

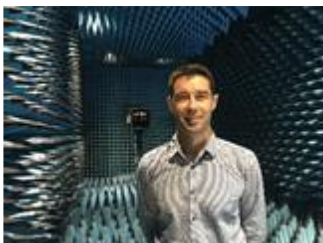
Advanced Millimeter-Wave Antenna Architectures with Beam-Shaping or Beam-Steering Capabilities

Talk by Prof. Ronan Sauleau, IETR (Institut d'Electronique et des Technologies du numéRique)

Friday, October 15th, 09:15 a.m. (Zoom link: please contact thomas.zwick@kit.edu)

Emerging mass-product applications like satellite on the move (SOTM) at Ka-band, high-resolution sub-THz integrated radars, xG radio links until D-band or beyond require wide diversity of antenna platforms with key challenges to be addressed like operation over wide frequency range(s), ability to steer individual and multiple antenna beam(s) over a wide field of view, very low profile high-gain highly-efficient antenna systems, just to name a few.

In this context, this talk will introduce a set of recent achievements on space-fed antenna systems (dielectric lenses at millimeter waves, transmitarrays) with emphasis on beam shaping or beam steering applications. We will also introduce advanced beam forming techniques based on quasi optical analog beamformers for ultra-low profile beam-steering high-gain antenna arrays.



Ronan Sauleau is full Professor at IETR (Institut d'Electronique et des Technologies du numéRique). His main research areas cover various types of millimeter-wave antenna systems (lenses, transmitarrays, metasurfaces, beam-steering arrays, beamformers, etc.). He has been involved in more than 70 research projects at the national and European levels and has co-supervised 27 post-doctoral fellows, 53 PhD students and 50 master students. He has received 17 patents and is the author or coauthor of more than 260 journal papers and 550 publications in international conferences and workshops. He is currently the head of IETR. He was elevated to Junior member of the "Institut Universitaire de France" in 2007. He was awarded the Bronze medal by CNRS in 2008, and the silver medal in 2020. He received the 2021 Antenna EurAAP Award. He was the co-recipient of several international conference awards with some of his students (Int. Sch. of BioEM 2005, BEMS'2006, MRRS'2008, E-MRS'2011, BEMS'2011, IMS'2012, Antem'2012, BioEM'2015, EuCAP'2019, EuCAP'2021). He has served as a national delegate for EurAAP and as a member of the board of Director of EurAAP from 2013 to 2018. He is a Fellow of IEEE.