

Report on Seminar conducted on 28.10.2017

A one day seminar was organized by IEEE-RAS chapter of ASE and co-hosted by ISSE/LPSC(B) at our esteemed institution Amrita School of Engineering, Bangalore on 28.10.2017.



The seminar was inaugurated at 9.45AM which was followed by the keynote session. The keynote address was given by Chief guest Shri.S.Ramkrishnan. He is a distinguished professor and former director of VSSC. He gave a magnificent speech on the topic “Access to Space and Space Exploration: Impact over life on Earth – A Perspective”

Numerous cases of societal benefits linked to new knowledge and technology from space exploration were briefed. Space exploration has contributed to many diverse aspects of everyday life. Achieving the ambitious future exploration goals will further expand the economic relevance of space. It was explained that space exploration will continue to be an essential driver for opening up new domains in science and technology, triggering other sectors to partner with the space sector for joint research and development. This will return immediate benefits back to Earth in areas such as materials, power generation and energy.

Following this speech, there was a wonderful interactive session where the audience interacted with the speakers clarifying their doubts and asking interesting questions.



After the tea break, at 11.45 AM, Dr.MM Nayak, Emeritus Professor, CeNSE, IISc (Former Director, LVPO, ISRO HQ) brilliantly spoke on the topic “MEMS Sensors for Space Application”. It was emphasized that the satellite and spacecraft industry could experience its biggest revolution, thanks to microelectromechanical systems (MEMS) that could open the door to low-cost, high-reliability, mass-produced robust satellites and micro-propulsion engines. It is crucial to the development of the mobile platforms and sensor systems. The session was very useful and informative.

Next, there was an informative overview on the topic “System Engineering Aspects” by Shri.Ramakrishna Raman, Director, INCOSE. The audience was made aware that the application of system engineering in space systems requires tight integration with the spacecraft systems to ensure accurate operation. Detailed and specific system engineering can guide the spacecraft architecture.

Around 1 PM, Smt.T.K.Anuradha, Programme Director of GEOSAT, ISAC provided a splendid insight on the topic “Satellites and Spacecraft – An Overview”. The history and evolution of satellites, spacecrafts, their enormous utility, the role of NASA, ISRO were made known, the development of futurist spacecrafts, technologies used was detailed upon.



Post lunch, Smt.Nigar Shaji, Project Director at Aditya-L1, ISAC gave a deep insight on “Deep Space Missions”. Details regarding the physical exploration of space being conducted both by human spaceflights and by robotic spacecraft were shared. Advancing of the propulsion system NASA's Asteroid Redirect Mission that will test a number of new capabilities, like advanced Solar Electric Propulsion (SEP), needed for future astronaut expeditions into deep space, including to Mars and much other valuable information were shared.

Around 3.30 PM, Shri.R.Shashishekhar, GH-LPSC(B) provided a deep knowledge on the topic “Spacecraft Propulsion – Challenges and Solutions”. Space is, of course, infinitely more hostile to human life than the surface of the sea. Escaping Earth’s gravity entails a good deal more detailed and specific work. During more than 40 years of spaceflight, lots of problems have been faced and things have been changed. The challenges faced during spacecraft propulsion and solutions were discussed.

Shri.K.M.Shanbhogue, GH-LPSC (B) continued the discussion on the topic “Advanced Spacecraft Propulsion Systems”. The futuristic spacecraft propulsion systems like plasma-based propulsion system, using of MEMS, and advanced technology like VASIMR variable specific impulse magneto plasma rocket were explained.

The successful programme ended around 6 pm with Vote of Thanks by The President – ISSE, Bengaluru Chapter.

The seminar was very informative and provided the participants with enormous knowledge on various aspects of Space exploration, the recent advancements in space and related technology. They loved the event as a whole.