The Arrow

2019-2020 odd semester

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Department of Aeronautical Engineering Newsletter

KUMARAGURU
college of technology
character is life

Character is Life

- Arutselvar N.Mahalingam

MoU with Aerostat and Valles Marineris international private limited

Alumni meet

Department association inauguration

HoD's Message:

I am very happy to inform that Department of Aeronautical Engineering has taken the initiative to release the News Letter from the current academic year. Newsletter is aimed to cover all the relevant information: Innovation in academic activities, Infrastructure development, on-going Research activities/publications, Interaction with industry, Co-curricular, Extra-curricular activities, original or collected of technical information etc. Students of different batches will be given the opportunity on a rotational basis to be the editorial team members and they are encouraged to apply their innovative ideas for improving the quality of Newsletter. My heartfelt thanks to the current editorial team headed by Ms. Rashickha for their wonderful contribution. I am happy to note the good number of students, faculty and alumni are continuously engaged in research and technical paper publications. We keep receiving good news of getting jobs and joining for higher studies from the students completed course in 2019. Our best wishes to them for their successful career. Our Students are greatly inspired by Alumni the visited and interacted during the months of July and August 2019 listed herewith. We are very grateful for their interest and support towards the parent institution. Active participation and contribution of Department Association are highly appreciable.

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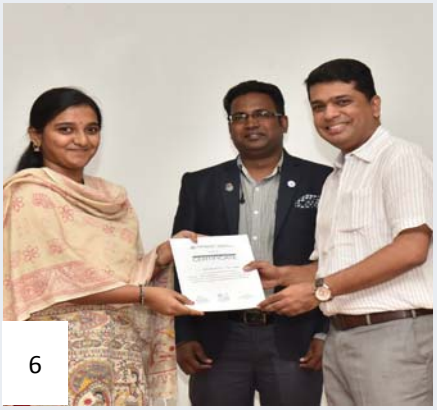

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MoU signed with Valles Marineris international private limited and AEROSTAT

We are extremely delighted to have an industrial partnership with two companies. Two MoUs were signed with Aerostat a Drone startup company and Valles Marineris international private limited a space exploration company. The MoU allows the department to have strategic cooperation in the capacity building in Drones and space exploration.

This MoU helps both the parties in helping each other with the technologies and the technical support needs. This is vital for the department in terms of future trend, which is mostly heading towards drone technologies and commercial space explorations.

DEPARTMENT ASSOCIATION INAUGURATION

The Department Association inauguration was held on 21/08/2019 graced by the presence of Dr. Jayakumar Venkatesan, CEO of Valles Marieris, Joint Correspondent Mr. Shankar Vanavarayar and HOD of Aeronautical engineering Dr. K Sundararaj.

The Aeronautical Department Association members planted 20 saplings to mark the Independence Day celebration, with support from professors and Nature Club members.

Mr. Esakkiappan and Ms. Tamil Selvi of Final year were elected as Aeronautical department president and Arts secretary respectively during the investiture ceremony of Leadership Council held on 08/08/2019.

STUDENT ACHEIVERS

AWARDED DURING THE DEPARTMENT ASSOCIATION INAUGURATION

Students of Aeronautical Engineering have participated in various competitions and have won laurels, which are listed below.

The team (Pegasus) of final years - Ms. Jayashree.R, Mr. Vishak.R, Ms. Harini.VR, Ms. Sujithira.P, Mr. Siddarthan.P, and Ms. Priyadarsini.G got the 14th position at national level and got 3rd position in Tamil Nadu level in SAE INDIA, held at SRM Institute of Science and Technology, Chennai.

To inculcate the sportsmanship spirit not only to the KCTians but also to all those sportsmen in and around Coimbatore, we have been celebrating KICS (Kumaraguru Inter College Sports meet) annual sports fest for the past 14 years in the name of Arutchelvar Dr.N.Mahalingam Rolling trophy. The following students received awards for their sportsmanship during KICS 2019 sports event.

Ragupathy, Akash, Aswathama and Vignesh won 2nd prize in Cricket.

Kiridharan and Baskaran won 2nd prize in Kho Kho.

Samrithi.S won 2nd prize in throw Ball.

Nithin won 2nd prize in Volley Ball.

Karthikeyan won 3rd prize in 4×100 meters relay.

