Fall 2011 Conference - Agenda

Research Review, Poster Sessions & Awards Banquet (BSAC MEMBERS)
Single Session Plenary with 12 Researcher Talks, and 120 Projects in Two Extended Poster Sessions, Followed by Reception MIxer and Awards Banquet.

21 September 2011
David Brower Center, Goldman Theater, 2150 Allston Way, Berkeley CA

Time	Speaker, Event / Topic Information
07:30	**Light Breakfast, Registration, Conference Materials**
08:30	**John Huggins** The NEXT twenty-five years?
08:40	**Session I : Chair: Bernhard Boser** Three Researcher Talks + Morning Poster Preview
08:45	**Plenary 1: Sarah Wodin-Schwartz** Exposure Testing and Temperature Sensors for Down-Hole Geothermal Reservoir Monitoring.
09:00	**Plenary 2: Simone Gambini** High-Throughput CMOS Detector for Magnetic Immunoassays
09:15	**Plenary 3: Stefon Shelton** Piezoelectric Micromachined Ultrasound Transducer Arrays
09:30	**60 Researchers** 45-Second Morning Poster Previews by the Researchers
10:25	**MORNING POSTER SESSION: Tamalpais Room & Kinzie Room**
11:55	**Session II : Chair: David Horsley** Three Researcher Talks
12:00	**PLenary 4: Chair: Michael Demko** High-resolution Direct Patterning of Polymers and Nanoparticles by a Template-Based Microfluidic Process
12:15	**Plenary 5: Toshitake Takahashi** Large-Scale Carbon Nanotube Network Active Matrix Circuitry for Flexible and Stretchable Electronics
12:30	**Plenary 6: Armon Mahajerin** Semi-Permeable Encapsulation Membranes Using Carbon Nanotubes
12:45	**SANDWICH LUNCH & Member Info Displays: Tamalpais Terrace**
12:46	**DARPA MiNaSIP Review & Lunch (Location: BWRC)** Review of MiNaSIP for Current Program Participants
13:55	**Session III: Chair: Liwei Lin** Three Researcher Talks + Afternoon Poster Preview
14:00	**Plenary 7: Frank Myers** An Integrated Microsystem for Electrophysiology-Activated Cell Sorting (EPACS)
14:15	**Plenary 8: Amol Jadhav** Neural Interfaces for Direct Interfacing and Active Recording from Invertebrate Sensory System
14:30	**Plenary 9: Frederick Doering** Mobile Airborne Particulate Matter Monitor for Cellular Deployment
14:45	**61 Researchers** 45-Second Morning Poster Previews by the Researchers
15:40	**AFTERNOON POSTER SESSION: Tamalpais Room & Kinzie Room**
17:10	**Session IV: Chair: Ming Wu**
17:15	**Plenary 10: Karen Grutter** High-Q Silica Optical Resonators for Integrated Optomechanical Oscillators
17:30	**Plenary 11: Tristan Rocheleau** A 515-MHz CVD Diamond Disk With Q >100,000
17:45	**Plenary 12: Henry Barrow** A Tiny 32-kHz Real-Time Clock Oscillator
18:00	**Plenary 13: Branko Kerkez** Massive Area Wireless Sensor Network for Hydrologic Forecasting
18:15	**END SESSION: John Huggins**
18:20	**Walk to Hotel Shattuck Plaza**
18:30	**PRE-BANQUET RECEPTION: Hotel Shattuck Plaza Courtyard**
19:15	**AWARDS BANQUET & Awards Ceremony: Hotel Shattuck Plaza Crystal Ballroom**
21:00	**Adjourn**

IAB Meeting [BSAC]
Closed meeting of members and faculty to discuss directions and operations of the center.
The Industrial Advisory Board consists of all industrial members of BSAC. The members meet together with the faculty co-Directors and Executive Director on the morning following the private (member only) research review, to evaluate and discuss the research directions and operations of the center. The members then meet in executive session without BSAC co-Directors present to discuss privately their assessment and recommendations for the center. The IAB then recall the Directors for a joint discussion of the IAB recommendations and decisions.

