







EXCEL ENGINEERING COLLEGE (Autonomous) KOMARAPALAYM-637303

DEPARTMENT OF AERONAUTICAL ENGINEERING ARHAKRZ NEWSLETTER 2K22- 23 Q4

VOLUME I ISSUE 4	CHAIRMAN'S MESSAGE	VICE-CHAIRMAN'S MESSAGE	PRINCIPAL'S MESSAGE
VISION			
To empower the student s subject knowledge of Aeronautical Engineering for serving the society in a challenging global environment			
MISISON			
<p>To provide the quality technical education in tune with challenges.</p> <p>To offer latest technological development in the field of aero engineering.</p> <p>To integrate the intellectual, spiritual, ethical and social development of the students for becoming dynamic Aeronautical engineers.</p> <p>To initiate desires for under taking entrepreneurship and lifelong learning.</p>	<p>Aeronautical Engineering is one of the prime branches of engineering that deals with the study and development of new technology in the field of Aviation, Space exploration and in defense . This branch include the study of testing , Designing , Construction, maintenance of commercial aircraft, spacecraft and missiles well as their components.</p>	<p>Department of Aeronautical Engineering has always brought pride to our institution. I congratulate the aero department releasing the ARHAKRZ newsletter for this month and I encourage the student s to work towards excellence, to gain more knowledge and to learn about the latest developments in the field of aeronautics</p>	<p>My heartiest congratulation to the department of aeronautical engineering , for publishing the department newsletter portraying the academic activities of the department . In the area of outcome based education, empowering the students is the trust area to be addressed in the professional institution. I earnestly wish that this new publication turns out to be a</p>
	Prof. Dr. A. K. NATESAN M. Com., MBA., M. Phil.,	Dr. N. MATHAN KARTHIK M.B.B.S., M. H. Sc .,	Dr. K. BOMMANNA RAJA Ph.D.,

HOD'S MESSAGES

INDEX OF THE NEWSLETTER

<p>Aeronautical engineering is a fascinating and high technology discipline more then 100 years old, requiring much more contribution from engineers and scientist to broaden its scope and application to develop next generation hypersonic aircraft, reusable space craft, launch vehicles etc., my best wishes and greetings to all the students who are aspiring to become aeronautical engineers and take India to the for front of developed nations.</p> <p>DR. S. P. VENKATESAN Ph.D.,</p> 	DESCRIPTION	PAGE NO
	Message- Chairman, Vice- Chairman, Principal and HoD	01
	Department Activity	02
	Student Activity	04
	Faculty Activity	05
	Governing Body	06
	Research and Development	07
	Glimpse of AERO	08

DEPARTMENT NEWS

National level Workshop on "UAV" on 30.03.2023 at Dr. A PJ Abdul Kalam Hall (A/C)

Chief Guest:

Mr. Daniel

Aero Knots,

Chennai.

No. of participants: 126



Seminar on Intellectual insights on aerospace research domain and IPR on 15/04/2023 at Pavaiyammal Hall.

Chief Guest:

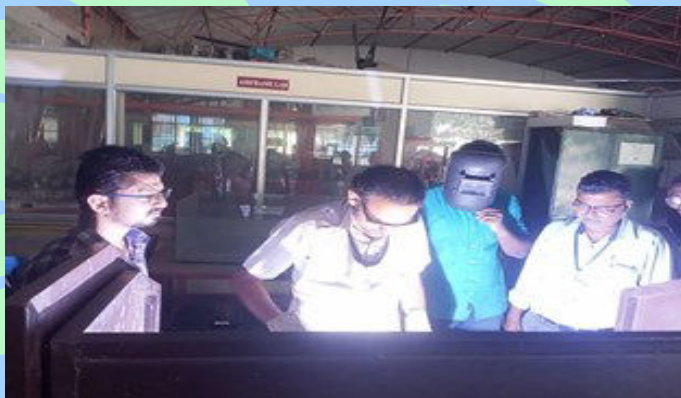
Dr. P. Karunakaran &

Dr. M. Gowtham

Aeronautical Engineering

Komarapalyam

No. of participants: 52



Students Activity participation*

Sl.No	Nature of Events	Participants
1	Workshop	15
2	Seminar	12
3	Symposium	18
4	Other	04
	Total	49

Placement Details*

Sl. No	Name of the Company	Number of Students Placed
1	Dxc technology, Bangalore	3
2	Garuda aerospace private limited, Chennai	4
3	CRI Pump,Coimbatore	3

