

Scientific Workshop

Title: Wi-Fi Antenna Innovation for FTTR (Fiber-To-The-Room) Multi-Access Points F5G-A Scenarios

Abstract: Wi-Fi 8 is next generation of advanced Wi-Fi technology (IEEE802.11bn), aiming ultra-high reliable and ingenious connectivity. It is the characteristic technology for "last-10-meters" connection in 5th Generation of End-to-End fixed network (F5G-A). The centralized Fixed/Fiber & Wireless mechanism has been recently developed by FTTR (Fiber-To-The-Room) infrastructure, to enables multi-Access-Points coordination framework and boost indoor Wi-Fi gigabyte coverage.

Workshop intention is liaison with EU Antenna & Propagation society, to discuss FTTR opportunity and innovative antennas contributions, including but not limited to multi-band, beam/null switched and pattern/phase-reconfigurable antennas, over multiple Wi-Fi unlicensed spectrums of sub-7 GHz (IEEE802.11bn/UHR) and 40-to-70 GHz (IEEE802.11/IMMW SG).

Workshop outlines:

| Date: Wednesday 20th March | | | | |
|-------------------------------------|----------|--|--------------------------------------|----------------------------------|
| Start Time | Duration | Title | Presenter(s) | Institute |
| 08:30 | 08:45 | Giga Home Broadband FTTR, An Overview of Wi-Fi 8 Techniques, Spectrums, and Standardizations | Francis Keshmiri (Ph.D.) | Huawei Technologies, France |
| 08:45 | 09:15 | On Implementation of SEME-Paradigm in Indoor - New Trends for Wi-Fi Connectivity and UE Improvements | Andrea Massa (Ph.D., IEEE Fellow) | University of Trento, Italy |
| 09:15 | 09:45 | Wi-Fi Antenna with Reconfigurable Metasurfaces | Cristian Della Giovampaola (Ph.D.) | Wave Up, Italy |
| 09:45 | 10:15 | Multi-Antenna Systems for Future Wi-Fi Technologies | Fabien Ferrero (Ph.D.) | Université Côte d'Azur, France |
| Break from to 10:15 to 10:30 | | | | |
| 10:30 | 11:00 | Technology for Radiation Pattern Manipulation of Wi-Fi Antennas | Zhi Ning Chen (Ph.D., IEEE Fellow) | National University of Singapore |
| 11:00 | 11:30 | Surface-Wave Communication Platform for Indoor Wireless Networks | Enrica Martini (Ph.D., IEEE Senior) | University of Siena, Italy |
| 11:30 | 12:00 | Passive RIS to Improve Near-Field Coverage in mm-wave 5G and Wi-Fi Indoor Networks | Manuel Arrebola (Ph.D., IEEE Senior) | University of Oviedo, Spain |
| 12:00 | 12:15 | Pannel discussions | | |
| End at 12:15 | | | | |

Short CV of Speakers:

Francis (Farshad) Keshmiri (Ph.D.) Home Network Expert, Huawei Technologies France, leading EU FTTR research team, representative in IEEE802, ITU-T, and ETSI-F5G ISG standardizations.

Andrea Massa (Ph.D., IEEE Fellow) Prof. at Trento University, Italy, Director of network of federated laboratories, ELEDIA Research Center.

Cristian D. Giovampaola (Ph.D.) Senior Engineer with Wave Up s.r.l., Siena, Italy.

Zhi Ning Chen (Ph.D., IEEE Fellow) principal scientist and department head for RF & Optical at the Institute for Infocomm Research, professor appointments at Southeast University, Nanjing University, National University of Singapore, Nanyang Technological University, Singapore.

Manuel Arrebola (Ph.D., IEEE Senior) Associate Prof. Universidad de Oviedo, Gijón, Spain

Enrica Martini (Ph.D., IEEE Senior) Co-founder Wave Up s.r.l., Siena, Italy and Associated Professor University of Siena, Italy.

Fabien Ferrero (Ph. D.) Prof. of Université Côte d'Azur, Sophia Nice, France.