

FisMat 2013

POLITECNICO DI MILANO



**Italian National Conference on
Condensed Matter Physics
(Including Optics, Photonics, Liquids, Soft Matter)**

09-13 september 2013

CONFERENCE PROGRAM

FisMat 2013 will host the annual Conferences of the Italian Society for Synchrotron Radiation Light (SILS) and of the Italian Society for Neutron Spectroscopy (SISN).

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Dear colleagues,

it's a great pleasure for me to welcome all of you at FisMat 2013, the Italian conference on condensed matter physics and related fields. The conference is held at the Politecnico di Milano, which in 2013 is celebrating its 150th anniversary.

The motivation which inspired all the people involved in the organization of this event has been the desire to bring under the same roof a large fraction of the Italian scientists working in this field of research, independently from their affiliation. We believe that our effort has been rewarded as testified by the 800 contributions received from researchers working in many Italian and foreign institutions. These contributions cover a large spectrum of arguments, many of them moving across the border that separates physics from other branches of science such as chemistry, biology, medicine, cultural heritage.

The relevance of all this is that, after nearly a decade, for the Italian community of low energy physics this is the first chance to meet again after the suppression of INFN, the Italian Institute for the Physics of Matter, a dramatic event that caused a diaspora that has never been recovered. Our hope is that this conference will give to all of us the possibility to see what's going outside our laboratory and stimulate the reestablishment of links between the research groups and the creation of research networks for better facing the strongly competitive international scenario. And, at the end, we'll see, if they are roses they will bloom.

Ezio Puppini (Conference Chairman)

Scientific Committee

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Alberto Tagliaferri (Politecnico di Milano)
Maurizio Zani (Politecnico di Milano)

Wednesday, September 11

AFTERNOON SESSION

14:30 - 17:00 ***Sensors devices and applications A***

Room ***L.26.11***

Chairman: Ermanno Pinotti

- Pietro Siciliano* (I) Smart System for societal challenging applications
Bruno Murari (I) From MEMS Dream to Today Reality
Luca Boarino (I) Nanofacility Piemonte: three years of activity in the field of nanofabrication by ion and electron beams
Roberto Russo High sensitivity nano-SQUIDs for nanomagnetism investigations
Francesco Armani A multisensor platform for thin film polymeric-based transducers
Francesco Floris Multilayer structures, pi-conjugated polymers and optical detection of nitroaromatic compounds
Michele Di Fraia 2D-detectors for Photoionization Studies of Atoms, Molecules and Clusters at ELETTRA and FERMI@ELETTRA

14:30 - 17:00 ***Surface science C***

Room ***L.26.12***

Chairman: Marco Finazzi

- Maria Grazia Betti* (I) Organometallics architectures on surfaces
Francesco Buatier de Mongeot Transparent Plasmonic Nanowire Electrodes via Self-Organised Ion Beam Nanopatterning
Laura Fazi Unveiling the electronic and optical contribution of Rebonded-Step surface reconstruction in Ge/Si heteroepitaxy
Maria Rutigliano H₂ molecules formation on W(110) surface
Luca Passoni Tunable wettability through independent tuning of micro and nano scale features of self-assembled hierarchical material
Simone Taioli Non-adiabatic ab initio molecular dynamics of supersonic beam epitaxy of silicon carbide at room temperature
Marcello Campione Frictional anisotropy of crystalline surfaces and its relationship with surface structure studied by atomic force microscopy
Claudia Cancellieri Soft x-ray photoemission spectroscopy on buried complex oxide interfaces
Michail Michailov Computer modeling of surface-confined intermixing phenomena at epitaxial interfaces

14:30 - 17:00 ***Superconductivity C***

Room ***L.26.13***

Chairman: Mikkel Ejrnaes

- Daniel Esteve* (I) Quantum physics with superconducting electrical circuits
Alessandra Continenza (I) Effective doping and chemical scaling law in Fe-based superconductors
Antonella Iadecola Effect of Ru substitution on atomic displacements in the layered SmFe - xRu_xAsO_{0.85}F_{0.15} superconductor

Wednesday, September 11

<i>Luca de Medici</i>	Selective Mottness as a key to iron superconductors
<i>Davide Massarotti</i>	Study of macroscopic quantum phenomena and phase dynamics in moderately damped Josephson junctions
<i>Mikhail Lisitskiy</i>	Materials and technologies of superconducting devices for quantum computation
Claudio Guarcello	Analysis of soliton dynamics and noise induced effects on the superconductive lifetime in long Josephson junctions
<i>Fabio Chiarello</i>	Coherent quantum manipulation of superconducting qubits by fast flux pulses: decoherence, adiabaticity and speed issues

14:30 - 17:00 **Plasma physics A**

Room **L.26.14**

Chairman: Francesco Pegoraro

<i>Paolo Buratti</i>	(I) Kink instabilities and magnetic reconnection in plasmas from millimetric to parsec length scales
<i>Antonino Di Piazza</i>	(I) Intense laser-plasma interaction as a tool for fundamental physics
<i>Luca Mezi</i>	Efficient extreme ultraviolet and soft X-rays plasma sources at ENEA Frascati
<i>Massimiliano Romè</i>	Investigation of non-neutral complex plasmas
<i>Dario Borgogno</i>	Barriers in the transition to global chaos in collisionless magnetic reconnection
<i>Petra Koester</i>	Experimental fast electron transport studies in a counterpropagating scheme
<i>Emanuele Tassi</i>	Stability criteria in compressible reduced magnetohydrodynamics and analogy with the magnetorotational instability

14:30 - 17:00 **SILS A**

Room **L.26.15**

Chairman: Antonella Balerna

<i>Federico Boscherini</i>	21st SILS Conference
<i>Paola Coan</i>	(I) Exploiting X-ray phase contrast imaging in medical diagnostics: towards clinical applications
<i>Federico Zontone</i>	New opportunities with coherent hard X-rays at the refurbished ESRF beamline ID10
<i>Paul Claude Diemoz</i>	Edge illumination phase-contrast imaging: nanoradian angular resolution at synchrotrons and translation to conventional sources
<i>Mattea Carmen Castrovilli</i>	Photofragmentation of halogenated pyrimidine molecules in the VUV range
<i>Matteo Amati</i>	Toward ambient pressure scanning photoemission imaging and spectromicroscopy - a feasibility test and first results
<i>Matteo Minola</i>	Magnetic, orbital and charge fluctuations in layered cuprates studied by resonant soft x-ray scattering
<i>Nicola Viganò</i>	Discrete Representation of Local Orientation in Grains using Diffraction Contrast Tomography
<i>Francesco Radica</i>	SR-FTIR imaging of carbon dioxide diffusion in cordierite-like structures

14:30 - 17:00 **Electrons and phonons B**

Room **L.26.16**

Chairman: Stefano Baroni

<i>Ivano Tavernelli</i>	(I) TDDFT-based nonadiabatic dynamics with classical and quantum trajectories
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