Faculty Event Participation*

SL. No.	Name of the faculty	Designation	FDP / Seminar / Conference / Workshop / Webinar / NPTEL / Online course Industrial / Training
1	Mr.R.Roopesh	AP	1
2	Mr. M.Nambirajan	AP	1

Major Trends & Highlights in 2023

1. Sustainability and Emissions Reduction

- **NASA's X-66A / Sustainable Flight Demonstrator** launched: Boeing got funding (~US\$425 million) to develop a full-scale testbed for transonic truss-braced wing designs as part of efforts to reduce drag and improve fuel efficiency. [Aviation Week](#)
- Increased focus on **Sustainable Aviation Fuels (SAFs)**, more efficient aerodynamics, and alternative propulsion (electric / hybrid / hydrogen) across multiple programs. [StartUs Insights +2](#)

2. Electric / Hybrid Aircraft & Advanced Propulsion

- Progress in electric aircraft, especially short-haul / regional / small craft types. Some aircraft companies are pushing toward certification. [Axios +1](#)
- Hybrid and electric powertrains also being explored more seriously, both in experimental aircraft and in projects with regulatory interest. [The Times of India +1](#)

3. Retirements / Phase-outs of Legacy Aircraft

- Boeing delivered the final 747 – the 1,574th and last of its kind – in January 2023. [Aviation Week](#)
- Other older regional or narrow-body aircraft programs were cut back or ended (e.g. Mitsubishi SpaceJet was terminated). [Aviation Week](#)

4. New & Advanced Design Concepts

- Biomimetic surface coatings: Lufthansa Technik working with BASF and Ansys on "AeroSHARK," a sharkskin-inspired drag-reducing surface film to cut fuel burn. [DirectIndustry e...](#)
- NASA's continued work on advanced design tools and optimization: for example, tools for eVTOL (electric vertical take-off and landing) design, multidisciplinary design optimization frameworks, etc. [arXiv +1](#)

5. Regulation, Policy & Industry Partnerships

- The aerospace/defense industry saw several collaborations for next-gen fighter aircraft, defense capabilities, etc. One example: UK, Italy, and Japan forming a joint venture to develop a next-generation fighter jet (Global Combat Air Programme, GCAP). [AP News](#)
- Airline orders / fleet refreshes: e.g. at the Dubai Airshow 2023, a number of large orders from major carriers for new aircraft (787s, 777Xs, A350s, etc.). [Wikipedia](#)

6. Digital & Cockpit Technology Advances

- Honeywell's cloud-connected cockpit system "Anthem" had a test flight (Pilatus PC-12) flown in 2023: showing how flight decks are becoming more integrated with digital interfaces, real-time updates, customizable displays, etc. [Honeywell](#)
- More interest in automation, data analytics, AI/ML tools to optimize flight operations, maintenance, safety. [The Times of India +2](#)

READING PAGE

PROGRAM EDUCATIONAL OBJECTIVES

- ♦ To strengthen the fundamental subject knowledge and practical skills of the aeronautical Students for meeting the requirements of Aeronautical industries and educational institutions including research center.
- * To give quality technical education to the students covering latest technological concepts for facilitating them to diagnose and solve industrial problems.
- * To shape the students for becoming socially, intellectually and ethically responsible Aeronautical Engineers.
- * To provide necessary technical, managerial and soft skills to the students for making them industry ready.

PROGRAM SPECIFIC OUTCOMES

- ♦ **Core skills:** Identify, Formulate and Analyze Complex Engineering problems in aerodynamics, Propulsion, Aircraft Structures, aircraft Manufacturing and Maintenance domains.
- ♦ **Interdisciplinary skills:** Able to design and develop interdisciplinary and innovative systems.
- ♦ **Personality Development:** Able to inculcate effective communication skills, team work, ethics, leadership in preparation for a successful career in industry and R&D organizations.

Aero Puzzle

ANSWERS: FLIGHT

F R I C T I O N
 L O
 V E L O C I T Y P R E S S U R E
 F C P
 C A L T I T U D E A I R S P E E D
 A I N
 M R W E I G H T L I F T R
 B F I H
 A E R O D Y N A M I C S Y A W R
 R I G T I U
 L S T R E A M L I N E S
 R G D T
 W I N G - S P A N N -
 P J A S T A L L
 I D E T U
 T U R B U L E N C E I N
 C A T R O L L N
 H G O N E
 C H O R D A I L E R O N
 Y

AIRLINES Quiz

Which year did the Wright Brothers invent the Airplane

- | | | | |
|----------|------|----------|------|
| A | 1903 | C | 1923 |
| B | 1913 | D | 1907 |



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