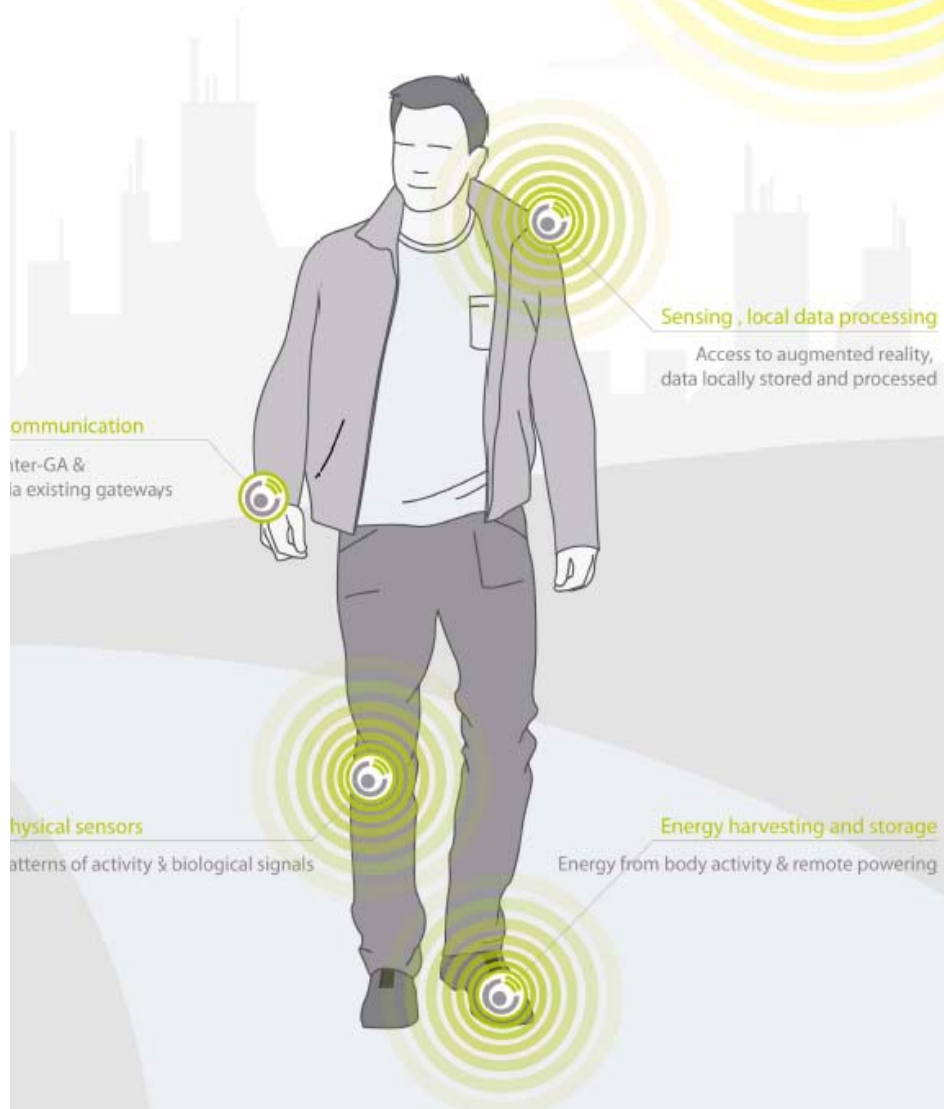


Zero Power

Energy harvesting:
dynamic detection - outdoor & indoor



USA San Francisco Workshop - Zero power technologies for Autonomous Smart Systems

Monday 19th – Tuesday 20th March 2012
@ San Francisco, CA



Center for Energy Efficient
Electronics Science



Massachusetts
Institute of
Technology

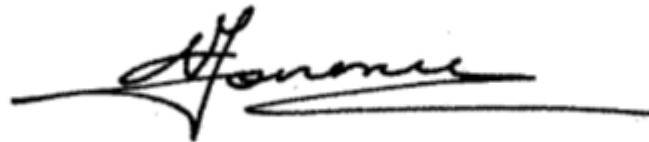


Guardian Angels: Europe-USA partnerships

Renowned keynote speakers from renowned European and American institutions will address the coming challenges in the field of “zero power for smart autonomous systems”. Strategic industrial partners will address the challenges that the FET Flagship will have to address in the coming years.

