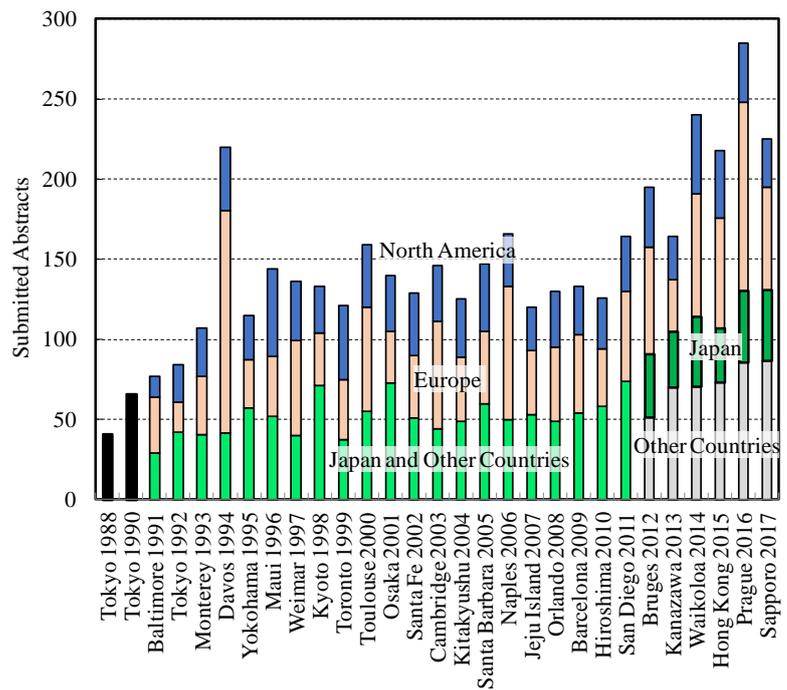


# MESSAGE FROM THE GENERAL CHAIR

On behalf of the Conference Committee, it is my great honor and pleasure to welcome you to the 29th International Symposium on Power Semiconductor Devices and IC's (ISPSD2017). It will be held in the beautiful city of Sapporo, Hokkaido, which is the northernmost prefecture of Japan.

In the 21st Conference of the Parties (COP21) on Climate Change in 2015, nearly 200 countries reached a historic agreement to limit global warming to “well below 2°C” above pre-industrial levels, and to pursue efforts for 1.5°C by the end of the century for curbing climate change. The 2°C scenario requires significant large-scale changes in sectors of the global economy such as energy, industry, construction, and transport. Therefore, cumulative investment in energy efficiency and low-carbon technologies will be strongly required and it will increase drastically. Power semiconductor devices will play an important role as key devices in power electronic equipment for achieving a low-carbon society with a halving of CO<sub>2</sub> emissions by 2050. The market size for power semiconductor devices was previously estimated to increase 10-fold from ¥1 trillion in 2008 to ¥10 trillion in 2050 [1], but this 10-fold increase is now predicted to be achieved before 2035 [2].

Since the establishment of the first ISPSD held in Tokyo in 1988, the ISPSD has become the premier international conference for presentation and discussion of all aspects of power semiconductor devices and power integrated circuit technologies. The Advisory Committee established the Conference Guidelines in 2013. The conference location had traditionally rotated each year among Japan, North America, and Europe, in a three year cycle before 2007. South Korea organized ISPSD2007, the second in Asia. In 2012, the Advisory Committee decided to invite other countries (“open-site”) to host the ISPSD every fourth year, between the North America and Europe conference years, in order to globalize the ISPSD. The number of the abstracts submitted to the ISPSD in the 2010s has been increasing, particularly from other countries (Figure).



In ISPSD2017, 225 submitted abstracts were received from 22 countries, marking a record high for ISPSDs held in Japan. By regional distribution, 30 (13%) of the abstract submissions were from North America, 64 (28%) from Europe, 44 (20%) from Japan, and 87 (39%) from the rest of Asia. From the abstracts, the Technical Program Committee accepted 41 papers as oral presentations and 76 papers as poster presentations to be presented during the four-day session. “The Ohmi Best Paper Award” and “Charitat Award” will also be presented. The winners of “The Ohmi Best Paper Award” will be selected from all the presented papers, while the “Charitat Award” will be presented to candidates who are under 30 years old.

In the morning on Monday May 29th, the plenary session will have presentations featuring the latest trends in power electronics in smart cities, future visions for industrial robots, application opportunities and expectations for wide band-gap power semiconductor devices, and GaN Power ICs by four experts from Europe, Japan, the rest of Asia, and North America, respectively. In the afternoon, the two invited papers focused on power IC design and related topics will be presented.

On Sunday May 28th, we have arranged a short course program covering five stimulating and informative topics (“Simulation and experimental characterization of Out-of-SOA events of Power Semiconductor devices”, “Intelligent Gate Drives for Smart Converters”, “Gallium Oxide Power Device Technologies”, “Silicon Carbide Crystal Growth and Applications, History and Current Status” and “Mission-profile-based power application design for reliability”).

I sincerely thank the Organizing Committee, the Steering Committee, the Technical Program Committee, and the Advisory Committee for their valuable contributions in planning, arranging, and supporting ISPSD2017.

Finally, I would also like to extend a warm welcome to all of you attending ISPSD2017. I wish all the attendees a highly stimulating, informative, and enjoyable conference in Sapporo.

[1] Mutsuhiro Mori, “Power Semiconductor Devices Creating Comfortable Low-carbon Society,” Hitachi Hyoron 90, pp. 1022–1029, Dec. 2008 (Japanese version), Hitachi Review Vol. 59, pp. 188-197, Oct. 2010 (English version).

[2] Josef Lutz, “The Climate Summit and Power Electronics,” PCIM Europe, Community.dialog, p. 2, Feb. 2016

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