

ISC 2 Propagation issues for multigigabit communication at 60 GHz and beyond

Course Lecturer Prof. Thomas Kürner

Course Description

- Introduction to applications for wireless communication systems operating at 60 GHz and beyond including THz Communications
- Modelling and Measurements of basic propagation phenomena at mm and sub-mm-Wave frequencies (absorption, reflection, scattering, diffraction)
- Channel models for realistic application scenarios
- Influence of shadowing by human bodies

The short course should be of interest for scientists and engineers involved in channel modelling and /or system design of future indoor communication system operating at 60 GHz and beyond. The course is also suited for Ph. D. Students who intend to get started in this area.

Biography

Thomas Kürner (S'91-M'94-SM'01) received the Dipl.-Ing. degree in Electrical Engineering from Universität Karlsruhe (Germany) in 1990 and the Dr.-Ing. degree in 1993 from the same university. From 1990 to 1994 he was with the Institut für Höchstfrequenztechnik und Elektronik (IHE) at the University of Karlsruhe working on wave propagation modelling, radio channel characterization and radio network planning. From 1994 to 2003, he was with the radio network planning department at the headquarters of the GSM 1800 and UMTS operator E-Plus Mobilfunk GmbH & Co KG, Düsseldorf, where he was team manager radio network planning support being responsible for radio network planning tools, algorithms, processes and parameters. Since 2003, he has been a Professor for Mobile Radio Systems at the Institut für Nachrichtentechnik (IfN) at Technische Universität Braunschweig. His working areas are propagation, traffic and mobility models for automatic planning of mobile radio networks, planning of hybrid networks, car-to-car communications as well as indoor channel characterization for high-speed short-range systems including future terahertz communication systems and accuracy of satellite navigation systems. He has been engaged in several international bodies such as ITU-R SG 3, UMTS Forum Spectrum Aspects Group, COST 231/ 273/ 259, where he chaired the working group "Network Aspects", and COST 2100. He participated in the European projects IST-MOMENTUM on methods for "Automatic Planning of large-scale Radio Networks" and ICT-SOCRATES on "Self-Organisation in Wireless Networks". Currently, he is chairing IEEE802.15 IG THz. He has served as Vice-Chair Propagation at the European Conference on Antennas and Propagation (EuCAP) in 2007 and 2009 and at the Vehicular Technology Conference (VTC) Fall 2010. Since 2008 he is Associate Editor of IEEE Transactions on Vehicular Technology.