satisfied the cast is painted to improve the aesthetic look of the produced. Finally the produced is packed and shipped.

INDUSTRIAL VISIT

Industrial visit to Regional Science Center, Coimbatore

Outcome of the event:

- After attended the Industrial visit the student will be able to explain various Mechanisms of Machines.
- After attended the Industrial visit the student will be able to explain various basic science concepts.
- After attended the Industrial visit the student will be able to apply various concepts.

Description

- Students visited textile center and learned a few mechanisms used in textile industries. Also they learned the history of textile industry.
- Students visited space science center and learned mechanisms used.
- Students visited fun science center and learned various mechanisms and basic concepts in science and mathematics like,

INDUSTRIAL VISIT

TEACHERS DAY CELEBRATION IN DEPARTMENT

A hundred years from now,
it will not matter what kind of car I drove,
what kind of house I lived in,
how much money I had in the bank,
but the world may be a better place because
I made a difference in the life of a child
Sarvepalli radhakrishnan

STUDENTS ACTIVITIES

Summer School at RWTH Aachen, Germany

Batch of seven students from the Department of Mechatronics Engineering consisting of four final year and three third year students have participated in the Summer School Program at RWTH Aachen, Germany followed by a program by INK from, 2nd of July to 26th of July. RWTH I one of the reputed institutions in the world and our students attended a course on "Mechatronics System Engineering and Product Innovation"

The students had a wonderful experience to share with us and said that they were motivated to push themselves more. They learnt concepts from various fields and had lots of hands on projects to work on. They were essentially fueled with essence of various processes involved in product innovation and important concepts to be dealt with mechatronics systems engineering.

The "Mechatronics System Engineering and Product Innovation" Summer School is conducted by the Institute for Engineering Design (IKT), Institute for Theoretical Information Technology (TI) and the Institute of Mechanism Theory and Dynamics of Machine (IGM) of RWTH University.

1) **Mithun Balaji (3rd Year)**
2) **Arun Raj (3rd Year)**
3) **Vinoth (3rd Year)**
4) **Shouvik Basu ((4th Year)**
5) **Gowtham (4th Year)**
6) **Tarun Reddy (4th Year)**
7) **Adi Kamaraj (4th Year)**

STUDENTS ACTIVITIES

LIGHT RIDE on 27.09.2017
Design & Assembling of Light following Robot

Purpose of the event
Gaining knowledge about the working of Light follower robot and to gain basic Knowledge about assembling and programming of light following robot

STUDENTS ACTIVITIES

SOCIAL OUTREACH - TEACHERS DAY REMEMBRANCE

Plantation in Government High School at Kalapatti, Saravanampatty on 05.09.2017

STUDENTS ACTIVITIES

PLACEMENT

RUPESH M
14BMC 047

SHAMEER KAMAL S
14BMC 053

RAMKUMAR D
14BMC042

POOVARASAN D
14BMC33

ABISHEIKH N
14BMC003

ASHIK M H
14BMC009

KARTHIKEYAN S
14BMC016

SASIDARAN K
14BMC051

PRAVEEN M
14BMC038

ANISH REDDY K S
14BMC007

SARANKUMAR M
14BMC050

SUBRAMANIAN V
14BMC055

PRITHIVI RAJ S
14BMC039

ROCHE PERIYANAYAGAM C
14BMC046

PAVITHRA J
14BMC032

ABOUT THE DEPARTMENT

Automation is the future of engineering and it all begins here at the department of Mechatronics. The discipline is not simply a combination of mechanical and electronics but it is much beyond this combination and it inculcates the broader spectrum of engineering knowledge to meet the demands of future requirements. To prepare industry ready engineers of future, the department has a right blend of faculty members having expertise in Mechanical, Electronics and Mechatronics engineering.

The department of Mechatronics Engineering was established in the year 1999, offering B.E. in Mechatronics Engineering. The department has well developed laboratory infrastructure which bridges the gap between industry and academia. It also provides consultancy services to the industries. The department regularly invites people from the industry to interact with the faculty and students to update them with the current know how's and also to make them understand the needs of various Industries. Industrial automation, Robotics, Automotive Electronics, Mechanical Design, Noise and Vibration are the thrust areas of research.

