

Tata Institute of Fundamental Research

Homi Bhabha Road, Colaba, Mumbai, INDIA, 400005



Special ASET Colloquium

Topic: New Radio Networks and Emerging Trends: SDR, 5G and IoT

The term SDR (Software Defined Radio) was coined by Rohde in 1985; first official document disclosed in UK during Classified Session (USA Secret). This to achieve sufficient computational capacity, in particular for processing ultra-wideband high bit rate waveforms, within acceptable size and weight factors, within unit cost, and acceptable power consumption. SDR offers the flexibility between bandwidth and range, the ability to adapt to the environmental parameters and employ optimal wide-band pulse characteristics for channel equalization and robustness, and finally the capability to easily adapt to current communication infrastructures, such as personal computers. The UWB (Ultrawideband) technology implementation is optimized for applications such as detecting unknown signals, identifying interference, spectrum monitoring, spectrum clearance, and signal search over wide frequency ranges, producing signal content and direction finding of identified signals. This talk will show sophisticated digital signal processing implemented in all modern receivers utilizing 5G technology for the applications in IoT (internet of things) and also advantages of SDR processing for radio-monitoring will be explained.

Speaker: Prof. Dr.-Ing. Habil., Dr. h.c. mult. Ulrich L. Rohde, Partner, Rohde & Schwarz, Munich, Germany

Prof. Dr.-Ing. habil., Dr. h.c. mult. Ulrich L. Rohde is a Partner of Rohde & Schwarz, Munich, Germany, Chairman of Synergy Microwave Corp., Paterson, NJ-USA, President of Communications Consulting Corporation, FL-USA, serving as an honorary member of the Senate of the Armed Forces University Munich, and Honorary Member of the Senate of BTU Cottbus–Germany. He is serving as a Professor in several universities worldwide that includes two reputed Colleges in India (Hon. Prof. IIT-Delhi, Honorary Chair Prof. IIT-Jammu). He has published 400+ scientific papers, co-authored 15 technical books, over 4-dozen patents and received several awards. To name a few, recipient of 2019 IEEE CAS Industrial Pioneer Award, 2017 RCA Lifetime Achievement Award, 2017 IEEE-Cady Award, 2017 IEEE AP-S Distinguished Achievement Award, 2016 IEEE MTT-S Applications Award, 2015 IEEE-Rabi Award, 2015 IEEE Region-1 Award, and 2014 IEEE-Sawyer Award.



Date & Time: Monday, 30th September 2019, 4pm
Venue: Main Lecture Theatre (AG-66), TIFR, Mumbai

This talk is open to all, no registration needed. Please carry your photo ID card. For further details, please email to 'aset@tifr.res.in' or call +91-9987537702.