During the first common session, new member companies have the option to give to the IAB and Directors a short briefing and introduction to their company, perhaps what their BSAC interests are, and perhaps goals for their membership, such as meeting co-development partners or identication of interns and employees, etc.

At the IAB executive session, if anything is subjected to a vote, all members have two votes regardless of how many persons they send to the IAB meeting. Why two votes? In some NSF I/UCRC centers (this is not true in BSAC), members explicitly vote on projects to fund; two votes allows multiple project selection.

22 September 2011
David Brower Center, Kinzie Room, 2150 Allston Way, Berkeley CA

Time	Speaker, Event / Topic Information
07:45	**Arrival & Light Breakfast**
08:30	**John Huggins** Open IAB: Agenda and Introduction of New Members
08:40	**Senjyu Wataru Visiting Industry Fellow** New Member Presentation: Fuji Electric
08:50	**Cheng-chung Shih, CEO** New Member Presentation: Capella Microsystems
09:00	**Al Pisano** Tohoku & VUC University Collaboration
09:10	**Richard Tsina** LIFE Form Comments
09:25	**Dorian Liepmann** Potential Thrust Topic: Point of Care Diagnostics Platform
09:35	**John Huggins** State-of-Center Report and Items for IAB Consideration
10:00	**Members and Facilitators, NSF Evaluator** Closed IAB Meeting
10:45	**Call-back of Directors** Review of Center Status, Direction, and Operations
11:30	**Adjourn & Lunch** Kinzie Room, Hazel Wolf Gallery, Terrace

MIG Workshop: MEMS Commercialization
MEMS Industry Group Technical Challenges to MEMS Commercialization: Background and Discussion

This two-hour workshop hosted by MIG will discuss the manufacturing challenges to MEMS commercialization. Listening to industry experts and veterans, the audience will be treated to an insiders' view of MEMS device manufacturing. Presenters will discuss the really rigorous transfer to production happens at low and high volume. They will discuss what has worked and why and what needs to work and why it doesn't, yet…

Presenters and panelists alike will discuss the manufacturing challenges to MEMS commercialization including issues related to cost, design, and those related to the MEMS supply chain (fragmentation or family? You decide). Similarly, what can be learned from product life-cycle methodology and applied to MEMS?

Presenters will also discuss how MEMS manufacturers can better streamline development to get their devices to market quickly. Based on their experience they will discuss what steps to take to ensure a process is ready for manufacturing. "MEMS is hard' but as in life, the rewards are oftentimes well worth the effort.

Join us on the morning of September 22 to hear from MEMS industry experts who will strive to address these critical issues affecting MEMS commercialization.

22 September 2011
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Time	Speaker, Event / Topic Information
08:30	**Arrival, Check-In & Light Breakfast** Hazel Wolf Gallery
09:15	**Welcome and Introduction, Karen Lightman, Managing Director** MIG Workshop Opening Goldman Theater
09:30	**Jalinous (Jay) Esfandyari, MEMS Product Marketing Manager, STMicroelectronics** Commercialization of MEMS Motion Sensors in the past decade (2000-2010)
10:00	**Alissa M. Fitzgerald, Founder and Managing Member, A.M. Fitzgerald and Associates** MEMS Product Development – Why Is It So Hard?
10:30	**Panel Discussion Karen Lightman, Moderator; Alissa M. Fitzgerald, Jim Knutti (Acuity), Jalinous (Jay) Esfandyari (STMicroelectronics), and Patrick Oden (TI)** Discussion of Technical Manufacturing Challenges to MEMS Commercialization; Stories from The Road.
11:15	**Karen Lightman Adjourn & Box Lunch** Kinzie Room, Hazel Wolf Gallery, Terrace.

BSAC Faculty Poster Session

Don't miss this!
BSAC Co-Directors will staff a poster highlighting their areas of research and interests to encourage informal discussion with industrial members and visitors. This is an opportunity to introduce yourself and your interests directly to BSAC faculty.

