

# The 12<sup>th</sup> International Micromachine / Nanotech Symposium

- Innovations on Nanotech / Integrated MEMS and Forerunners of MEMS Business -  
**November 8, 2006, The Tokyo International Forum, Tokyo**

Sponsored by : Micromachine Center

Cosponsored by : Ministry of Economy, Trade and Industry, The New Energy and Industrial Technology Development Organization (NEDO)

Entrance fee : 20,000yen / person (MMC-MEMS Industry Forum members 16,000yen / person)

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## Program

Opening		Chairperson : Keiichi Aoyagi, Micromachine Center
9:00 – 9:05	Opening Remarks	Tamotsu Nomakuchi, Micromachine Center
9:05 – 9:10	Guest Speech	Taizo Takahashi, Industrial Machinery Division, Manufacturing Industries Bureau, METI
Keynote Session	Towards the Next Generation of MEMS	Chairperson : Keiichi Aoyagi, Micromachine Center
9:15 – 10:00	Advances in Research and Applications of Integrated MEMS in Japan	Isao Shimoyama, The University of Tokyo
10:00 – 10:45	Advances in MEMS Integration : MEMS First or MEMS Last ?	Thomas W. Kenny, Stanford University
Session 1	Cutting Edge of MicroNano Science and Technology	Chairperson : Osamu Tabata, Kyoto University
10:45 – 11:15	Fusion of Top-down and Bottom-up Processing Using Neutral Beam	Seiji Samukawa, Tohoku University
11:15 – 11:45	Preparation and Properties of Multicomponent Nanocrystal Superlattices	Christpher B. Murray, IBM, The T.J. Watson Reserch Center
11:45 – 12:15	Organic and Organic-Inorganic Hybrid Molecular Devices	Cherie R. Kagan, IBM, The T.J. Watson Reserch Center
12:15 – 13:30	Lunch	
Session 2	Forefront of MEMS Business	Chairperson : Isao Shimoyama, The University of Tokyo
13:30 – 14:00	CMOS/ MEMS integration is a key to success of Silicon Resonator	Emmanuel Quevy, Silicon Clocks Inc.
14:00 – 14:30	Reconfigurable RF Circuits for Future Mobile Terminals	Shoichi NARAHASHI, NTT DoCoMo, Inc.
14:30 – 15:00	Development of Medical Devices for Minimally Invasive Diagnostics and Treatment Using Micro/nano Technology	Yoichi Haga, Tohoku University
15:00 – 15:30	MEMS@Bosch - Automotive Applications and beyond	Peter Ernst, Robert BOSCH GmbH
15:30 – 15:50	Break	
Session 3	CMOS / MEMS & MEMS/MEMS Integration	Chairperson : Takashi Usuda, AIST
15:50 – 16:20	CMOS/ MEMS Integration by Poly Si Ge	Kris Baert, IMEC
16:20 – 16:50	Carbon Nanotube-based Machine Elements for Nano-scale Mechanisms and Technologies Required to Transition Them From the Lab to Products	Martin Culpepper, Massachusetts Institute of Technology
16:50 – 17:20	Advanced Packaging is the Breakthrough Technology of MEMS Commercialization	Joerg Froemel, Fraunhofer IZM
17:20 – 17:50	Optical MEMS towards Integration and Large Scale	Hiroshi Toshiyoshi, The University of Tokyo
Closing		
17:50 – 17:55	Closing Remarks	Keiichi Aoyagi, Micromachine Center