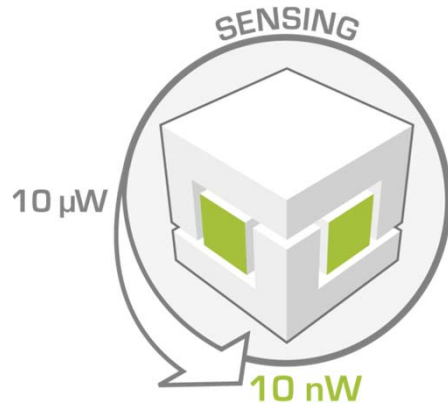
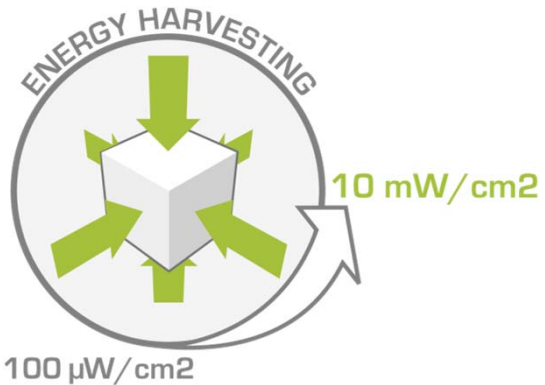
We look forward to meeting you in San Francisco for our USA San Francisco Workshop event on 19-20th March 2012, engaging in an open discussion.

GA Coordinator:
Professor Adrian Mihai Ionescu



- ⇒ Please note that the registration is compulsory, restricted to invited persons and free.
- ⇒ Register online by Friday 9th March 2012 (on invitation only) :
<https://epfl.doodle.com/3bt3z6qci9wyw9vn>

Workshop Day 1: Monday 19th March 2012



- 📍 **Registration:** 08.30
- 📍 **Opening:** 09.15 - 09.30
Cooperation opportunities between EC FET Flagship Guardian Angels and USA
- 📍 **Session 1:** Energy efficient electronics for smart autonomous systems
- 📍 **Panel** Zero-power enabling technologies for autonomous smart systems”
- 📍 **Session 2:** Low energy & efficient computation technologies for smart systems
- 📍 **Session 3:** Low power sensors

Workshop Day 1: detailed program Monday 19th March 2012, morning

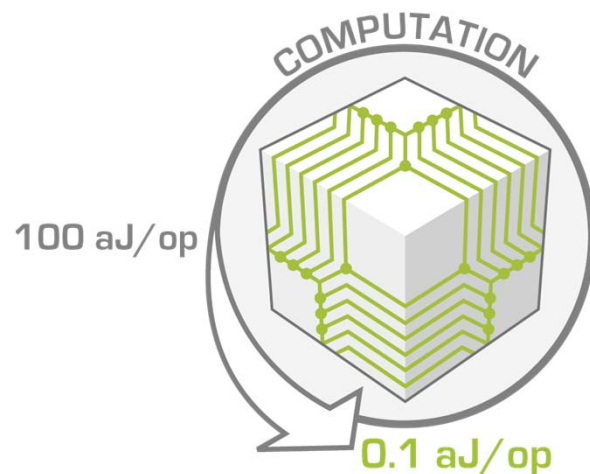
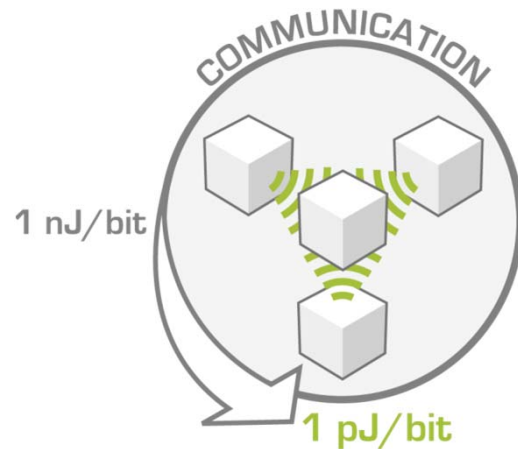
9:00-9:15	Welcome coffee & Registration	
9:15-9:30	Cooperation opportunities between EC FET Flagship Guardian Angels and USA	A.M. Ionescu, EPFL, Switzerland
	Session 1: Energy efficient electronics for smart autonomous systems	
9:30-10:00	Digital technologies: the next sub-0.5V switch?	T.J. King Liu, UC Berkeley, USA
10:00-10:30	Smart autonomous systems as enablers of ambient intelligence	M. Graef, TUDelft, The Netherlands
10:30-12:00	Panel: “Zero-power enabling technologies for autonomous smart systems”, Moderator: A.M. Ionescu, EPFL, Switzerland and 4 panelists (15min):	
	<ul style="list-style-type: none"> 🕒 Panelist 1: The role of low power NEMS in computation and communication 🕒 Panelist 2: The role of low power sensors 🕒 Panelist 3: The role of hardware-software approaches 🕒 Panelist 4: Human-machine interfaces 	<ul style="list-style-type: none"> 🕒 E. Alon, UC Berkeley, USA 🕒 C. Hierold, ETHZ, Switzerland. 🕒 H. De Man, IMEC & KUL, Belgium 🕒 R. Lauwereins, IMEC, Belgium
12:00-13:15: Lunch break		

