



Future Technology Workshop Sponsored by IEEE Future Networks Initiative and Ciena Corp

IEEE, the world's largest professional organization advancing technology for humanity, hosted a [Future Technology Workshop](#), focusing on the 5G era and beyond in the backdrop of Mobile World Congress on Thursday, February 28, 2019 at University of Politecnica De Catalunya, Barcelona.

The workshop, sponsored by the IEEE Future Networks Initiative and Ciena Corp, brought together researchers, scientists, technology experts, and stakeholders from industry, governments and academia to discuss Future Network technologies pertaining to 5G era systems, the opportunities and challenges that these pose for a broad spectrum of verticals, and infrastructure and ecosystem preparedness.

Key highlights of the day included keynote talk by Vish Nandlall, VP, Emerging Technologies, Dell/EMC, on confluence of connect, compute and store with sense and act, and a highly interactive keynote session from Dr Jason Hoffman, CEO MobilEdgeX on real life practicalities, challenges and opportunities for the Edge.

Chief Scientist of China Mobile, Dr. Chih-Lin I's passionate talk on confluence of 5G and AI fostered new thinking on the evolution of RAN from 'green and soft' to 'open and smart' and AI empowered RAN optimization. Dr. Sachin Katti, of Stanford University, highlighted the challenges associated with high volume autonomic device swarms in the imminent future, and ongoing research at Stanford Platform Lab on self-learning control and granular computing addressing such challenges. Intel's Rajesh Gadiyar focused his talk on the growth opportunities at the edge.

It was a highly dynamic workshop, with open dialogue on hype versus realities. For example, there was discussion regarding skepticism around the ultra-reliable low latency communications promise of 5G, sparked by Dr. Mehdi Bennis's talk on Federated AI, and 6G anticipatory research at University of Oulu was well contested by Dr Frank H. P. Fitzek, TU Dresden, who also gave a talk on 5G Edge and Tactile Internet.

Barcelonan research initiatives were well represented by talks from Dr. Raul Muñoz, CTTC, Barcelona and Dr. Pere Gilabert, UPC on 5G optics, software defined networking and connected cars.

Any research is as good as the practical implementations it affords, hence real world pre-operational testbeds were the hot topics of the day. Testbeds featured at this workshop included RINA introduced by Dr. Eduard Grasa of i2CAT, 5GCity and 5GBarcelona introduced by Dr. Shuaib Siddiqui of i2CAT, Canadian 5G-PPP, ENCQOR introduced by Benoit Pelletier of Ciena, and DARPA Spectrum Collaboration Challenge introduced by Dr. John Chapin of Barone Consulting.

The workshop concluded with short introduction to the IEEE Future Networks Initiative (FNI) and closing comments from IEEE FNI leadership Dr Ashutosh Dutta of JHU-APL and Kaniz Mahdi of Ciena, who expressed thanks to our host, Luis Velasco at the UPC for great success of the day.