

Commission D (Electronics and Photonics) Activity Report

July 2013-November 2013

November 26, 2013

Tadao Nagatsuma

1. Commission Activities

- **AP-RASC 2013:** Two Japanese committee members of Commission D (T. Nagatsuma and M. Fujita) attended AP-RASC 2013 held on September 1-5 in Taiwan to attend and/or preside the sessions; D1: Space Photonics, DC: Radio-over-fiber Systems and Technologies, DJ1: Microwave Integrated Circuits, DJ2: Terahertz-wave Technologies.
- **ICTRS 2013:** T. Nagatsuma attended the ICTRS 2013(organized by URSI Bulgaria) held on July 11-12 in Noordwijkerhout, Netherland to give a talk on the topic covered by Commission D; Photonic generation of terahertz waves for communications and sensing.
- **Plan of domestic workshop:** Preparations are on-going for the first e-conference type workshop organized by Commission D.

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:
July 18-19, 2013 (Wakkanai); Light and Radio wave workshop (Radio-over-fiber link and systems, etc.)

Technical Committee on Terahertz Applications Systems (IEICE):

Following technical meeting was held on subjects related to THz devices and applications:
August 6, 2013 (Sapporo); Invites talks were on THz photo-mixers, meta-material antennas, and THz detection and imaging using Graphene devices.

IEICE Society Conference:

Following technical meeting was held in the session of Microwave Photonics (C-14) at the IEICE society conference:

September 17, 2013 (Fukuoka); 18 papers were presented, which cover 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

International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz 2013):

The conference was held on September 1-6 in Mainz on the Rhine, Germany. There were ten plenary talks, 58 oral sessions and three poster sessions. Main topics of regular sessions were terahertz sources, detectors, other related materials/components, applications including spectroscopy, imaging, communications, etc. Next year's venue of this conference is Tucson, USA.

International Topical Meeting on Microwave Photonics 2013 (MWP 2013):

The conference was held on October 28-31 in Alexandria, Virginia, USA. This conference consists of a single session with a relatively small number of attendees, about 150, this year. The workshop on the first day focused on the integration technology of microwave photonics (MWP) systems, which is a key to expand a marketplace of MWP technologies. The main topics of this conference were photonic generation and control of microwaves, enabling devices such as lasers, detectors and modulators, system applications such as radio-over-fiber, fiber-optic/wireless convergence, beam-forming phased array, measurement, etc. Next year's venue of this conference is Sapporo, Japan.

Asia Pacific Microwave Conference (APMC 2013):

The conference was held on November 5-8 in Seoul, Korea. This is the largest conference related to microwave technologies held in Asia-Pacific regions. Representative technical sessions were on advanced meta-materials, microwave imaging and remote sensing, RF transceivers, transitions and packaging, broadband antenna and arrays, millimeter-wave circuits and systems, millimeter-wave and sub-millimeter-wave integrated circuits, biomedical applications, wireless power transfer and applications, sub-millimeter and THz technologies, EM analysis, future communications, etc. Next year's venue of this conference is Sendai, Japan.

Asia Communications and Photonics Conference (ACP 2013):

The conference was held on November 12-15 in Beijing, China. This is the premier conference in the Asia-Pacific region on photonics and relevant technologies including photonic materials and devices, communication and network technologies, sensing technologies, bio-photonics technologies, illumination technologies, photovoltaic technologies and other photonic technologies regarding energy issues. On November 12, a workshop on microwave photonics was held with 13 invited papers covering devices, sub-systems and applications.

Others

The other related conferences are IEEE Photonics Conference (IPC 2013) held on September 8-12, Bellevue, US, European Conference and Exhibition on Optical Communication (ECOC 2013) held on September 22-26 in London, UK, and European Microwave Week (EuMW 2013) held on October 6-11 in Nürnberg, Germany.