2025년도 한국통신학회 동계종합학술발표회 특별프로그램

해외 석학 초청강연

일시 2025년 2월 5일(수) 13:00~14:20, 2025년 2월 6일(목) 08:30~09:40

장소 용평리조트 타워콘도 1층 크리스탈

프로그램

시간	발표주제	발표자(소속)
2025년 2월 5일(수)		
13:00~14:20	6G Communication: Unlocking the Future of Networked Robotics	Prof. Frank Fitzek (TU Dresden, Germany)
2025년 2월 6일(목)		
08:30~09:40	Open 6G: Orchestration, Automation, Conflict Management, and Explainability in nextG Wireless Systems	Prof. Tommaso Melodia (Northeastern University, USA)

강연 소개

6G Communication: Unlocking the Future of Networked Robotics

Prof. Frank Fitzek

TU Dresden, Germany, IEEE Fellow

Frank H. P. Fitzek is Professor and Chair of the "Deutsche Telekom Chair of Communication Networks" at TU Dresden. A pioneer in telecommunications, he serves as spokesperson for the DFG Cluster of Excellence CeTI and the 6G-life hub. Fitzek earned his Ph.D. in Electrical Engineering from TU Berlin and has held professorial roles in Italy, Denmark, and Germany. An entrepreneur and researcher, he has co-founded over ten startups and contributed to cutting-edge fields like 5G/6G networks, network coding, and immersive human-machine interaction. His accolades include the YRP Award, Danish Young Elite Researcher Award, NOKIA Champion Award, and an honorary doctorate from BUTE.

The advent of 6G communication marks a transformative era for human-robotic collaboration. This talk delves into the pivotal role of 6G in addressing the growing demand for networked robotics across industries such as manufacturing, mobility, defense, and crafts. Current communication paradigms fall short of meeting the stringent requirements for capacity, latency, and trustworthiness demanded by these applications. Innovative concepts like post-Shannon theory promise to overcome these limitations. The presentation will also explore fundamental boundaries in 6G as dictated by Shannon, Landauer, Turing, and Einstein, highlighting the path forward to a truly interconnected and intelligent future.

Open 6G: Orchestration, Automation, Conflict Management, and Explainability in nextG Wireless Systems

Prof. Tommaso Melodia

Northeastern University, USA, IEEE Fellow

Tommaso Melodia is the William Lincoln Smith Professor with the Department of Electrical and Computer Engineering at Northeastern University in Boston. He is also the Founding Director of the Institute for the Wireless Internet of Things and the Director of Research for the PAWR Project Office. He received his Laurea (integrated BS and MS) from the University of Rome – La Sapienza and his Ph.D. in Electrical and Computer Engineering from the Georgia Institute of Technology in 2007. He is an IEEE Fellow, an ACM Distinguished Member, and a recipient of the National Science Foundation CAREER award. He received several best paper awards, including at IEEE Infocom 2022. Prof. Melodia is the Editor in Chief for Computer Networks and a co-founder of the 6G Symposium, and served as the Technical Program Committee Chair for IEEE Infocom, and General Chair for ACM MobiHoc, among others. Prof. Melodia's research on modeling, optimization, and experimental evaluation of wireless networked systems has been funded by many US government and industry entities.

This talk will present an overview of recent work in the Open6G center laying the basic architectural and algorithmic principles for new approaches to designing open, programmable, AI-powered, and virtualized next-generation cellular networks. We will discuss a forward-looking agenda aimed at developing programmable testbeds enabling 6G research in networked intelligence. We will then cover research challenges and recent progress in architectural design, intelligence orchestration, conflict avoidance, and explainability.