Workshop Day 1: detailed program

Monday 19th March 2012 afternoon

Session 2: Low energy & efficient computation technologies for smart systems		
13:15-13:45	The science of future Energy Efficient Electronics: challenges and opportunities	E. Yablonovitch, UC Berkeley, USA
13:45-14:15	Priorities of NRI in computing technologies: the importance of energy efficient emerging device and architecture concepts	J. Welser, NRI, USA,
14:15-14:45	Carbon-based technologies: are they really good for future computation?	J. Robertson, University of Cambridge, UK
14:45-15:15	Hybrid CMOS/magnetic technology for low power electronics	R. C. Sousa, Spintec CEA-Grenoble / INAC, France
15:15-15:30: Coffee break		
Session 3: Low power sensors		
15:30-16:00	Low power MEMS/NEMS sensors for smart systems	B. Vigna, ST Microelectronics, Italy
16:00-16:30	Hybrid MEMS-IC for clock generation and temperature sensing	D. Weinstein, MIT, USA
16:30-17:00	Hybrid systems energy-efficient computing coupled with sensing and communication	N. Verma, Princeton, USA
17:00-17:30	Low power analog: beyond low power sensor readout ICs	G. Gielen, KUL, Belgium

Workshop Day 2: Tuesday 20th March 2012



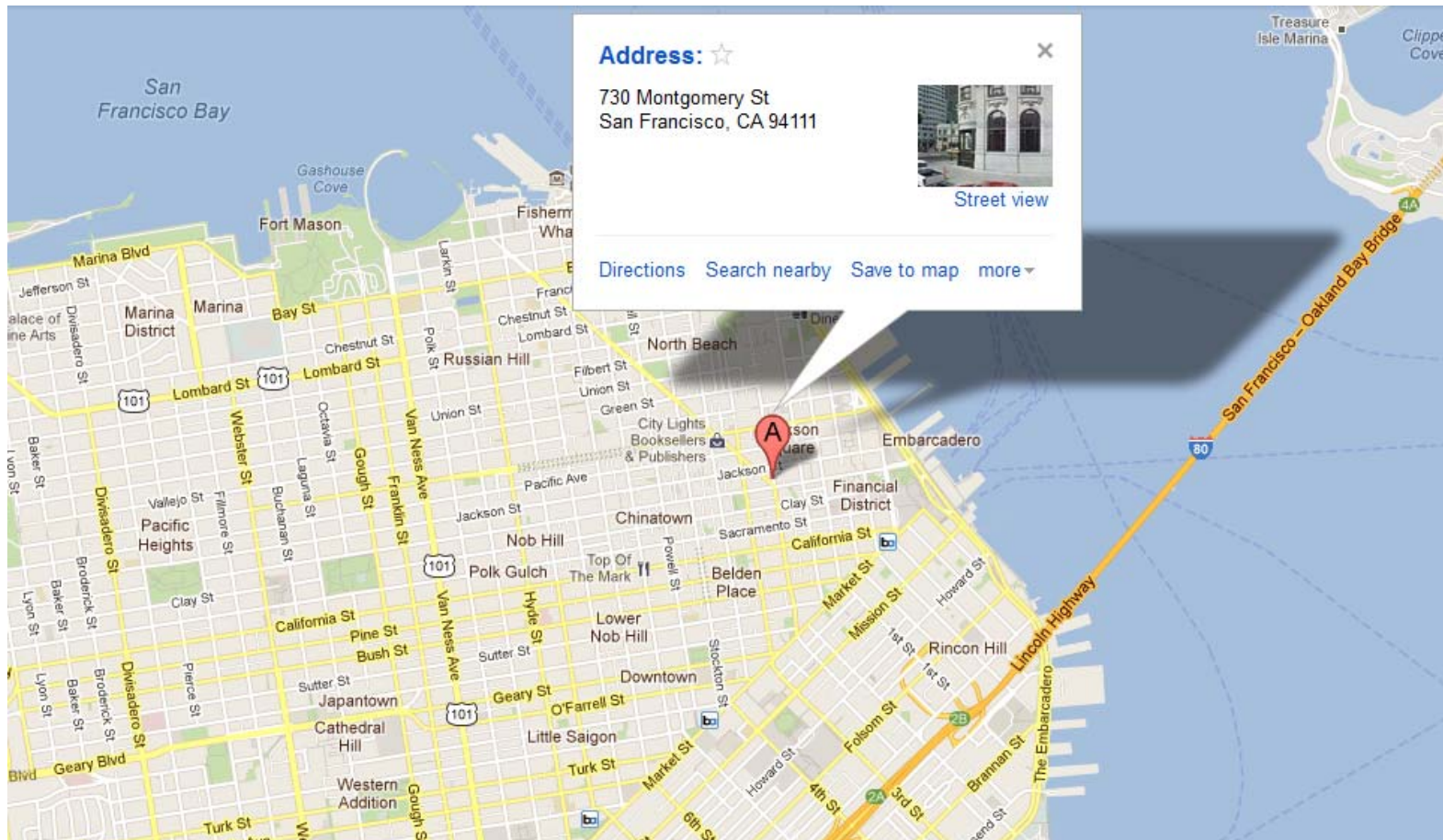
- 🕒 **Opening: 09.10**
 - 🕒 **Session 4:** Low power wireless communications: technologies and applications
 - 🕒 **Session 5:** Human machine interfaces: multi-modal sensing or emotional interferences?
