Introduction of Student life

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Date: 2024.6.7
Self-Introduction

• 2015.6 – 2019.9, bachelor degree in **Physics**, China

• 2020.4 – 2022.3, master degree in **Applied Physics**, Japan

• 2022.10 ~ present, 5-year Ph.D. program in **Informatics**, Japan
Current Research Topic

• Key Performance Indicators (KPIs) for beyond 5G and 6G:
  - Extreme data rate
  - Extreme low latency
  - Massive connectivity
  - Ultra energy efficiency

• Higher frequency resource:

  Terahertz waves:
  - 0.1 – 10 THz
  - 1Tbps = 50 x 20Gbps!
  - 30GHz = 75 x 400MHz!

Achieve energy-efficient massive multi-user THz wireless communications

Our Laboratory  
Kaneko Lab.

• Overview of Research Activities:

1. Cloud and Edge AI-enabled Wireless Networks
   - Radio resource allocation
   - Wireless Access Optimization

2. Wireless access methods for energy-efficient IoT systems
   - Low Power Wide Area Networks, LoRa-IoT systems
   - IoT short-packet communications

3. Exploiting TeraHertz (THz) waves for massive high data rate access
   - Reconfigurable Intelligent Surfaces (RIS)
   - Massive Beamforming (BF)

Lab members: 1 professor, 1 post-docs, 3 Ph.D. students, 1 Interns, (6 Interns last year)
Sokendai Lectures

• **Scientific Presentation (1)**
  To improve skills in orally presenting one’s research in English, and writing research paper in English.

• **Information and Communication Systems (2)**
  To understand the various aspects of information and communication systems, and study advanced topics in wired and wireless networks.

• **Control Theory and Optimization (2)**
  To learn the basics of control theory and optimization.

• **Data mining (2)**
  To understand and implement basic data mining algorithms.
Daily Schedule

• Not busy days:

• Busy days:
Experience Abroad

First presentation at the international top conference IEEE Globecom:
How to Recharge?
Message to Students

• Choose the field you really like

• Keep communicating with your supervisor

• Don’t be afraid to ask questions and express different ideas

• Stay in touch with family regularly

• Learn Japanese (for foreigner)!