Rohini Janaki, Sangeetha, Shraviya and Maria Vinsiya won 1st prize in Basket Ball.

Shankar won 1st prize in boxing, Thianesh won 3rd prize in Wushu.

Kaviya Priya .P won 1st prize in rangoli competition in PIMS competition.

Jayaseelan, Venkat Prasad, Monica Shree, Sai Shankaran visited ISRO, Sriharikota to view the launch of Chandrayaan – 2.

STUDENT ACHEIVERS

AWARDED DURING THE DEPARTMENT ASSOCIATION

The following students received Hypersonic awards for various categories during the Department Association Inauguration.

Fine Arts – Gowri Shankar P

Fine Arts – Kaviya Priya P

Fine Arts - Pavan V

NCC – Martina Kings

NCC – Abinaya K

NCC – Sudarshanan P

Sports – Kiridharan R

Sports – Nandhagopal R

Sports – Nishanth T

Research and Projects – Amrith M

Research and Projects – Ramesh M

Special achievements – D.S Rashickha

Special achievements – Deniela Grene

Special achievements – Balaji S

Pavan won 1st, 3rd and 2nd place in SKETCH 2019, ALLORA 2019 and AURO 2019 respectively in dual and group dance event.

ALUMNI INTERACTIONS

Alumni from different years of passing visited the department during July-August and interacted with the students and shared their personal experiences in their professional and entrepreneurial career. The career guidance given were well received by the students as they heard it straight from the horse's mouth. The following are the Alumni who have visited the department.

Ms. Tharika who is pursuing doctorate in Auburn University, USA.

Mr. Gopinath, design engineer in Mabulae private limited.

Ms. Ramya Selvam, graduated from Seoul National University, Seoul, South Korea

Ms. Gayathri, founder of Trendymarvel, Pondicherry.

Mr. Naveen, working in Cades Studec Technologies, Bangalore.

ALUMNI ACHIEVEMENTS

Our Alumni , the ambassadors of our Aero Department are successful in getting employment opportunities in renowned organizations or join for higher studies in reputed institutes/Universities in India and abroad.

The following enlists 2019 passed out students of the Aeronautical department who have taken different paths after graduation till date.

Mr Chilambarasan is placed in Tata Consultancy Services.

Mr. Deepak Prabhu is placed in Eleation, Pune.

Ms. Meena is placed in Tata Boeing Aerospace Limited.

Mr. Bharath is placed at Collins Aerospace, Bangalore.

Mr. Gowtham, Ms. Nandini and Ms. Narmada are working in cognizant.

Mr. Mukundhan and Ms. Swathi are working in Infosys and CTS respectively.

Mr. Varun is pursuing his M.E (Aerospace engineering) at Ryerson University, Toronto Canada and secured an overall score of 7 in IELTS.

Ms. Soundarya is pursuing her M.S. (Aerospace engineering) at University of Sydney, Australia.

DEPARTMENT RESEARCH ACTIVITIES - 2019 PUBLICATIONS

The students, faculty, and alumni of Department of Aeronautical Engineering are consistently engaged in research and publication of technical papers in the reputed conferences and journals.The publications of technical papers in the year 2019 are listed below.

i) Nichith Chandrasekaran, Charlie Oommen, V.R Sanal Kumar, Alexander N Lukin, Victor S Abrukov, Darya A Anufrieva "Prediction of detonation velocity and N-O composition of high energy C-H-O explosives by means of Artificial neural networks."

ii) Abrukov V, Lukin A, Anufrieva D, Oommen C, V.R Sanal Kumar, Chandrasekaran N, Bharath R"Recent advancements in study of effects of Nano Micro additives on Solid Propellants Combustion by Means of the Data Science Methods"

iii) Sundararaj K "Influence of Dual heat sources on natural convection in a square enclosure." International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)

iv) Amrith M, V. R. Sanal Kumar, Vishnu Anand A, Steve Weddell, In-Seuck Jeung "A Conceptual Method to recycle Space Debris into Fuel and Artificial Soil in the ISS for numerous applications"

v) Amrith M, Ajith Sukumaran, Thianesh U. K, Gowri Sankar S, V. R. Sanal Kumar, Ashish Kumar A, Sugjoon Yoon "Design of Planet Landers for Soft Landing with DHEM propulsion system-phase-1"