 - 🕒 **Closing:** Concluding remarks on cooperation opportunities between the Guardian Angels FET Flagship & USA
- ⇒ Workshop end after common lunch

Workshop Day 2: detailed program

Tuesday 20th March 2012 morning

Session 4: Low power wireless communications and optoelectronics		
9:00-9:30	MEMS-Enabled Low Power Wireless Communications	C. Nguyen, UC Berkeley, USA
9:30-10:00	Hetero-epitaxial III-V and III-nitride nanowires enabling add-on opto-electronic devices on silicon	L. Samuelson, University of Lund, Sweden
10:00-10:30	Micro-Nano Electro-Mechanical Systems for low power RF applications	A. M. Ionescu, EPFL, Switzerland
10:30-10:45 Coffee break		
Session 5: Human machine interfaces: multi-modal sensing or emotional interferences?		
10:45-11:15	Sensing and interpreting emotions: why we should not be afraid?	R. Lauwereins, IMEC, Belgium
11:15-11:45	Low power smart brain-machine interfaces	J. Rabaey, UC Berkeley, USA
11:45-12:00	Concluding remarks	C. Hierold, ETHZ, Switzerland
12:00 Closing		

USA San Francisco Workshop venue



Directions: <http://swissnexsanfrancisco.org/aboutus/contactus>

Hotel reservations: <http://www.booking.com/>

Workshop registration: <https://epfl.doodle.com/3bt3z6qci9wyw9vn>

USA San Francisco Workshop information

Europe Organization

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- 📍 <http://www.ga-project.eu/>
- 📍 Registration (on invitation only):
<https://epfl.doodle.com/3bt3z6qci9wyw9vn>

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