
WASHINGTON, D.C. (September 24, 2013) – The world’s leading scientists and engineers in microelectronics will convene here in December at the annual IEEE International Electron Devices Meeting (IEDM), continuing the conference’s tradition of spotlighting more research and development breakthroughs in more areas of microelectronics than anywhere else.

The 59th annual IEDM will take place at the Washington Hilton Hotel December 9-11, 2013, preceded by a slate of short courses on Sunday, Dec. 8 and tutorial sessions on Saturday, Dec. 7. In addition to the technical sessions, many panels, special sessions, IEEE award presentations and other events will take place during the course of the meeting.

The heart of each year’s IEDM technical program is a continuing focus on advances in core semiconductor technology, but in keeping with the revolution in mobile computing and communications, and with the expansion of electronics into many new areas, this year’s program features a special emphasis on analog devices and circuits, advanced semiconductor manufacturing, bio-sensors and bioMEMs, circuit and process technology interaction, energy harvesting, power devices, magnetics and spintronics.

The IEDM 2013 technical program* is comprised of some 215 presentations, including Taiwan Semiconductor Manufacturing Co.’s integrated 16-nm FinFET
technology platform, one of the world’s most advanced semiconductor technologies; novel NAND flash memories from SK hynix and Macronix; a record-breaking transistor from IBM made with nanowires; a plethora of semiconductor-based technologies to aid in DNA sequencing; and a high-voltage switch from Japan’s AIST that may speed development of the “smart grid” for electricity transmission and distribution. These highlights are among breakthroughs in many areas that will continue to move electronics technology forward to solve some of the world’s most pressing problems.

“The IEEE’s IEDM conference represents a blend of cutting-edge scientific research and leading industry innovations for technologists from around the world,” said Dr. Ken Rim, IEDM 2013 Publicity Chair and Director of Engineering at Qualcomm. “Individual contact with world leading scientists and engineers in a wide range of disciplines, thought-provoking technical presentations, and numerous special events, such as the popular Entrepreneur’s Lunch, will provide attendees with the insights, ideas and inspiration they need to address many of today’s most important technological challenges and opportunities.”

Here are some of the noteworthy events that will take place at this year’s IEDM:

90-Minute Tutorials -- Saturday, Dec. 7
Back by popular demand for the third year, the IEDM will hold 90-minute tutorial sessions on emerging topics presented by experts in the fields. They are meant to bridge the gap between textbook-level knowledge and leading-edge current research. The tutorials will be presented in parallel in two time slots. Advance registration is required.

- Nano Electronics – The Use of Low-Dimensional Systems for Device Applications, Joerg Appenzeller, Purdue University
- Interface Properties for SiC and GaN MOS Devices, T. Paul Chow, Rensselaer Polytechnic Institute
- Energy Harvesting for Self-Powered Electronic Systems, Rob van Schaijk, Holst Centre/imec
- Tunnel FETs – Beating the 60 mV/Decade Limit, Erik Lind, Lund University
- Atomic-scale Modeling and Simulations for Nanoelectronics, Sumeet C. Pandey and Roy Meade, Micron Technology
- 3D Chip Stacking, Mukta Farooq, IBM

Short Courses -- Sunday, Dec. 8
The IEDM offers two Sunday short courses, providing the opportunity to learn about emerging areas and important developments, and to benefit from direct contact with expert lecturers. Advance registration is required. This year’s courses are:

- Challenges of 10nm & 7nm Technologies
- Beyond CMOS: Emerging Materials & Devices

Plenary Presentations -- Monday, Dec. 9
IEDM 2013 will open on Monday, Dec. 9 at 9 a.m. with these three plenary talks:

- Graphene: Future Emerging Technology, Andrea C. Ferrari, University of Cambridge
• *Heterogeneous 3D Integration—Technology Enabler Towards Future Super-Chips*, Mitsumasa Koyanagi, Tohoku University
• *Smart Mobile SoC Driving the Semiconductor Industry: Technology Trends, Challenges and Opportunities*, Geoffrey Yeap, Qualcomm

**Luncheon Presentation -- Tuesday, Dec. 10**

The IEDM Luncheon presentation will be given by Dr. David Luebke, Senior Director of Research, Nvidia Corp., on the topic, *The Current State-of-the-Art and Advances in Visual/GPU Computing.*

**Evening Panel Sessions -- Tuesday evening, Dec. 10**

The IEDM offers attendees two evening panel discussions. Audience participation is encouraged to foster an open and vigorous exchange of ideas. The panel topics are:

- "Is there life beyond conventional CMOS?" moderated by Jeff Welser, IBM
- "What will ultimately limit $V_{cc}$ scaling of devices: variability, off-state power or performance?" moderated by Kevin Zhang, Intel

**Entrepreneurs Lunch -- Wednesday noon, Dec. 12**

Jointly sponsored by IEDM and the IEEE Women in Engineering Society, The IEDM Entrepreneurs Lunch is back for a second year. The speaker will be Steve Nasiri, angel investor and mentor at Nasiri Ventures LLC. For 35 years, Mr. Nasiri has been a serial entrepreneur in Silicon Valley. His most recent and successful venture was InvenSense, which he founded in 2003 and where he served as President, CEO and Chairman until October, 2012. Under his leadership, the company became the pioneer and global market leader in motion processing solutions for motion-based user interfaces in consumer electronic including smartphones, tablets, game consoles and wearable electronics. In November 2011, Mr. Nasiri took the company through its initial public offering, and it is listed on the NYSE under the symbol INVN.

**Further information**

For registration and other information, visit the IEDM 2013 home page [www.ieee-iedm.org](http://www.ieee-iedm.org), [Wikipedia page](http://bit.ly/IEDMwiki), or contact:

Phyllis Mahoney, Conference Manager  telephone (301) 527-0900 ext. 2
Widerkehr & Associates  fax: (301) 527-0994
19803 Laurel Valley Place  e-mail: iedm@his.com
Montgomery Village, MD  20886

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* A Tip Sheet summarizing some of the most noteworthy technical presentations is available.