

# MIT-INL Workshop on Nanostructured Materials, Devices and Systems

## INL – International Iberian Nanotechnology Laboratory

Braga, 18<sup>th</sup> of July 2011

### Session 1: Graphene Devices and Applications

Chair: Carl Thompson (MIT)

Tomas Palacios, (MIT), "Graphene-Based Microsystems for Environment and Food-Quality Monitoring"

Pablo Jarillo-Herrero (MIT), "Quantum Transport and Optoelectronics in Graphene"

Nuno Peres (U. Minho), "Optical Properties of Graphene"

### Session 2: NEMS and Manufacturing

Chair: Tomas Palacios, (MIT)

Dana Weinstein (MIT), "Nano-mechanical Resonators: Devices and Circuits"

Joao Pedro Conde (INESC MN), "Thin film silicon and polymer MEMS resonators"

Martin Schmidt (MIT), "Digital Fabrication of Micro/Nano Systems"

### Session 3: Devices for Autonomous Microsystems: Energy and Sensing

Chair: Paulo Jorge Peixeiro de Freitas (INL)

Carl V. Thompson (MIT), "Nanowire and Nanotube Devices for Autonomous Microsystems"

Lifeng Liu (INL), "Self-organized TiO<sub>2</sub> nanotubes and related composites for energy storage, conversion and sensing"

Ranjith Pai (INL), "Transparent conjugated polymer films for capturing solar energy"

Sang-Gook Kim (MIT), "PZT based Vibration-to-Electric Energy Generators"

Joao Gaspar (INL), "Bistable Oscillators for Broadband Vibration Energy Scavengers"

Sasha Sadewasser (INL), "Nanostructured chalcopyrite semiconductors for photovoltaic energy generation"

### Session 4: Biomedical Platforms

Chair: Joao Gaspar (INL)

Anantha Chandrakasan (MIT), "Ultra-low-Power Wireless Sensors Systems"

Paulo Freitas (INESC MN-INL), "Spintronic Biochips for biomedical applications"

Polina Anikeeva (MIT), "Devices that stimulate brain function"

Dmitri Petrovykh (INL), "Design and analysis of bio interfaces"

### Closing

Luis Magalhães, President of the INL Council and President of the Knowledge Society Agency (UMIC), Portugal