

Celebrating Sir Jagadish Chandra Bose

Sir Jagadish Chandra Bose, one of the fathers of Radio Physics, demonstrated in Calcutta, India, the generation, transmission and reception of electromagnetic waves at 60 GHz frequency over a distance of 23 meters through two intervening walls by ringing a bell and detonating gunpowder in 1895. He developed several components such as a spark-gap transmitter, coherer, horn antenna, dielectric lens, polarizer, and cylindrical diffraction grating. Some of his concepts and components, in a further refined form, continue to be used today in space communications. His work is considered to be at least 50 years ahead of his time. In fact, IEEE named Sir J.C Bose as one of the fathers of radio sciences.



IEEE celebrated the 160th anniversary of Sir Jagadish Chandra Bose on February 17, 2019 by reflecting on his life and works through eminent speakers compassionately projecting his work to 150 plus aspirant IEEE members and engineers on a Sunday morning in Bengaluru, INDIA. This workshop, which was inaugurated by Dr. S.N.Singh (Chair, IEEE India Council), showcased the innovations of Sir J C Bose and its relevance and contribution to the modern technology. While Prof. B S Sonde (ASM Technologies), Prof. D P Sengupta (NIAS) and Dr. Surendra Pal (DRDO) reflected on the life of Sir Jagadish Chandra Bose, Mr. C S Rao (Quadgen Wireless Solutions) and Dr. Yashwant Gupta (TIFR) presented the application of Sir J C Bose's work in unlicensed 5G band for communication networks and Radio Astronomy.





The highlight of the workshop was the demonstration of the working replica model of JC Bose's millimetre wave experiment by Dr. Dr. K.A.Shaik (MJCET) and Dr. S.I.Mohiuddin (MJCET) as well as demonstration of microwave apparatus by Mr. Sudhir Phakatkar (TIFR).



IEEE Foundation as part of the "Furthering Indian Perception of IEEE" project sponsored this workshop organized by the IEEE India Council, IEEE Bombay Section, IEEE Bangalore Section and supported by IEEE SPS Bombay Chapter and IEEE APS-MTTS Bangalore Joint Chapter. The workshop held at the landmark World Trade Center Auditorium in Bengaluru was sponsored by the World Trade Center, Bengaluru for this noble cause. The Organising committee for this event comprised of B. Satyanarayana, Harish Mysore, Munir Mohammed, Puneet Mishra and Sri Chandra.

Articles based on the presentations and demonstrations by the distinguished speakers will be brought out soon as a special section of the Newsletter.

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About His Inventions In Short

- Not patented but he is the inventor of Wireless Telegraphy.
- He fabricated a highly sensitive "coherer", the device that detects radio waves.
- Bose announced the development of a "iron-mercury-iron coherer with telephone detector" in a paper presented at the Royal Society, London.
- He had anticipated the existence of P-type and N-type semiconductors.
- On September 14, 2012, Bose's experimental work in millimeter-band radio was recognized as an IEEE Milestone in Electrical and Computer Engineering.