

MAGNET 2019

Messina, January 30th - February 1st, 2019

PROGRAM

WEDNESDAY, JANUARY 30th, 2019

08.00 Registration

08.30 Welcome

Giovanni Finocchio, General Chair of Magnet 2019, **Franca Albertini**, President of AIMagn

SESSION I - Chair: **Giovanni Carlotti**, Università di Perugia

09.00 **Takahiro Moriyama**, Kyoto University (Japan), invited
Controlling magnetic damping with antiferromagnets

09.30 **Roman Khymyn**, Gothenburg University (Sweden), invited
Emission of the propagating spin waves in antiferromagnets by spin current-driven oscillating domain wall

10.00 **Victor Lopez Dominguez**, Northwestern University (USA)
Picosecond electric-field-induced switching of antiferromagnets

10.15 **Lorenzo Baldrati**, Johannes Gutenberg University Mainz (Germany)
Electrical reading-out and writing of antiferromagnetic insulators

10.30 **Matteo Cantoni**, Politecnico di Milano
Accessing antiferromagnetism in chromium thin films via magnetic proximity effect in Pt/Cr bilayers

10.45 Coffee break

SESSION II - Chair: **Roman Khymyn**, Gotenburg University (Sweden)

11.15 **Debanjan Polley**, Stockholm University (Sweden)
THz induced demagnetization in CoPt and CoNi multilayers

11.30 **Daniele Pinna**, Johannes Gutenberg University Mainz (Germany)
Reservoir computing with random skyrmion fabrics

11.45 **Mark Bieler**, Physikalisch-Technische Bundesanstalt (Germany)
Terahertz magnetophotocurrents in GaAs: anomalous-Hall and cubic-Dresselhaus contributions

12.00 **Mohammad Haidar**, Gotenburg University (Sweden)
An intrinsic spin orbit torque nano-oscillator

12.15 **Riccardo Tomasello**, FORTH (Greece)
Thermodynamic analogy between magnetic skyrmions and ideal gases: a Boltzmann function based configuration entropy calculation

12.30 **Riaz Hussain**, Università di Parma
Coherent manipulation of ^{173}Yb nuclear spins coupled to a Yb^{3+} qubit in $\text{Yb}(\text{trensal})$

12.45 **Vineet Barwal**, Indian Institute of Technology Delhi (India)
Phase formation of inverse Heusler Mn_2CoAl from Co_2MnAl full Heusler by interchanging the Co and Mn concentrations

13.00 Lunch break

SESSION III - Chair: **Roberto Zivieri**, INDAM

14.30 **Lluís Mañosa**, Universitat de Barcelona (Spain), invited
Caloric and multicaloric effects and materials: towards a clean refrigeration technology

15.00 **Sara Varotto**, Politecnico di Milano
Control of ferroelectricity in the Rashba semiconductor GeTe

15.15 **Francesca Casoli**, IMEM-CNR Parma
Tuning magnetism and functional properties in ferromagnetic shape memory films and nanodisks

15.30 **Giovanni Vinai**, IOM-CNR Trieste
Controlling magnetism in $\text{FexMn}_{1-x}/\text{PMN-PT}$ heterostructures by electrically driven morphological transitions

15.45 **Matteo Cialone**, Università di Torino
Magnetic force microscopy study of sub-micron FePd structures

16.00 **Alexander Chizhik**, Universidad del País Vasco, San Sebastian (Spain)
New magnetic structures and scenarios of magnetization reversal in soft microwires

16.15 **Jantje Schommartz**, Physikalisch-Technische Bundesanstalt (Germany)
Time-resolved studies of optically driven magnetization dynamics in chiral magnetic thin films

16.30 Poster & Coffee Session I - Chairs: **Lucia Del Bianco**, Università di Ferrara, **Vito Puliafito**, Università di Messina

18.00 Visit to the Regional Museum of Messina

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THURSDAY, JANUARY 31st, 2019

08.30 Registration

SESSION IV - Chair: **Riccardo Bertacco**, Politecnico di Milano

09.00 **Massimiliano Marangolo**, Institut des Nano-Sciences de Paris (France), invited

Ferromagnetic resonance induced by surface acoustic waves in epitaxied iron thin films

09.30 **Maria del Puerto Morales**, Institute of Material Science of Madrid (Spain), invited

Effect of magnetic nanoparticles aggregation and spatial distribution on the magnetic behaviour of liposomes and cells

10.00 **Marco Madami**, Università di Perugia

Programmable control of spin-wave transmission in a domain-wall spin valve

10.15 **Gianfranco Durin**, INRIM Torino

Earthquake-like dynamics of weakly-driven domain walls in ultrathin magnetic film

