

Commission D (Electronics and Photonics) Activity Report

March 2013-June 2013

July 16, 2013

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1. Commission Activities

- **Sessions by Commission D at AP-RASC 2013, where conveners are contributed from Japan.**

D1: Space Photonics

Ren Liu, Kazuo Hotate

DC: Radio-over-fiber Systems and Technologies

Hai-Han Lu, Toshiaki Kuri

DJ1: Microwave Integrated Circuits

Tian-Wei Huang, Shigeo Kawasaki

DJ2: Terahertz-wave Technologies

Ci-Ling Pan, Tadao Nagatsuma

- **Sessions for URSI-GASS 2014**

Two sessions proposed by Commission D of Japan have finally been approved;

- 1) Broadband Ubiquitous Network with Wired and Wireless convergence (Katsumi Iwatsuki, Yuichi Kado, Katsutoshi Tsukamoto) scheduled on August 19, 2014.
- 2) Trends in THz Communications (Tadao Nagatsuma, Ci-Ling Pan, Thomas Kuerner) scheduled on August 22, 2014.

In addition to the above THz-related session, Chair of Commission C asked us to jointly organize a session on “Ultra-high bit rate radio communications (TeraHertz and 60 GHz)”, and not only we agreed to the proposal, but also we decided to jointly organize the above session 2) by inviting the fourth convener from Commission C.

- **URSI-D Electronics & Photonics Workshop**

Planning has started to hold a domestic workshop organized by Commission D. One of the new trials and/or challenges in this workshop will be e-conference-style together with a main venue of Osaka University (tentative).

2. Domestic activities related to areas covered by Commission D

Technical Committee on Microwave Photonics (IEICE):

Following technical meeting was held on specific subjects including regular contributions:

April 26, 2013 (Tokyo); Wireless network systems (M2M, cloud, cognitive, etc.)

Technical Committee on Terahertz Applications Systems (IEICE):

Following technical meeting was held on specific subjects:

May 9, 2013 (Atsugi); Emerging technologies and applications using undeveloped electro-magnetic waves, including photonic crystals, graphene, etc. This meeting was jointly held with Technical Committee on Electronics Simulation.

3. International activities related to areas covered by Commission D

International Workshop on Optical Terahertz Science and Technology 2013 (OTST2013):

The conference was held from 1-5 April 2013 consisting of 4 days technical sessions in Kyoto, Japan. Papers cover topics on terahertz sources, detectors, and applications for measurement, imaging, spectroscopy, and communications.

Asia-Pacific Microwave Photonics Conference 2013 (APMP2013):

The conference was held from 22-14 April in Gwangju, Korea. Main topics were microwave photonic devices, THz devices and their applications such as radio-over-fiber systems, terahertz communications/sensing systems, microwave photonic signal processing, etc.

International Microwave Symposium 2013 (IMS 2013) :

The conference was held on 2-7 June in Seattle. This year, number of papers on terahertz-related field has exceeded that of 60-GHz millimeter waves. In particular, two full day workshops were organized; “Signal Generation, Amplification and Detection at THz Frequencies”, and “Technologies for THz Integrated Systems”, where Si-CMOS based THz technologies have started to become a main stream.