vi) Aravind. S, Sabarinath G, Ajith S, Amrith M, Sundararaj K, V. R. Sanal Kumar "Design of Pre-diffuser Cones for Dump Diffusers for Aero Gas Turbine Engines"

vii) Darsana S, Thianesh U K, Ajith S, Jeya Surya A, Vasanthakumar V , Vigneshwaran V Sultan Ariff Rahman M, Sabari S, Sivaguru J, Sundararaj K, V.R Sanal Kumar "Experimental and Numerical studies on Jet Acoustic characteristics of Chevron Nozzles"

viii) Ajith S, Ragupathi S, Amrith M , Anandmoorthi S, Vishak R, Nichith C, Vigneshwaran S, Sulthan A.R.M, Charlie Oommen, V.R Sanal Kumar "Studies on Flame Spread Acceleration and Detonation Kernel in a Dual-thrust Rocket"

ix) Dhanalakshmi K, Deepak N, Amrith M, Kiridharan S, V.R Sanal Kumar. "External Flow Chocking at the Landing Phase of Aircraft and Re-entry Vehicles"

x) Viktor S Abruko, Alexander N Lukin, Mikhail V Kiselev, Darya A Anufriev, Charlie Oommen, Nichith Chandrasekaran S, Amrith M, V.R Sanal Kumar "Development of the Multifactorial Computational Models of the Solid Propellant Combustion by Means of Data Science Methods"

xi) Senthil Kumar M "Investigation of Hardness and surface roughness in end milling Glass Fibre Reinforced Polymer Composite"

xii) Arul Prakash R, Sarath Kumar R, Vijayanandh R, Darsi Venkata Praveen, Raja Sekar K, Ananda Krishnan C" Design optimization of Convergent Divergent Nozzle using CFD approach"

xiii) Raj Kumar G, Senthil Kumar M, Vijayanandh R, K Raja Sekar, Mohammed Bak.k, Varun A "Mechanical characterization of Carbon Fiber Reinforced Epoxy with Carbon nanotubes"

We thank the authors of the following institutions/ universities for joining out team for collaborative research and publications of technical papers.

Western-Cauceasus Research centre, Russia.

Chuvish State University, Russia

University of Canterbury, New Zealand.

Seoul National University, South Korea.

Sejong University, South Korea.

IISc, Bangalore, India.

Sri Ramakrishna College, Coimbatore, India.

Bannari Institute of Technology, Sathyamangalam, India

KUMARAGURU
college of technology
COIMBATORE – 641 049

Department of Aeronautical Engineering

INSTITUTE VISION

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

INSTITUTE MISSION

Kumaraguru College of Technology (KCT) 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 students on the path to leadership.

DEPARTMENT VISION

To attain excellence and global reputation in Aeronautical Engineering Education and Research.

DEPARTMENT MISSION

M1: The department is committed to provide quality education in Aeronautical Engineering to students to build their career and do quality research and thus contribute to the field of Aviation and Aerospace.

M2: The department aims to prepare students for their higher studies and research to contribute to the advanced technological needs of Aeronautical engineering.

M3: To encourage faculty to update their knowledge and teaching-learning process through continuous learning.

M4: To undertake inter-disciplinary research to contribute and support the industry.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

The Program Educational Objectives (PEOs) of Aeronautical Engineering Undergraduate Program are to prepare the students:

I. To pursue a successful profession in leading organizations.

II. To pursue postgraduate degrees and conduct research at leading technological universities to contribute to the advancement in the field of Aviation and Aerospace industries.

III. Continue their professional development by utilizing educational and career building opportunities through their employer, educational institutions, or professional bodies.

PROGRAM OUTCOMES (POS)

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: 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.

PO3: 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.

PO4: 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.

PO5: 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.

PO6: 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.

and systems.

PO7: 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.

PO8: Ethics: Apply ethical principles and commitment to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.

PO10: 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.

PO11: 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.

PO12: 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):

PSO1: Apply fundamental principles of Aerodynamics, Structures, Propulsion, Materials, and Avionics to provide solutions to aerospace and non-aerospace industrial problems.

PSO2: Use the software packages in the design, manufacturing, testing and maintenance of aeronautical and aerospace based components