

Commission D (Electronics and Photonics) Activity Report

December 2014-March 2015

March 31, 2015

Katsutoshi Tsukamoto

1. Commission Activities

Establishment of 23rd Commission D Japanese Members, October, 2014. 17 member were chosen, who can cover the following vital areas; Advanced electronic devices, Advanced photonic devices, New devices operating at frequencies between electronics and photonics, THz frequencies Integration of electronic and photonic devices and subsystems, Advanced wireless systems including BAN, NFC, LAN, and short range communications, Advanced fiber-optic systems including optical interconnections and networks, Convergence of wired and wireless network systems, and Microwave Photonics. Academic areas and/or societies most related to Commission D are “Microwave Photonics devices and systems”, “Terahertz Science & Technologies”, “Emerging Communications and Sensor Systems”, etc. Start-up and planning committee meeting of Commission D (for 23-rd term of the Science Council of Japan): March 2015, Ritsumeikan University.

2. Domestic activities related to areas covered by Commission D

Microwave Photonics Symposium (IEICE) was held on December 5, 2014 at Waseda University. Prof. Iwatsuki, Prof. Kado, and Prof. Yoshimoto, Commission D members contributed in its organization and presentations. In the symposium, 6 invited presentations were provided on specific subjects; Advanced multi-core processors, Green innovation, New generation power electronics and systems, Smart Grid and EMS, 5G mobile, Wired and wireless converged access networks and Advanced optical coherent technologies.

IEICE General Conference 2015: the session of Microwave Photonics (C-14) was held at the IEICE general conference, March 10-13, 2015 (Shiga); 24 papers were presented, which covered signal generation, electronic and photonic devices for microwave photonics applications, system applications including radio-over-fiber links, radars, imaging and wireless communications.

3. International activities related to areas covered by Commission D

SPIE 2015 Photonics West: The conference was held on February 7-12, 2015 at Moscone Center, San Francisco. At the session of Conference 9387 “Broadband Access Communication Technologies IX”, following notable papers were presented; Multidimensional multiplexing technologies for advanced optical networks, Optical wireless and advanced fiber technologies for data center and access networks, Millimeter-wave technologies and its radio-over-fiber systems, Advanced optical access technologies, Novel visible light communications systems, and Optical wireless and applications systems. Commission D members, Prof. Iwatsuki and Prof. Tsukamoto were organized a special session on “Resilient and Green Wireless Access Networks for Future Mobile”, in which Next-generation resilient access networks, resilient wireless communication systems, and unmanned aircraft system were discussed.