22 September 2011
David Brower Center, Tamalpais Room, 2150 Allston Way, Berkeley CA

Time	Speaker, Event / Topic Information
12:00	**Faculty Posters & Buffet Lunch**

Thrust: "Next 25 Years for MEMS"
Twenty-five years ago the first curious microelectromechanical components, embryonic precursors to an industry, were just beginning to emerge, on the coat-tails of the integrated circuit miracle. Today we are part of a vibrant, dynamic, and growing MEMS "industry".
On this, the twenty-fifth anniversary of the formal initiation of the NSF center that would become known as BSAC, we will take a quick look back to motivate a longer look forward, to imagine, envision, and argue about what the next twenty five years will bring.
To lead this reflection and projection, we have an outstanding group of industry and academic speakers including keynote industry visionaries, and several academic and industry thought leaders to extrapolate and rationalize their own technology visions.
A blue ribbon panel will engage the audience in reaction to and elaboration on these visions.

22 September 2011
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Time	Speaker, Event / Topic Information
14:00	**John Huggins** Open Session: The NEXT Twenty-Five Years
14:10	**Prof. Al Pisano** A Revisionist's Brief History of MEMS & BSAC
14:30	**Dr. Tim Denison, Director of Neuroengineering, Medtronic** Keynote: The Challenge of Engineering Tools for "Reverse Engineering" the Brain.
15:10	**Prof. Ali Javey** The Landscape of Future Electronics
15:30	**Prof. Kris Pister** Challenges and Paybacks for Future Wireless Sensing Networks
15:50	**Prof. Clark Nguyen** The Mechanical Radio
16:10	**Networking Break Tamalpais Room**
16:40	**Karen Lightman, Managing Director MEMS Industry Group** An Industry Awakes: Afternoon Session Introduction
16:50	**Vijay Ullal, Group President, Maxim Integrated Products** MIG Keynote: The FUTURE of Sensors
17:30	**Dr. Patrick (Rick) Oden, Distinguished Member Technical Staff, Technology Development DLP® Products, Texas Instruments, Inc.** Mainstreaming of MEMS: One Example – Texas Instrument's Digital Micro-mirror Device for Display Applications
17:50	**BSAC Alumni Panel. Moderator: Richard S. Muller; Panelists Dennis Polla, IARPA; Amit Lal, Cornell U.; Michael Judy, ADI** Panel/Audience Discussion: "BSAC after a quarter century: Will MEMS displace IC's as the path to prosperity for the next-generation entrepreneurs?"
18:50	**John Huggins** Invitation (and Directions) to 25th Anniversary Banquet

25th Anniversary Mixer and Banquet
Join us at the historic Julia Morgan-designed Berkeley City Club, a short walk from the David Brower Center, for a pre-banquet reception followed by a white tablecloth banquet. Reflect and muse on BSAC 25 years, what went right, what went wrong, and have some fun with faculty, members, alumni, and researchers.

22 September 2011
Berkeley City Club, 2315 Durant Avenue, Berkeley, CA

Time	Speaker, Event / Topic Information
18:50	**Transit (walk) from David Brower Center**
19:00	**Pre-Dinner Reception and Mixer**
19:30	**White Tablecloth Dinner**
20:45	**Various** Anniversary Program
21:45	**Adjourn**

The Morning After
Optional breakfast get-togther with faculty and members and prospective members who stay over and who would like more time (including individual meetings) with faculty, members, or researchers, as you may arrange prior to or during some of the Day 1 or Day 2 events. Also see the spectacular views from the Skylab, previously Intel Berkeley Lab, soon to become a College of Engineering start-up habitat. Associate Dean Tsu-Jae King Liu will be with us to describe some current COE initiatives including the Skydeck habitat.

23 September 2011
Skydeck, Site of New UC Berkeley Startup Habitat, Penthouse Level of 2150 Shattuck Avenue (former Powerbar Building)

Time	Speaker, Event / Topic Information
08:30	**Arrival and Continental Breakfast** Enter Ground Floor, Elevator to the TOP.
09:15	**Associate Dean Tsu-Jae King Liu** Introduction to Skylab Startup Habitat & COE priorities
09:30	**Faculty, Members, MIG, Visitors** Individual Faculty Meetings with Members and General Mixing
12:00	**Adjourn, Close Fall 2011 Events**