



## Talk information

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**Title of the talk:** Edge Computing Network Automation – Insight Towards Full Decentralization

**Abstract of the talk:** The emerging 6G applications (e.g., artificial intelligence, ultra-dense devices, etc.) will bring huge challenges to current computing networks, with boosting demands (e.g., ChatGPT needs 10Tbps computation power/query, costing \$100,000/day). Edge computing has supported the increasing computation demands in 5G with distributed computation power, which will be further proliferated with multiple edge computing providers towards hyperscale in 6G. Edge computing resource optimization prevents overloading and resource waste simultaneously, where edge computing peer offloading, emerged in 5G by enabling the inter-edge cooperation, potentially achieves higher scalability, resilience, and lower latency. This talk will introduce an insight into a novel full-decentralized federated edge computing network peer offloading towards 6G. Compared with current SoA solutions, full-decentralized edge computing peer offloading achieves global-optimal on-demand cross-layer load balancing, with ultralow latency, high energy efficiency, and confidential data protection for edge computing providers, which breaks the conventional centralized business model towards 6G multi-provider edge computing networks.

**Biography of the speaker:** Haoran Chi has been working as a researcher in the Instituto de Telecomunicações and Universidade de Aveiro, Portugal since 2019. He obtained his Ph.D. from the City University of Hong Kong in 2018, and worked as a research scholar at the North Carolina State University in 2018. Dr. Chi has published more than 70 technical papers in high IF journals and well-acknowledged conferences. He is the Associate Editor for *IEEE Transaction on Industrial Informatics*, *IEEE Transaction on Consumer Electronics*, the Guest Editor for *Journal of Sensor and Actuator Networks*, *IEEE Journal of Biomedical and Health Informatics* and Editorial Board Member of *Sensors*, *Current Chinese Science*. He is the Vice Chair of IEEE Standards of P1451.5.5 and P1451.5.6 Working Group, and Section Chair (Automated Network Management for IIoT) of IEEE IES Technical Committee on Building Automation, Control, and Management. Besides, he has experience organizing multiple international conferences such as IEEE ICC, IEEE IECON, IEEE ISPCE, IoTSuG HK, etc. Dr. Chi's research interests include 5G (and beyond), cloud/fog computing, IoT, eHealth and machine learning.