EXCEL ENGINEERING COLLEGE
KOMARAPALAYM-637303

DEPARTMENT OF AERONAUTICAL ENGINEERING
ARHAKRZ 2K24– 25
NEWSLETTER Q3

VOLUME I ISSUE 2

VISION

To empower the students subject knowledge of Aeronautical Engineering for serving the society in a challenging global environment

MISSION

To provide the quality technical education in tune with challenges.

To offer latest technological development in the field of aero engineering.

To integrate the intellectual, spiritual, ethical and social development of the students for becoming dynamic Aeronautical engineers.

To initiate desires for under taking entrepreneurship and lifelong learning.

CHAIRMAN'S MESSAGE

Aeronautical Engineering is a prominent branch of Engineering focused on the advancement of technology in aviation, space exploration, and defence. It encompasses the study, design, testing, construction, and maintenance of commercial aircraft, spacecraft, missiles, and their components.

Prof. Dr. A. K. NATESAN
M. Com., MBA., M. Phil.,

VICE-CHAIRMAN'S MESSAGE

The Department of Aeronautical Engineering continues to be a source of pride for our institution. I extend my heartfelt congratulations to the Aero Department on the release of this month's ARHAKRZ news letter. I encourage students to strive for excellence, expand their knowledge, and stay ahead of the latest advancements in the dynamic world of aeronautics.

Dr. N. MATHAN KARTHIK
M.B.B.S., M. H. Sc .,

PRINCIPAL'S MESSAGE

My heartfelt congratulations to the Department of Aeronautical Engineering on publishing its newsletter, showcasing the department's academic achievements and milestones. In the realm of outcome-based education, empowering students remains a pivotal focus for any leading institution. I sincerely hope this publication becomes a beacon of inspiration and a soaring success!

Dr. K. BOMMANNA RAJA
Ph.D.,

HOD'S MESSAGES

Aeronautical Engineering is a dynamic and cutting-edge discipline with a legacy spanning over a century. It demands continuous innovation from engineers and scientists to expand its horizons and drive advancements in next-generation hypersonic aircraft, reusable spacecraft, and launch vehicles. My best wishes to all aspiring aeronautical engineers, who will play a vital role in propelling India to the forefront of global technological excellence.

DR.A..KARTHIKEYAN Ph.D.,

INDEX OF THE NEWSLETTER

DEPARTMENT NEWS

Industrial Guest lecture on Propulsion Systems for Aircraft Vehicles on 25.02.2025 at Pavaayammal Hall.

Resource person:

Dr.N.Sureshkkumar,
Managing Director,
Nova Aerospace Ltd,

Pudukkottai

No. of Participants: 140

IGL on Design and Technology used in Aircraft Engines on 22.02.2025 at **Pavayammal Hall**

Chief Guest:

Mr.K.Saravanan,
Chief Executive Officer,
Aakash Aerospace Ltd, Erode.

No. of Participants: 145

DEPARTMENT NEWS

Awareness Program on National Road Safety on 24.01.2025 at Pavayammal Hall A/C.

Chief Guest:

Mrs.D.Poonguzhali,
Thiru.Sivakumar,
RTO,Pallipalayam

No. of Participants: 120

Celebration of the birth Anniversary of Netaji Subhash Chandra Bose on 23.01.2025

Chief Guest:

.K.Saravanan,
Associate Professor & Head / English,
Excel Engineering College (Autonomous)

No. of Participants: 50

Workshop on Remote Pilot Services in Aerial Operations on 14.02.2025 at Aero Hanger.

Chief Guest:

Dr. M. Rajmohan,

Professor,

Anna University, Guindy,

.

No. of Participants: 130

New strategies in manufacturing technology in Aeronautical Sciences on 03.02.2025 at Dr. APJ Abdul Kalam Hall A\c

Chief Guest:

Dr. M. Rajmohan,

Professor,

Anna University, Guindy,.

No. of Participants: 150

Book Chapter Published

S.No	Name of the Faculty	Chapter Title, Volume and Page No.	Title of the Book
1	Mr. S. Karthik et.al.,	LoRaIoT Network for Instant Forest Fire Detection and Alert System, Vol. 7, 2024	Scientific Research, New Technologies and Applications
2	Mr. Senthil kumar et.al.,	Machine Learning-Based HR Business Intelligence with Predictive Maintenance Integration,2024	Machine Learning, IGI Global
3	Mrs. Animhons et.al.,	Drone Based Innovations in Mosquito Control: Pioneering Sustainable Solutions for Vector Management	Exploring Boundless Frontiers: Interdisciplinary Perspective in Research Vol-II

Book Published

S.No	Name of the Faculty	Chapter Title, Volume and Page No.	Title of the Book
1	Mr. S. Karthik et.al.,	Aircraft Piston Engine	Publisher: Crown Publishing ISBN : 9789364263153 Edition: 1,2025 Pages: 104

Students Participation

Students participation in various event workshop, ideation , paper presentation and sports etc., in the month of Jan– March 2025

Sl. No.	Nature of the Program	No. of participation*
1	Workshop	01
2	Skill contest	04
3	Online Course	02
4	Maths contest (ISTE Activity)	10
5	Internship	17

