



Istituto CNR SPIN
SuPerconductors,
oxides and other INnovative
materials and devices

ESAS
The European Society for
Applied Superconductivity



IEEE

CSC
Council on Superconductivity

ESAS WINTER SCHOOL



Novel frontiers in superconducting electronics: from fundamental concepts and advanced materials towards future applications

Pozzuoli (NA) , 12-16 December 2016

Web site: events.isec2017.org

LIST OF TOPICS

Towards energy-efficient electronics

- Big societal challenges, state-of-the-art and possible role of superconducting (SC) electronics.

Superconducting electronics: basic aspects

- Digital SC electronics.
- Analog SC electronics.
- Superconducting memories.

Interfacing superconductivity with other functional degrees of freedom

- Superconducting spintronics.
- Spin control through light: towards the integration with superconductivity.
- Semiconductor-superconductor hybrids: unconventional superconductivity and quantum topological order.
- Ferroelectricity and superconductivity: hybrid solutions.
- Coherent superconducting caloritronics.

Superconducting fast interconnections

- Low dimensional nanostructures, nanowires, 2D one-layer materials (e.g. graphene, silicene, etc.).
- Low dimensional superconducting electronics for fast interconnections.

ORGANIZING COMMITTEE

- G. P. Pepe** (Università di Napoli *Federico II*, Italy)
M. Cuoco (CNR SPIN Salerno, Italy)
R. Cristiano (CNR SPIN Napoli, Italy)
F. Mileto (CNR SPIN Napoli, Italy)
C. Attanasio (Università di Salerno, Italy)
F. Tafuri (Seconda Università di Napoli, Italy)

PRELIMINARY LIST OF SPEAKERS

- O. Mukhanov** (Hypres Inc, USA)
I. Vernik (Hypres Inc, USA)
T. Ortлеpp (CiS Forschungsinstitut für Mikrosensorik GmbH - Erfurt, Germany)
F. Giazotto (CNR NANO - Pisa, Italy)
J. Aarts (University of Leiden, The Netherlands)
Y. Tanaka (Nagoya University, Japan)
J. Robinson (University of Cambridge, UK) (to be confirmed)
F. Lombardi (Chalmers University, Sweden)
A. Kimel (Radboud University, The Netherlands)
R. Sobolewski (University of Rochester, USA)
H. Boschker (Max Planck Institute Stuttgart, Germany)

ISEC 2017

The ESAS Winter School is a satellite event of the biennial International Superconductive Electronics Conference ISEC 2017

www.isec2017.org



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