



**THE 20th INTERNATIONAL SYMPOSIUM
ON SEMICONDUCTOR MANUFACTURING**

October 15-17, 2012

Hyatt Regency Tokyo, Japan

ANNOUNCEMENT AND CALL FOR PAPERS

Hyatt Regency Tokyo, Japan

Monday, October 15 – Wednesday, October 17, 2012

<Extended> ABSTRACT DEADLINE: Thursday, June 13, 2012 <PDT 8:00 AM>

Since its start in 1992 in Japan, ISSM has provided unique opportunities to share semiconductor manufacturing technology "best practices" for the benefit of professionals worldwide. At the symposium, semiconductor manufacturing professionals gather together to seriously discuss presented technologies developed because of the world wide need for semiconductor manufacturing technology advancement. The 20th annual ISSM will be held in Tokyo, Japan.

It is crucial to re-examine semiconductor manufacturing in terms of fundamental principles in order to continue scaling beyond the 32nm/22nm nodes. In addition, manufacturing technologies for preserving the earth's environment have become new challenges.

These manufacturing technology challenges show the need for drastic revolutionary thought and stronger collaborative efforts to find solutions to the pre-competitive challenges.

The ISSM 2012 will feature keynote speeches by world leading speakers, timely and highlighted topics in addition to the ISSM areas of interests, and networking sessions focusing on equipment/materials/software/services with suppliers' exhibits. ISSM contributes to the continued growth of the semiconductor industry through its infrastructure for networking, discussion, and information sharing among the world's professionals. We invite you to share your professional experiences at the Twentieth International Symposium on Semiconductor Manufacturing.

Areas of Interest

Abstract will be accepted for each of following areas of interest.
See reverse for further

Fab Management

- * Factory Design & Automated Material Handling(FD)
- * Manufacturing Strategy and Operation Management (MS)
- * Manufacturing Control and Execution (MC)
- * Environment, Safety and Health (ES)

Process Integration

- * Process and Material Optimization (PO)
- * Yield Enhancement Methodology (YE)
- * Contamination Control and Ultraclean Technology (UC)
- * Process Control and Monitoring (PC)
- * Process and Metrology Equipment(PE)
- * Design for Manufacturing (DM)

Final Manufacturing

Final Manufacturing (FM)

Recommendation for IEEE/TSM

Best papers for ISSM will have the chance to submit full papers for IEEE/TSM (Transactions on Semiconductor Manufacturing) which is published quarterly for worldwide distribution. About ten papers are annually selected and reported in ISSM/TSM special session for the next year.

Highlight Theme

Papers on the topics of special interests will be rearranged and will be programmed as a special session for highlight themes. Papers on the following topics are especially welcome. See information on the reverse side.

3DIC (TSV and all other 3D)

- 3D Integration Technology
- 3D Applications
- 3D Design and Test Methodology

Printed Electronics

- Organic transistor, Flexible device, Ink, Printing Coating, Laminating, Reliability evaluation etc.
- Thin film display, Touch screen sensor, Solar cell, electric paper etc.

Process Control Solution

- Process Control Algorithm and Tool Technologies
- Process Control Application Technologies
- Latest Control Technologies

Business Continuity Plan/Management (BCP/BCM)

- BCP/BCM on semiconductor manufacturers and it's support industries
- Earthquake resistant and absorbing technology for semiconductor manufacturer line
- Earthquake resistant and absorbing technology for equipment
- Product protection measure on Fab. automatic conveyance apparatus
- Earlier recovery method from disaster damage

Power Devices

- Performance Improvement Technology
- Break-through Technology
- SiC Manufacturing Technology

Abstract Submission Start	Monday, April 16, 2012
Abstract Submission Due	Thursday, May 31, 2012
	<EXTENDED> Thursday, June 13, 2012 (PDT 8:00 AM)
Notification of Paper Acceptance	Friday, July 20, 2012

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Contact issm_2012@semiconportal.com for further inquiries.

