

Spring 2013 IAB & Research Review - Agenda

Workshop: The TRILLION Sensor Universe: Manufacturing Challenges

Visions of a trillion sensor universe have been discussed by a growing number of thought leaders, particularly those advancing technologies in sensors, radios, sensor networks, and information management. These are disciplines from which a trillion sensors will emerge. This workshop will begin to examine challenges and enablers of the vision, with a particular eye on manufacturing enablers, with a look also at real world applications that have already begun to generate the demand but that also impose cost, precision, packaging, and deployment constraints.

06 March 2013

Sutardja Dai Hall/ Dado & Maria Banatao Auditorium/ UC Berkeley

<u>Time</u>	<u>Speaker, Event / Topic Information</u>
08:00	Arrival & Continental Breakfast Sutardja Dai Hall Atrium
08:30	John Huggins BSAC Welcome and Announcements
08:40	Prof. Albert P. Pisano Introduction to the Workshop: Overview, Challenges, Opportunities, and Enablers
09:00	Dr. Kaigham (Ken) Gabriel, Corp VP Motorola Mobility New Manufacturing Paradigm: Seamless Scaling from Rapid Prototyping to Volume Production
09:30	Dr. Janusz Bryzek, VP Fairchild Semiconductor TSensors: Roadmap to Accelerated Abundance
10:00	BREAK
10:30	Dr. John Stephen Smith, Founder/CTO Alien Technology Alien Trillion Sensor Contribution: RFID Tags and Related Ultra Low Cost Manufacturing via Microfluidic Self Assembly
11:00	Markus Lutz, Co-Founder and VP SiTime MEMS Timing for The Trillion Sensor Universe
11:30	Dr. Mark Zdeblick Co-Founder and CTO Proteus Digital Health, Inc. Digital Health, Powered By You
12:00	Prof. Albert P. Pisano PANEL Discussion: Is Manufacturing the Limitation to 1T Sensors?
12:45	Box LUNCH Sutardja Dai Hall Atrium

BSAC Faculty Research Investigations

06 March 2013

Sutardja Dai Hall/ Dado & Maria Banatao Auditorium/ UC Berkeley

<u>Time</u>	<u>Speaker, Event / Topic Information</u>
14:00	John Huggins Intro to the Session and to BSAC
14:15	Professor Edward A. Lee Invited Faculty Talk The Teraswarm Research Center at UC Berkeley
14:45	Richard M. White Environmental Monitoring: Gas Pipelines, Distribution Cables, and Airborne Particulate Matter
15:15	Liwei Lin Microfluidics Components for Point-of-Care Diagnostic Applications
15:45	BREAK
16:15	Bernhard E. Boser MEMS AIN Ultrasonic Transducers for Low-Power Gesture Interfaces in Smart Phones
16:45	Luke P. Lee Bionanoscience for Innovative Global Healthcare Research and Technology (BIGHEART)
17:15	Clark T.-C. Nguyen MEMS-Based RF-Channelizing Low Power Radios
17:45	MIXING RECEPTION Sutardja Dai Hall Atrium

Research Review (Posters and Plenary)
07 March 2013
Sutardja Dai Hall Dado & Maria Banatao Auditorium UC Berkeley

Time	Speaker, Event / Topic Information
07:45	Light Breakfast, Conference Materials
08:30	John Huggins Open Session & Announcements
08:40	Session I Chair: Ali Javey
08:45	Plenary 1: E. Yegan Erdem From Microfluidic Reactors to Smart Surfaces
09:00	Plenary 2: Matthew Chan MEMS Sensors in the Built Infrastructure - Bonding Chips to Metals via SLID
09:15	Morning Faculty Research Overviews Michel M. Maharbiz, Liwei Lin, David A. Horsley, Bernhard E. Boser, Clark T.-C. Nguyen, Albert P. Pisano
10:15	MORNING POSTER SESSIONS 2nd Floor Classrooms, Sutardja-Dai Hall
11:40	Session II Chair: David A. Horsley
11:45	Plenary 3: Dr. Tristan Rocheleau Enhancement of Mechanical Q For Low Phase Noise Optomechanical Oscillators
12:00	Plenary 4: Yang Lin Micromechanical Charge Pump
12:15	Plenary 5: Dr. Rehan Kapadia III-V Photovoltaics: A Vapor-Liquid-Solid Route Towards High Efficiency Non-Epitaxial Thin Film Cells
12:30	Plenary 6: Sarah Nitzan Epitaxially-Sealed Polysilicon Disk Resonator Gyroscope
12:45	LUNCH Sutardja Dai Hall Atrium
13:40	Session III Chair: Kris Pister
13:45	Plenary 7: Dr. Xavier Vilajosana OpenWSN: Open Standards enablers to the Internet of Things and Trillion Sensor Networks
14:00	Plenary 8: Joseph Greenspun Ring GINA: Highly Miniaturized Ring-format Wearable Mote
14:15	Plenary 9: Dr. Maysamreza Chamanzar Next Generation Nanoscale Neural Optrodes
14:30	Afternoon Faculty Research Overviews Albert P. Pisano; Ali Javey; Ming C. Wu; Kris Pister; Richard M. White; Luke P. Lee
15:30	AFTERNOON POSTER SESSIONS 2nd Floor Classrooms, Sutardja-Dai Hall
16:55	Session IV Chair: Ming C. Wu
17:00	Plenary 10: Kevin Limkralassiri CuO Nanowires for Energy and Sensing Applications
17:15	Plenary 11: Kosuke Iwai A Continuous-Flow Microdroplets Lysing System - Microbeads and Nanoparticles
17:30	Plenary 12: Pramod Murali Magnetic Particle Flow Cytometer
17:45	END SESSION:John Huggins Announcements & Directions to Reception & Banquet
18:00	PRE-BANQUET RECEPTION Hearst Memorial Mining Building Moore Lobby
18:45	AWARDS BANQUET Hearst Memorial Mining Building Moore Lobby

BSAC Industrial Advisory Board
08 March 2013
250 Sutardja Dai Hall UC Berkeley

<u>Time</u>	<u>Speaker, Event / Topic Information</u>
08:00	Light Breakfast
08:45	John Huggins Open IAB, Agenda, State of Center
09:15	New Member Profiles Introductions by New Members: NXP Semiconductor, BP, KWJ Engineering, Load IQ, Rosemount; and in absentia: ST Micro, Delta Electronics
10:15	Dick Tsina Paper Ratings/Research Directions and Survey Feedback
10:45	John Huggins Questions referred to IAB
10:50	Members Closed Session
11:50	Callback of co-Directors Feedback to Center on Technical Directions and Operations
12:30	Adjourn & Lunch