IEICE General Conference 2022 Symposium

A: Engineering Sciences Society   <mark>Click here to see ditails.</mark>

    ADS-1. Recent Trend of Embedded Fine-Grained Reconfigurable Logics

B: Communications Society   <mark>Click here to see ditails.</mark>

    BS-1. Latest developments of next-generation antenna measurement technologies for post 5G wireless communication system

    BS-2. Antennas and propagation technologies for evolving IoT systems

    BS-3. Enabling Technologies for Network Systems and Services during the 5G/Beyond 5G Era (English Session)

    BS-4. Special Poster Session ~ Network Technology ~

    BS-5. Energy System Design Technology to Support New Lifestyles

    BS-6. Poster Session for Young Researchers - Internet Architecture

    BS-7. Underwater Wireless Technologies

C: Electronics Society   <mark>Click here to see ditails.</mark>

    CS-1. Recent progress in simulation techniques for power electronics and its application

D: Information and Systems Society   <mark>Click here to see ditails.</mark>

    DS-1. COMP Student Symposium

    ADS-1. Recent Trend of Embedded Fine-Grained Reconfigurable Logics

A: Engineering Sciences Society

ADS-1. Recent Trend of Embedded Fine-Grained Reconfigurable Logics

Along with the recent rapid advance of FPGA chips as AI accelerators, embedded fine-grained reconfigurable logic which is used as IPs in various chips has received attention. This session introduces commercial embedded FPGAs as well as research-level IPs. We especially focus on the difference between commercial FPGA chips, performance/cost, how to use as an IP, development environment, and design tools for the logic on the IP.

B: Communications Society

BS-1. Latest developments of next-generation antenna measurement technologies for post 5G wireless communication system

The service of the 5th generation (5G) wireless communication system as infrastructure for communication are currently being promoted in various countries. Additionally, the 6th generation wireless communication system (6G, Post 5G, Beyond 5G) with enhanced functions such as ultra-low latency and massive number of connections is studied, and it is expected to be used in various industrial applications in the future. Therefore, the antenna measurement/evaluation technology in the frequency band corresponding to post 5G and 6G is becoming more important. In this session, we will focus on the antenna measurement/evaluation for post 5G and 6G. Further, we also widely invite presentations of researchers who engage in Over The Air (OTA) measurement and the antenna measurement/evaluation in frequency bands other than 5G and 6G.

BS-2. Antennas and propagation technologies for evolving IoT systems

IoT is one of the important factors along with AI and big data in the situation where DX (digital transformation) is being promoted with changes in people's lives and society. The basic mechanism of IoT is to comprehend the state and movement of things in remote locations and communicate the obtained information. It is expected to be used in many fields such as telemedicine, logistics traceability, agricultural sensors, autonomous driving, and wearables, and wireless communication technologies play a major role in IoT. This symposium focuses on antennas and propagation technologies supporting IoT systems. We call for papers about various antenna design/analysis technologies, multi-antenna technologies, antenna system technologies, antenna measurement technologies, position estimation technologies, propagation technologies, etc., and discuss the latest technical issues.

BS-3. Enabling Technologies for Network Systems and Services during the 5G/Beyond 5G Era (English Session)

Wireless communications and computing systems have become an indispensable infrastructure for the modern society. The extensive efforts from both academia and industry during the past decades facilitate the commercialization of fifth generation (5G) wireless networks, featuring in very large capacity, ultra-low latency, ultra-high reliability and massive connectivity. It is time to innovate and position the enabling technologies for network systems and service during the 5G/Beyond 5G era. Thus, this symposium aims at providing a chance to demonstrate, discuss and share the state-of-the-art research efforts on the enabling technologies for network systems and services during the 5G/Beyond 5G era. Target topics include, but are not limited to: AI technologies for network and services, mobile and wireless communications, ubiquitous system and communications for applications with/post Covid19, network security, and network applications.

BS-4. Special Poster Session ~ Network Technology ~

This session handles themes on Network Technology. The presentation style is a poster session so that people in the room including speakers could hold an active and fruitful discussion anytime during the session and could have feedback or tips for his or her own study. As the session aims to have a discussion about research topics in progress, 1 written paper would be sufficient.

BS-5. Energy System Design Technology to Support New Lifestyles

The spread of Covid-19 infection has led to the spread of new non-contact lifestyles, and recent society demands a stable power supply to maintain communication infrastructure such as cloud computing and 5G communication. To achieve these goals, it is necessary to optimize the performance of power transport systems by integrating technologies that make power converters highly efficient and functional with the design of systems that combine power converters. Therefore, the theme of this symposium is to discuss "power converter design technology" that realizes miniaturization, high frequency and low noise, and "system design technology" that utilizes optimization design and simulation verification.

BS-6. Poster Session for Young Researchers - Internet Architecture

Since 2016, the technical committee on internet architecture (TCIA) regularly provides a poster session for young researchers in General Conference in each year. Young researchers including

students are encouraged to submit one or two page manuscripts for the poster session. The poster presenters must bring their posters to the session. English or Japanese language is allowed to use in the manuscript and poster. TCIA will select excellent poster awards.

BS-7. Underwater Wireless Technologies

Underwater wireless technologies using acoustic waves, optical waves, and RF waves gains attentions from both industry and academic researchers towards opening up new application fields. We invite submissions on a wide range of research topics related to underwater wireless technologies

C: Electronics Society

CS-1. Recent progress in simulation techniques for power electronics and its application

In order to efficiently develop electronics products, it is essential to conduct preliminary studies using computer simulations. In addition to dealing with individual elements, simulations of entire systems are now widely carried out. Furthermore, these simulation techniques are widely used not only in the field of electronics, but also in the field of power electronics, which deals with relatively high power. The objective of this symposium is to deepen knowledge of the latest trends in these simulation technologies for power electronics and their applications through lectures on the handling of individual elements and whole system simulation techniques.

D: Information and Systems Society

DS-1. COMP Student Symposium

In the field of theoretical computer science, wide spread view over various topics is necessary for outstanding researches, and only those with such view can develop the research frontier. Therefore, academic exchange among students with different research themes is effective for supporting the growth of high-level researchers. The purpose of this symposium is to provide opportunities for their research communication. The presenters are required to be students, while the other coauthors may be regular members.

ADS-1. Recent Trend of Embedded Fine-Grained Reconfigurable Logics

Along with the recent rapid advance of FPGA chips as AI accelerators, embedded fine-grained reconfigurable logic which is used as IPs in various chips has received attention. This session introduces commercial embedded FPGAs as well as research-level IPs. We especially focus on the difference between commercial FPGA chips, performance/cost, how to use as an IP, development environment, and design tools for the logic on the IP.