

Event Name: Space Electronics Workshop

Date (s) of Conduction: 08-06-2024

Name of the Resource Person with Details (if any)

KR Aerospace Systems Private Limited.

No. of Participants: 30

Organized by: Department of ECE, BVRIT Hyderabad College of Engineering for Women and
KR Aerospace Systems Private Limited.

About the Event:

On 8th June 2024, KR Aerospace Systems Private Limited successfully organized a Space Electronics Workshop at VEDIC Bangalore. The workshop aimed to provide students with insights into various aspects of space electronics and their applications in satellite technology and control systems. The workshop comprised four sessions led by experts in the field, covering topics ranging from satellite technology to embedded systems, culminating in a quiz and an open house session.

Session 1: Satellite Technology

In the first session, Mr. VV Ramana Reddy elucidated on various aspects of satellite technology. Key topics included:

- Types of satellites, including geostationary Earth Orbit (GEO) satellites, Medium earth Orbit (MEO) satellites and Low Earth Orbit (LEO) satellites.
- Applications of satellite technology in diverse fields.
- Spacecraft mechanical systems, covering structures, mechanical aspects, and thermal management.
- Spacecraft electronics, focusing on power systems, digital electronics, and communication systems.

Mr. Reddy's comprehensive presentation provided attendees with a foundational understanding of satellite technology and its intricate components.

Session 2: Control Systems

The second session, conducted by Mr. Natarajan, delved into control systems utilized in space missions. Highlights of the session included:

- Attitude and orbit control systems employed in spacecraft.
- Sensors utilized for Attitude Determination (AD) and control.

Mr. Natarajan's session elucidated the crucial role of control systems in ensuring the precise maneuvering and stability of spacecraft in various orbital conditions.

Session 3: Sensors in Spacecraft

In the third session, Mr. J. Srinivasa Rao shed light on the role of sensors in spacecraft operations. Key topics covered included:

- Earth sensor, star sensor, and sun sensor technologies.

Mr. Rao's presentation provided attendees with insights into the sophisticated sensor systems crucial for spacecraft navigation and orientation.

Session 4: Embedded Systems

The final session, led by Mr. Krishna Prasad, focused on embedded systems in space applications. Topics discussed included:

- Magnetometer and gyroscopic technologies.
- History of space computers and processors used in various space missions.
- Space radiation environment and its implications for embedded systems.
- Spacecraft communication bus and the criticality of embedded software, with reference to IEEE 12207 standards.

Mr. Prasad's session equipped participants with a deep understanding of the intricacies of embedded systems and their significance in space exploration endeavors.

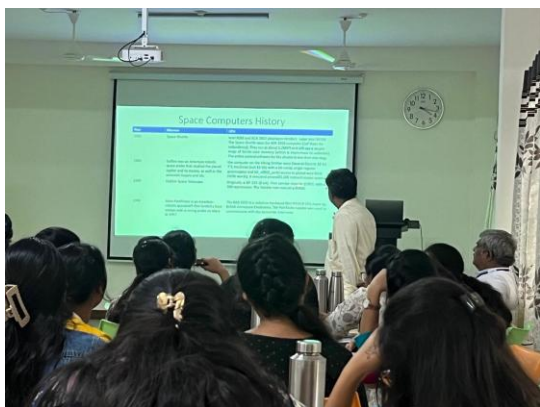
Quiz and Open House:

Following the sessions, the workshop concluded with an engaging quiz testing participants' understanding of the topics covered throughout the day. Additionally, an open house session provided attendees with the opportunity to interact with the speakers, ask questions, and engage in further discussions on space electronics and related fields.

Conclusion:

The Space Electronics Workshop organized by KR Aerospace Systems Private Limited provided an invaluable platform for students to enhance their knowledge and understanding of space electronics. Through insightful sessions conducted by industry experts, attendees gained profound insights into satellite technology, control systems, sensor technologies, and embedded systems critical for space missions. The quiz and open house sessions further facilitated active engagement and interaction, fostering a collaborative learning environment. The workshop's success underscores KR Aerospace Systems Private Limited's commitment to nurturing talent and fostering innovation in the field of aerospace electronics.

Photos:



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Faculty Co-ordinator

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Head of the Department