

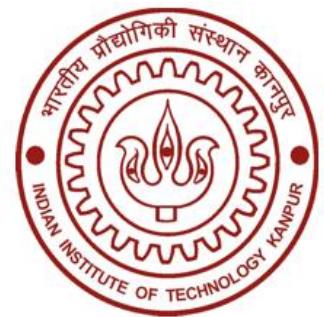
# Institute Diamond Jubilee Lecture



**Prof. Dr. Ing. Habil Ulrich L. Rohde**

*Chairman, Synergy Microwave Corp., NJ, USA*

*Partner, Rohde & Schwarz, Munich, NJ*



## New Radio Networks and

## Emerging Trends: SDR, 5G & IoT



**@ 11 am | Sunday, September 29**  
**Venue: Outreach Auditorium**

### About the talk

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.

### About the speaker

Prof. Dr.-Ing. habil. Dr. h.c. mult. Ulrich L. Rohde is the 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 the BTU Cottbus–Germany. Apart from scientific and industrial activities, he has been actively involved in teaching for more than 4 decades as a Professor in several universities worldwide. He has published 400+ scientific papers, co-authored of 15 technical books, and over 4-dozens patents; received several awards, to name a few: recipient of 2019 IEEE CAS Industrial Pioneer Award; 2017 RCA Life time achievement award, 2017 IEEE-Cady Award, 2017 IEEE AP-S Distinguish achievement award, 2016 IEEE MTT-S Applications Award, 2015 IEEE-Rabi Award, 2015 IEEE Region-1 Award, and 2014 IEEE-Sawyer Award.

**All are invited to attend**  
**Dean of Research and Development**