ABOUT THE KUMARAGURU COLLEGE OF TECHNOLOGY

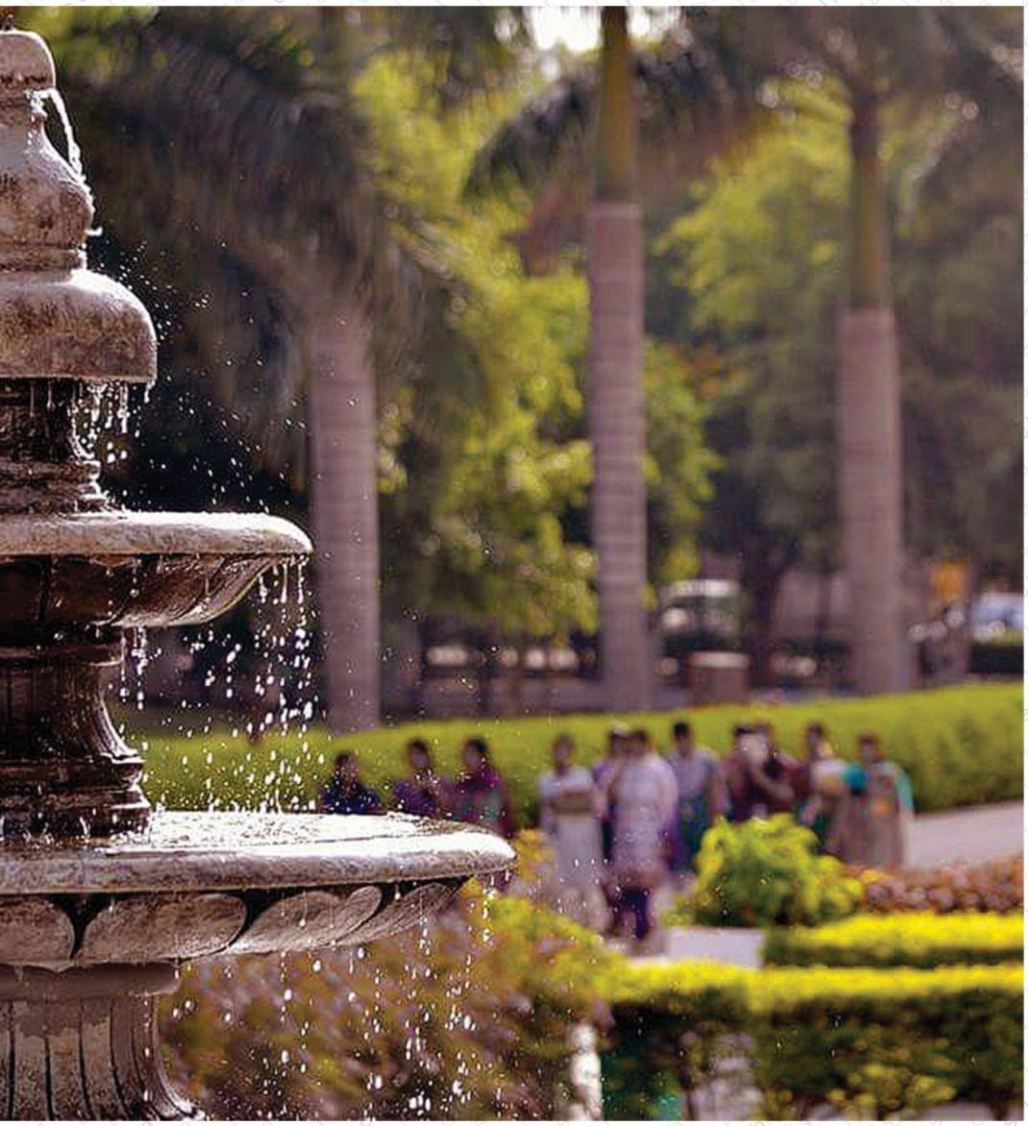
Kumaraguru College of Technology (KCT), Coimbatore is an autonomous Engineering College, established in 1984 under the auspices of Ramanandha Adigalar Foundation, part of Sakthi Group founded by Arutchelvar Dr.N.Mahalingam, a Gandhian, industrialist and a philanthropist. He envisioned to empower the youth through quality education and thereby drive socio economic development blended with spirituality. True to the vison of its Founder, KCT stands today as an institution of excellence in technical education with 32 years of illustrious service to the students, many of whom are shining as leaders and contributors to development, across the world.

Located amidst the IT corridor in a sprawling campus of 150 acres, KCT offers 13 Under Graduate and 14 Post Graduate programmes with many approved Research Centres. More than 6000 students are imparted quality technical education by a dedicated team of 395 qualified and experienced faculty members and ably assisted by 360 supporting staff. The college has residential facilities to accommodate about 3300 students in 8 blocks with state-of-the art dining halls and student facility centre. Well-equipped laboratories, research facilities such as iQube, CEAD, Modern Garage, dirt-track range are some of the facilities which are part of KCT. FORGE, a techno business incubator of KCT provides technological consulting for start-up pursuits of alumni of KCT and entrepreneurs, besides supporting conversion of innovative ideas of students into product development.

Under the able guidance and adept administration of Dr. B. K. Krishnaraj Vanavarayar, Chairman, Sri. M.Balasubramaniam, Correspondent and Sri. Shankar Vanavarayar, Joint Correspondent, the college has been consistently progressing in academics, infrastructural development including student amenities. The college has 28 clubs and forums, sports facilities spread across in 21 acres with modern facilities, a State-of the art Gymnasium, and an exclusive department for Human Excellence, ably supported by the Mahatma Gandhi and Swami Vivekananda Study Centers to groom the human in the budding professionals.

The continuous growth in placements over the years in well reputed IT and Core companies, pursuit of higher studies by students in renowned institutions in India and abroad and remarkable entrepreneurial pursuits of the alumni have been the laurels that adore KCT continuously. The accreditation from NAAC and NBA for quality and standards of education and 53rd position in all India level in the NIRF ranking have added feathers to the cap of KCT. With the continuous support of all its stake holders, KCT continues to march forward to the next level of progress.

ABOUT THE INSTITUION



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