10.30 **Marco Coisson**, INRIM Torino

Innovative technique for thin films magnetostriction measurements by scanning probe microscopy

10.45 Coffee break

SESSION V - Chair: **Paola Tiberto**, INRIM Torino

11.15 **Oscar Iglesias**, Universitat de Barcelona (Spain)

Effects of shape and spatial arrangement of nanoparticle assemblies on their hyperthermia performance

11.30 **Federico Spizzo**, Università di Ferrara

Formation of Mn-doped magnetite nanoparticles for magnetic heating

11.45 **Linda Bianchini**, Università di Milano

Phantom studies for the investigation of the repeatability and robustness of radiomic features extracted from magnetic resonance images

12.00 **Elvira Fantechi**, Università di Pisa

Multifunctional magnetic-plasmonic heterostructured nanocrystals for innovative biomedical and sensing applications

12.15 **Beatrice Muzzi**, Università di Siena

Controlled design of exchange coupled nano-heterostructures with high energy product

12.30 **Alessandro Surpi**, CNR-ISMN Bologna

Magnetic separation, concentration and manipulation of bioanalytes from aqueous solutions and biological fluids

12.45 **Sara Laureti**, ISM-CNR Roma

Salt layered precursors synthesis: an effective route to obtain highly ordered L10 MPt (M = Fe, Co, Ni) particles

13.00 Lunch break

SESSION VI - Chair: **Mario Carpentieri**, Politecnico di Bari

14.30 **Matteo Avolio**, Università di Pavia

Elongated magnetic nanoparticles with different porosities for application in magnetic fluid hyperthermia and MRI

14.45 **Massimiliano d'Aquino**, Università di Napoli "Parthenope"

Analysis of switching times statistical distributions for magnetic nanoparticles

15.00 **Cesar de Julián Fernández**, IMEM-CNR Parma

Magnetic behaviour of single-domain and multi-domain Strontium ferrite particles

15.15 **Marco Piazza**, Università di Pavia

Experimental study and physical interpretation of the hysteresis properties of magnetic inclusions in Earth diamonds

15.30 **Davide Peddis**, ISM-CNR Roma

Understanding magnetization dynamics of strongly interacting magnetic nanoparticles ensemble

15.45 **Fausto Sirsi**, Università del Salento, Lecce

Magnetic particles sensing: a novel dynamic approach

16.00 Poster & Coffee Session II - Chairs: **Ilaria Bergenti**, ISMN-CNR Bologna, **Massimiliano d'Aquino**, Università di Napoli "Parthenope"

17.30 AiMagn meeting

20.30 Social dinner & Best poster award

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FRIDAY, FEBRUARY 1st, 2019

08.30 Registration

SESSION VII - Chair: **Gianluca Gubbiotti**, IOM-CNR Perugia

09.00 **Pietro Gambardella**, ETH Zurich (Switzerland), invited

Time- and spatially-resolved magnetization dynamics induced by spin-orbit torques

09.30 **Ozhan Ozatay**, Bogazici University, Istanbul (Turkey), invited

The evolution of magnetic states: from radial vortices to Néel skyrmions

10.00 **Gaspere Varvaro**, ISM-CNR Roma

Perpendicular magnetized GMR spin valves with a synthetic antiferromagnetic reference layer on flexible substrates

10.15 **Daniela Petti**, Politecnico di Milano

Engineered reconfigurable spin-textures for nanomagnonics

10.30 **Michaela Kuepferling**, INRIM Torino

Magnetic vortex dynamics in temperature gradients

10.45 Coffee break

SESSION VIII - Chair: **Sara Laureti**, ISM-CNR Roma

11.15 **Stefano Bonetti**, Università di Venezia "Ca' Foscari"

Spin dynamics driven by narrow-band terahertz radiation in thin film ferromagnets

11.30 **Samuele Sanna**, Università di Bologna

Fast recovery of pristine stripe magnetic order induced by Mn impurities in superconducting oxypnictides

11.45 **Mattia Benini**, ISMN-CNR Bologna

Magnetic anisotropy in cobalt thin films modulated by organic semiconductors

12.00 **Lapo Bogani**, University of Oxford (UK)

Putting magnetism into molecular carbon nanostructures

12.15 **Manuel Mariani**, Università di Pavia

NMR and μ +SR detection of exotic magnetic behaviour in Trensral Lanthanide-based single ion magnets

12.30 Best presentation "Roberta Ciprian" award

12.45 End of the conference