

Defining 6G: Theory, Applications, and Enabling Technologies

August 29 - September 1, 2022, Linköping, Sweden

TECHNICAL DESCRIPTION:

With 5G being a reality, what will 6G be? Extensive discussions are taking place around possible paradigm shifts and new technologies for 6G. This summer school will provide a comprehensive overview of fundamental theory, emerging applications, and potential enabling technologies for 6G. The summer school consists of both application-domain talks with a high-level overview of key elements and practical aspects of 6G systems, and in-depth technical lectures focusing on foundational aspects of emerging research directions.

The lectures will cover key components of 6G research trends, including the intersection between Artificial Intelligence (AI) and wireless communications, cyber-physical systems, semantic communications, Internet of Things (IoT) and massive access, integrated space-air-ground systems, millimeter wave and Terahertz communications, integrated sensing and communication, and security and trustworthiness of 6G systems.



ORGANIZING COMMITTEE:

- **General Co-Chairs:**
Erik G. Larsson, Linköping University, Sweden
Petar Popovski, Aalborg University, Denmark
- **Technical Program Chair:**
Zheng Chen, Linköping University, Sweden
- **Keynote Chair:**
Nikolaos Pappas, Linköping University, Sweden
- **Industry Chair:**
Matti Latva-Aho, University of Oulu, Finland

TOPICS COVERED:

- Integrated space-air-ground systems
- IoT connectivity, massive access and URLLC
- Machine learning for communications
- Industrial control and automation
- 5G PHY in retrospect, massive MIMO, D-MIMO and RIS in the 6G context
- Goal-oriented and semantic communications
- Internet-of-things and cyber-physical systems
- Distributed intelligence over wireless networks
- mmWave and Terahertz communications
- Positioning, sensing and communications
- Security and trustworthiness
- Implementational aspects of 6G transceivers

SPEAKERS:

- **Ana Isabel Pérez-Neira**, UPC, Spain
- **Petar Popovski**, Aalborg University, Denmark
- **Osvaldo Simeone**, King's College London, UK
- **Karl H. Johansson**, KTH, Sweden
- **Erik G. Larsson**, Linköping University, Sweden
- **Nikolaos Pappas**, Linköping University, Sweden
- **Liesbet Van der Perre**, KU Leuven, Belgium
- **Zheng Chen**, Linköping University, Sweden
- **Fredrik Tufvesson**, Lund University, Sweden
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REGISTRATION:

Please visit the summer school website: 6g-school.com