

## Commission D (Electronics and Photonics) Activity Report

September 2020 - July 2021

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**1. International Activities related to areas covered by Commission D**

**Session Proposal to URSI GASS2021:** will be held on Aug. 28<sup>th</sup> – Sep. 4<sup>th</sup>, 2021 in Rome and online hybrid. 5 members contributed to organizing the conference. Dr. Masayuki Suzuki is a convener of session D01 “Photonic Signal Processing, Real-time Instruments and Biomedical Imaging” and gather 6 papers. Prof. Naoki Shinohara is a convener of session D3 “Far-Field Wireless Power Transfer and Energy Harvesting” and gather 16 papers. Prof. Tadao Nagatsuma is a convener of session D08 “Integrated Terahertz Electronic and Photonic Devices and Systems” and gather 9 papers. Dr. Atsushi Kanno and Dr. Kosuke Nishimura are conveners of session D09 “Microwave and photonic subsystems for Beyond 5G/6G communications” and gather 7 papers. Prof. Shinohara, as a vice chair of international commission D, serve to choose Young Scientist Panel and Student Paper Competition from Commission D in GASS2021.

**Other activities:** 2020 International Topical Meeting on Microwave Photonics (MWP) was held virtually on Nov. 24<sup>th</sup> -26<sup>th</sup>, 2020. Some of Commission D members served as Technical Program Committee and the other committees. Dr. Atsushi Kanno had a keynote talk entitled “Radio and Optical Integration Toward Society 5.0 and 6G,” in 13<sup>th</sup> International Conference on Advanced Technologies for Communications, held in Nha Trang, Vietnam and online on Oct. 8<sup>th</sup> – 10<sup>th</sup>, 2020.

**2. Domestic Activities related to areas covered by Commission D**

**Domestic Commission D meeting: The first Commission D meeting of 25<sup>th</sup> URSI domestic subcommittee:** was held on May 13<sup>th</sup>, 2021 online. We shared current international/domestic activities of URSI and discussed future activities.

**Technical Committees on Microwave Photonics (IEICE):**

The following technical meetings were held; On Oct. 21<sup>st</sup>, 2020, online, with 3 invited talks and 1 regular talk. On Jan. 21<sup>st</sup> – 22<sup>nd</sup>, 2021, online, with 5 invited talks and 13 regular talks, co-organized with Technical Committee on Photonic Network, Technical Committee on Electromagnetic Theory, IEE-J Technical Committee on Electromagnetic Theory, and IEEE Photonics Society Kansai Chapter. On May 26<sup>th</sup>, 2021, online, with 3 invited talks and 5 regular talks. On July 15<sup>th</sup> – 16<sup>th</sup>, 2021, online with 1 invited talk and 11 regular talks, co-organized with Technical Committee on Optoelectronics,

Technical Committee on Microwaves, Technical Committee on Electronics Simulation Technology, Technical Committee on Electromagnetic Theory, and Tech. Group on Terahertz Application System.

**2020 IEICE Society Conference online:** was held on Sep. 15-18, 2020, online. Microwave and mm-wave photonics session (C-14) was held and 10 regular talks were presented.

**2021 IEICE General Conference online:** was held on Mar. 9-12, 2021, online. Microwave and mm-wave photonics session (C-14) was held and 21 regular talks were presented. Technical Committees on Microwave Photonics organized special sessions, CI-6 “Frontier of terahertz research for Beyond 5G” with 7 papers, co-organized with Tech. group on terahertz application system, and CI-7 “Challenges of high-frequency sensing and optical transmission technology for new IoT era” with 7 papers, co-organized with Tech. Group on Terahertz Application System.