

Commission D (Electronics and Photonics) Activity Report

October 2011-October 2012

October 31, 2012

Tadao Nagatsuma

1. Commission Activities

- Wrap-up Meeting of Commission D (for 21-st term of the Science Council of Japan):
September 30, 2011, Osaka University

- Establishment of 22-nd Commission D Japanese Members
February, 2012

15 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, i.e., 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

Academic areas and/or societies most related to Commission D are “Microwave Photonics”, “Terahertz Science & Technologies”, “Emerging Communications and Sensor Systems”, etc.

Tadao Nagatsuma	Osaka University (Chair)	Microwave/THz photonics
Masayuki Fujita	Osaka University (Secretary)	Nano-photonic devices
Masayuki Izutsu	Tokyo Institute of Technology	Photonic devices
Hiroshi Ito	Kitasato University	Electronic/photonic devices
Katsumi Iwatsuki	Tohoku University	Fiber-optic network systems
Taiichi Otsuji	Tohoku University	Nano-electronics/THz photonics
Kenichi Kasahara	Ritsumeikan University	Photonic devices/integration
Yuichi Kado	Kyoto Institute of Technology	Wireless systems/ LSI systems
Junichi Kani	NTT	Access network systems
Kodo Kawase	Nagoya University	THz photonics/systems
Satoshi Kohjiro	AIST	Superconductors/nano-electronics
Eiichi Sano	Hokkaido University	Electronic devices/ICs
Katsutoshi Tsukamoto	Osaka Institute of Technology	Wireless/optical system integration
Hiroyuki Toda	Doshisha University	Fiber-optics/microwave photonics
Iwao Hosako	NICT	THz devices/system applications

- Planning committee meeting of Commission D (for 22-nd term of the Science Council of Japan):
September 24, 2012, Osaka University

Following issues as for new activities were discussed: preparation for new WEB site for Commission D, trail of e-workshop/e-seminar, schooling for students. Commission D seminar will be planned on March 2013.

- Continuing contact with Chair of URSI Commission D towards URSI General Assembly 2014

2. Domestic activities related to areas covered by Commission D

Technical Committee on Microwave Photonics (IEICE):

Following technical meetings were held on specific subjects including regular contributions:

October 28, 2011 (Tokyo); trends in millimeter-wave and THz devices

January 26-27, 2012 (Osaka); RF signal transport using fiber, high-power photodiodes

April 6, 2012 (Tokyo); trends in optical modulators

July 26-27, 2012 (Sapporo); trend in microwave photonics for communication and sensors

3. International activities related to areas covered by Commission D

International Topical Meeting on Microwave Photonics (MWP) 2011:

The conference was held from 18-21 October 2011 consisting of ½ day workshop and 3 days technical sessions. There were 155 submissions with 115 papers accepted (44 oral and 71 posters) which came up to 75% acceptance rate. Two key note speakers were from Europe (D. Dolfi) and USA (P. Herzfeld). There were 164 registrations altogether with 47 student registrations.

Asia-Pacific Microwave Photonics Conference (APMP) 2012:

The conference was held in Kyoto, Japan from 25-27 April 2012 with 150 attendees (36 students). There were 79 submitted papers with 73 accepted (34 oral, 39 posters). Two key note speakers were from Japan (Prof H. Hayashi) and USA (Prof G.-K. Chang). Total number of papers including invited papers was 87. This conference managed to attract 19 exhibitors. A lot of emphasis was given to promote the MWP research activities to the new generation by having 3 awards for oral presenters called the IEEE Photonics Society Japan Young Scientist Awards and 3 awards for poster presenters called the APMP Best Paper Awards.

International Topical Meeting on Microwave Photonics (MWP) 2012:

The conference was held in Netherlands from the 11-14 Sept 2012 with similar structure as the previous year with ½ day workshop followed by three full-day of technical sessions. There were 105 papers submitted with 76 papers accepted (43 oral, 33 posters). There were 6 exhibitors and two keynote speakers from Europe (J. Capmany) and USA (H.-F. Liu), respectively. There were about 130 attendees. There was a student paper award, and three papers were selected including Japanese student. Finally, after the site selection committee meeting, MWP 2014 will be held in Hokkaido, which is 12 years interval from MWP 2002 in Awaji.