

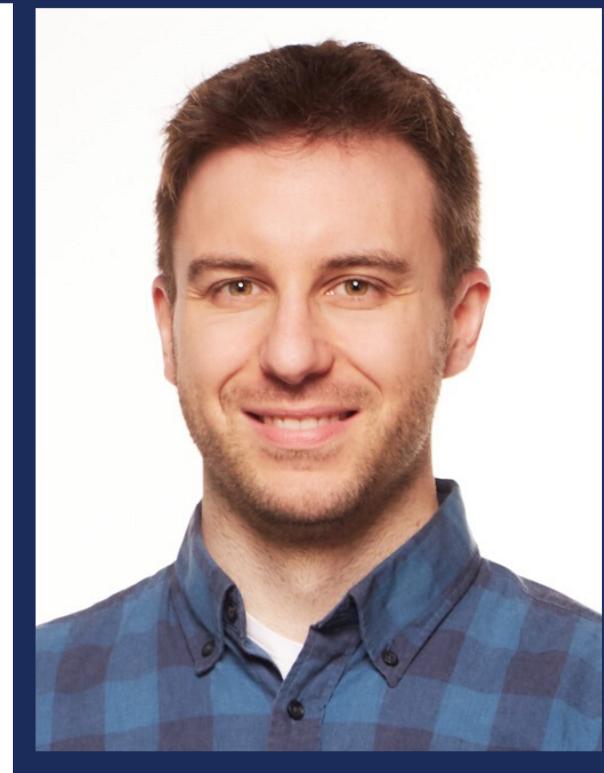
TSSG INTERNATIONAL GUEST WEBINAR

PRESENTS

DR. SERGI ABADAL

**"PROGRAMMABLE METASURFACES
FOR 6G WIRELESS
COMMUNICATIONS IN THE MMWAVE
AND TERAHERTZ BANDS"**

THURSDAY 18TH OF JUNE AT 2PM



Abstract

Programmable metasurfaces are envisaged to become the main enabler of Reconfigurable Intelligent Surfaces (RIS), a key technology in 6G wireless communications. Thanks to its powerful control over electromagnetic waves, cleverly placed programmable metasurfaces allow to modify the characteristics of the wireless channel in unprecedented and software-defined ways. This will be particularly critical as the use of mmWave and Terahertz bands becomes widespread, because of the multiple phenomena that impair propagation and limit the transmission distance in this part of the wireless spectrum. In this talk, we will first briefly revisit the fundamentals of metasurface design, to then summarize the main techniques and latest trends in programmable metasurfaces towards mmWave-Terahertz operation. We will finally discuss their applications, putting special emphasis on those related to wireless communications beyond 5G.

Speaker Bio

Sergi Abadal received the MSc in Telecommunication Engineering and PhD in Computer Architecture from the Universitat Politècnica de Catalunya (UPC), Barcelona, Spain, in 2011 and 2016, respectively. He has held visiting positions in Georgia Tech in 2009, University of Illinois Urbana-Champaign in 2015 and 2016, and the Foundation of Research and Technology – Hellas in 2018. Currently, he is coordinator of the WIPLASH FET-OPEN project and Area Editor of the Nano Communication Networks (Elsevier) Journal, where he was named Editor of the Year 2019. Abadal has served in the organization and TPC of more than 20 conferences and organized 6 special sessions/issues. He has also published over 70 articles in top-tier journals and conferences, thanks to which he was awarded with the Nano Communication Networks Young Researcher Award in 2019 and INTEL Doctoral Fellowship in 2013. His current research interests are in the areas of chip-scale wireless communications, including channel modeling and protocol design, the application of these techniques for the creation of next-generation wireless networks for on-chip or within metamaterials.