Students Internship

Sl.NO	NAME OF THE STUDENT	NAME OF THE COMPANY
1	AFOLAYAN IREWOLE JOSHUA [2006-04-22]	Periyar Crusher Machines Pvt Ltd, Kerala
2	AFRINA K [2003-04-26]	Pegasus Aerospace Systems, Erode
3	ARJUN S [2004-02-06]	The Website Macker Pvt. Ltd, Tadepalligudem, Andhra Pradesh
4	AUSTIN ROY [2004-04-20]	Periyar Crusher Machines Pvt Ltd, Kerala
5	CHUNG TSHERING LEPCHA [2003-01-01]	Periyar Crusher Machines Pvt Ltd, Kerala
6	DHARUN M [2005-01-14]	The National Small Industries Corporation Limited, Chennai
7	DIVYA J [2005-03-18]	Optimus Technocrates (Indai) Pvt..Ltd, Bangalore

Faculty Participation

Faculty contribution in the month of October to December-2024*

Conference Publications

S.No	Name of the Faculty	Title of the Paper	Conference details and Publication Details
1	Dr. N. Venkatachalam	Gesture Based Control System For Octocopter Uavs Using Imu And Pid Stabilization	International Research Journal of Modernization in Engineering Technology and Science
2	Dr. N. Venkatachalam	Nuclear Propulsion Technology for Space Application	International Journal Of Research Publications and Reviews
3	Dr. A. Karthikeyan	Bioethanol Production from Coconut Husk Using Alkaline Pretreatment and Acid Hydrolysis	South Eastern European Journal of Public Health
4	Dr. A. Karthikeyan	Integrated Strategies In Desalination Process Combining Thermoelectric Generation, And Phytoremediation	International Journal of Environmental Sciences
5	Mr. Sreenivasaraja N	Fabrication, Characterization and Mechanical Behaviors of Tamarinds indica fruit fibrere inforced polymer composites	Polimeros

Program Funding

Name of the Faculty	*Funding Agency*	*Amount in Rs.*	*Duration*
Mr. M. Sanjay	SERB (ANRF)-Seminar	120000	3 Days
Mrs. A. Animhons	SERB (ANRF)-Seminar	90000	3 Days
Mr. S. Balasundaram	TNSCST SPS	7500	6 Months

READING PAGE

Program Educational Objective

PEO 1: Graduates will have the ability to handle industrial challenges through advanced engineering technologies.

PEO 2: Graduates will have the capability to become socially, intellectually, and ethically responsible aeronautical engineers.

PEO 3: Graduates expertise with essential technical, managerial, and soft skills that make them to be professionally competent.

Program Specific Objective

PSO 1: Exhibit skill and knowledge on aerodynamics, propulsion and structures.

PSO 2: Solve real time problems related to aircraft manufacturing and maintenance.

PSO 3: Apply CAD/CAE tools to design and analyze the aircraft components.

AERONAUTICAL ENGINEERING TRENDING NEWS IN THE JAN-MAR 2025

1. **Sustainable Aviation Fuels (SAFs) & Carbon Reduction**
   - Airlines and manufacturers are accelerating the adoption of SAFs to reduce emissions. AVA AERO +2
   - There's increasing interest in hydrogen and hybrid-electric propulsion systems. Abilogic Articles +2
2. **Electric, Hybrid, and eVTOL Aircraft / Urban Air Mobility (AAM / UAM)**
   - Electric vertical take-off and landing (eVTOL) aircraft are moving beyond prototypes toward near-commercial use in city contexts. sish.edu.sg +2
   - Drones / UAVs are becoming more autonomous, more capable, with better communication systems and greater usage in both civil and defense roles. Aeronautics +2
3. **Advanced Materials & Lightweight Structures**
   - New composites, bio-composites, ceramics and ceramic matrix composites (CMCs) are being used more in engines and airframes for better thermal resistance, strength, and lower weight. BCC Research Bl... +2
   - Additive manufacturing (3D printing) is being used more to construct complex parts that are lighter and/or more efficient. BCC Research Bl... +1
4. **AI, Autonomy, & Digital Twin Technologies**
   - Predictive maintenance using AI & machine ↓ ning to detect issues before they fail, improving availability and safety. LinkedIn +2

FUN NEWS

1. **Lightweight Ceramic Fuel Cell ("The Monolith")**

   Researchers at the Technical University of Denmark 3D-printed a ceramic fuel cell (no big metal parts) with a coral-inspired gyroid structure for better heat dispersion, lighter weight, and durability. Might be a game changer for aerospace power systems. Tom's Hardware

2. **Rocket Engine Test That Could Shrink Travel Times (Venus Aerospace)**

   A rotating detonation rocket engine (RDRE) was successfully flight-tested in full scale in the US. It's promising fuel efficiency, fewer moving parts. Venus Aerospace's plans (with the Stargazer M4 aircraft) could push toward really high-speed travel—maybe even cross-ocean in ~2 hours in future.

   Houston Chroni...

3. **Blended-Wing Aircraft Getting Real**

   Startup JetZero announced a huge investment and facility to build its blended-wing Z4 aircraft, which is supposed to reduce fuel use by ~50% and offer a more open cabin layout. If this becomes mainstream, flights might feel very different (and greener). The Wall Street J...

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