Details for the highlight Theme

3DIC (TSV and all other 3D)

3DIC covers manufacturing, design, inspection and characteristics evaluation technologies related to all 3D integration topics, including 3D process technology, materials, equipment, design methodology and applications. Here, not only 3D using TSV, but also by packaging technology such as chip stacked, PoP, epi-film bonding and 3D transistors by front end process will be discussed.

Topics may includes :

-3D Integration Technology.

Through Silicon Via (TSV), wafer thinning, wafer alignment, wafer bonding, wafer dicing, heterogeneous 3D integration, capacitive coupling, inductive coupling, multilevel epitaxial growth, CoC (Chip on Chip), CoW (Chip on Wafer), Epi-film bonding, 3D transistors and etc.

-3D Applications.

Si interposer, Imaging, Memory, Processors, Communications, Network, Wireless, Biomedical, MEMS/NEMS and etc.

-3D Design and Test Methodology.

3D CAD, 3D synthesis, 3D design flows, Signal and power integrity analysis, Design in 3D, 3D thermal design and analysis, Design for testing, 3D mechanical stress, Reliability design and analysis, Inspection in mass production, Failure analysis and etc.

Printed Electronics

Printed Electronics is expected to create new emerging industry due to its high productivity, energy saving and resource saving, which can produce large area flexible devices. Three main technologies, one is semiconductor, 2nd is printing and the last is materials, will be merged each other to manufacture new final applications. Here, manufacturing technologies and applications will be discussed.

Topics may includes :

-Technology.

Organic transistor, Flexible device, Ink, Printing (nano imprint, micro contact print, converting, screen printing, flexography, ink jet and etc.) Coating, Laminating, Reliability evaluation, Electric and mechanical evaluation and etc.

-Applications.

Thin film display, Touch screen sensor, Solar cell, electric paper, flexible circuit board, organic EL light, organic memory device, RFID label, Antenna, medical sensor and etc.

Process Control Solution

Process control solution covers all process control technologies related to APC, AEC, FDC topics including algorithm and tool technologies, practical control application technologies, and latest control technologies.

Topics may include :

-Process Control Algorithm and Tool Technologies.

Feedback and feedforward control, LtL and WtW control, MVF, Kalman filter, and sampling method which are used in semiconductor manufacturing process, etc.

Additionally, statistical methods and tools related to PCA, PLS, independent component analysis, and MT system, etc.

-Process Control Application Technologies. Lithography including resist coater, CMP, Dry etching including EPD monitor, Wet cleaning, Thermal processing (RTA, RTP, and furnace), Sputtering and chemical vapor deposition, and Ion implantation, etc.

-Latest Control Technologies. DFM cooperation, Virtual metrologies (VMs), VM cooperation control (VM-APC/FDC/SPC), inline/off line inspection cooperation, device characteristics control, and chip yield control, etc.

Business Continuity Plan/Management (BCP/BCM)

BCP/BCM is expected to discuss widely with many firms and groups about BCP and BCM, after the taking hard opportunity on last year.

Topics may includes :

-BCP/BCM on semiconductor manufacturers and its support industries

-Earthquake resistant and absorbing technology for semiconductor manufacturer line

-Earthquake resistant and absorbing technology for equipment

-Product protection measure on Fab. automatic conveyance apparatus

-Earlier recovery method from disaster damage

Power Devices

Power devices covers manufacturing technologies related to rectifier diode, power MOSFET, IGBT (Insulated Gate Bipolar Transistor), thyristor, GTO (Gate Turn-Off thyristor) and triac.

Topics may includes :

-Performance Improvement Technology. Large current capacity, Response time, Miniaturization, Low power dissipation, Energy saving, Lower calorific value, Low gate control electric power, High ruggedness, etc.

-Break-through Technology. IEGT (Injection Enhanced Gate Transistor), Super junction, Floating Island MOS, Vacuum micro emitter (VME), Wide band-gap semiconductor, etc.

-SiC Manufacturing Technology. Large diameter SiC single-crystal, Monocrystalline SiC bulk crystal growth, High quality epitaxial growth, Micropipe defect, Low angle grain boundary, etc.