

ZEROPOWER

WORKSHOP

Nanoscale materials and engineering for energy-efficient electronics

26th – 27th October 2011, Cork, Ireland

Wednesday, October 26th

08:30-09:00 *Registration*

09:00-09:10 *Conference opening*, L. Gammaitoni, G. Fagas

09:10-09:50 *Energy harvesting metrology programme*

Markys Cain (National Physical Laboratory, UK)

09:50-10:30 *Materials and nano architectures for energy storage*

James Rohan (Tyndall National Institute, Ireland)

10:30-10:55 *Co-design of power management circuits and nano-energy harvesters*

Eduard Alarcon (Universitat Politècnica de Catalunya, Spain)

10:55-11:20 *Coffee break*

EC Initiatives

11:20-11:30 FET Proactive: Francisco Ibanez Gallardo (Deputy Head of Unit, EC)

11:30-11:40 ZEROPOWER: Luca Gammaitoni (Università di Perugia, Italy)

11:40-12:05 NANOPOWER: Lukas Worschech (Universität Würzburg, Germany)

12:05-12:30 Green Si: Douglas Paul (University of Glasgow, UK)

12:30-12:55 SiNAPS: Giorgos Fagas (Tyndall National Institute, Ireland)

13:00-14:00 *Lunch*

14:00-14:40 *Zeropower solutions based on integrated M/NOEMS resonators*

Gabriel Abadal-Berini (Universitat Autònoma de Barcelona, Spain)

14:40-15:05 *Silicon Nanowire Solar Cells*

Fritz Falk (Institute of Photonic Technology, Germany)

15:05-15:30 *Vibrational energy harvesting: Electromagnetic Transduction*

Saibal Roy (Tyndall National Institute, Ireland)

15:30-17:10 *Coffee break - Poster Session*

17:10-17:35 *Tunnel FETs for Low-Power Electronics*
Joachim Knoch (RWTH Aachen University, Germany)
17:35-18:00 *Effect of intrinsic noise on the conductance of open quantum dots*
Bjorn Sothman (Université de Genève)

18:00-19:00 *Round table discussion*

19:00 *Conference: End of day 1*
19:30 *Conference dinner at River Lee hotel*

Thursday, October 27th

09:00 *Conference: Start of day 2*

09:00-09:40 *Guardian Angels FET Flagship Pilot*
Adrian Ionescu (EPFL, Switzerland)
09:40-10:05 *Noise enhanced transport in nanoelectronic devices*
Fabian Hartmann (Universität Würzburg, Germany)
10:05-10:30 *Gold nanowires as future low power sensors*
Alan O'Riordan (Tyndall National Institute, Ireland)
10:30-10:55 *Power and Energy Management in the context of the SiNAPS Project*
Maher Kayal (EPFL, Switzerland)

10:55-11:20 *Coffee break*

PhD session

11:20-11:40 *Vibration powered wireless sensor and performance comparison*
Francesco Orfei (Università di Perugia, Italy)
11:40-12:00 *Electronics Implementation of Power and Energy Management Scheme*
Naser Khosropour (EPFL, Switzerland)
12:00-12:20 *Atomic-scale modeling for solar energy materials*
Merid Legesse (Tyndall National Institute, Ireland)
12:20-12:40 *Nanoelectronic Thermoelectric Energy Generation*
Lourdes Ferre-Llin (University of Glasgow, UK)
12:40-13:00 *Graphene based energy harvesting*
Miquel López-Suárez (Universitat Autònoma de Barcelona, Spain)

13:00-14:00 *Lunch*

14:00-14:40 *Nanopiezotronics*
Gabriel Abadal-Berini (Universitat Autònoma de Barcelona, Spain)
14:40-15:05 *Buckled beam oscillators for vibration harvesting*
Francesco Cottone (ESIEE Université Paris-Est, France & Università di Perugia, Italy)
15:05-15:30 *Energy harvesting with nonlinear piezoelectric microoscillators*
Helios Vocca (Università di Perugia, Italy)
15:30-15:45 *Wrap-up and Closing of the event*