

April 11th, 2022

09:00-09:30 Registration

09:30-09:45 Opening

Chair: P. Tiberto (INRIM)

9:45-10:45 **Plenary lecture** A. Morpurgo (Université de Genève) - 2D Magnetic Materials

10:45-11:15 **Keynote lecture** V. Franco (Univ. de Sevilla) – Thermal Hysteresis of Magnetocaloric Materials Studied by TFORC

11:15-11:45 Coffee Break

Chair: F. Albertini (IMEM-CNR)

11:45-13:00 **Oral session** Novel magnetic materials

11:45-12:00 *A. De Vita (Univ. Milano)* - Evidence of Magnetism-induced Topological Protection in the Antiferromagnetic Topological Insulator EuSn_2P_2

12:00-12:15 *F. Cugini (Univ. Parma)* - Effective decoupling of ferromagnetic sublattices in $\text{NiMn}(\text{In},\text{Sn})$ Heusler compounds

12:15-12:30 *A. Sola (INRIM)* - Fast Kerr microscopy on grain-oriented Fe-Si sheets

12:30-12:45 *J. Y. Law (Univ. Sevilla)* - Optimization of rare earth free High Entropy Alloys for enhanced magnetocaloric response

12:45-13:00 *A. Leo (Univ. Salento)* - Metal-enhanced magnon-polariton modes in a 3D cavity

13:00-14:30 Lunch

Chair: A. Lascialfari (Univ. Pavia)

14:30-15:00 **Keynote lecture** T. Guidi (ISIS & Univ. Camerino) – Spin and Vibrational Dynamics in Molecular Magnets Studied by Four-Dimensional INS

15.00-16.00 **Oral session** - Advanced Experimental Techniques

15:00-15:15 *A. Ghirri (NANO-CNR)* - Engineering of Microwave Resonators for Large Coupling Rates with Solid State Spin Ensembles

15:15-15:30 *L. Tesi (Univ. Stuttgart)* - Metasurface Resonators for High-Frequency EPR Investigation of Molecular Magnets on Surface

15:30-15:45 *D. Girardi (Politecnico Milano)* - Towards three-dimensional nanoscale imaging of propagating spin waves via time-resolved X-ray Laminography

15:45-16:00 *S. Cuccurullo (Univ. Milano)* - Engineered magnetic plucking for frequency up-conversion in energy harvesters

16:00-17:15 Coffee Break and Poster Session I

Chair: I. Bergenti (ISMN-CNR)

17:15-18:00 **Oral session** Magnetism and superconductivity

17:15-17.30 *S. Sanna (Univ. Bologna)* - Structural strain and charge density wave at the boundary between magnetism and superconductivity in $\text{La}(\text{Fe},\text{Mn})\text{As}(\text{O}_{0.89}\text{F}_{0.11})$

17.30-17:45 *I.J.Onuorah (Univ. Parma)* - Intrinsic Nature of Spontaneous Magnetic Fields in Superconductors with Time-Reversal Symmetry Breaking

17:45-18:00 *R. Satariano (Univ. Napoli Federico II)* - Inverse magnetic hysteresis of the Josephson supercurrent: study of the magnetic interplay of Superconductor/Ferromagnet Interfaces

April 12th, 2022

	<i>Chair: F. Pineider (Univ. Pisa)</i>
09:00-09:30	Keynote lecture A. Lunghi (Trinity College Dublin) - Spin-Phonon Relaxation: Theory, Ab Initio Simulations and Machine-learning modelling
09:30-10:45	Oral session Molecular Magnetism
9:30-9:45	<i>M. Fittipaldi (Univ. Firenze)</i> - Spin–Electric Coupling in a Copper(II)-Based Spin Triangle Revealed by Electric-Field-Modulated ESR Spectroscopy
9:45-10:00	<i>F. Cicolari (Univ. Pavia)</i> - Investigation of Longitudinal and Transverse ¹ H-NMR Relaxivities of Ln(III)-DOTA Complexes
10:00-10:15	<i>S. Chicco (Univ. Parma)</i> - [VO(TPP)] as a prototypical building block for Qudit-based Quantum Architectures
10:15-10:30	<i>A. Privitera (Univ. Torino)</i> - Direct Detection of Spin Polarisation in Photoinduced Charge Transfer through a Chiral Bridge
10:30-10:45	<i>F. Pointillart (Univ. Rennes)</i> - Circularly Polarized Luminescence in Lanthanide-Based Single-Molecule Magnets
10:45-11:15	Coffee Break and Poster Session I
	<i>Chair: D. Peddis (Univ. Genova & ISM-CNR)</i>
11:15-11:45	Keynote lecture T. Pellegrino (IIT, Genova) - Magnetic Hyperthermia combined with different therapeutic approaches to Tackle Cancer
11:45-13:00	Oral session Magnetic Nanoparticles
11:45-12:00	<i>J. A. Labra-Muñoz (Univ. Leiden)</i> - Reinterpreting the Magnetism of Ferritin Proteins by Magnetometry and Electron Paramagnetic Resonance
12:00-12:15	<i>M. Sanna Angotzi (Univ. Cagliari)</i> - Magnetic heat dissipation from spinel ferrite-based nanostructures: effect of the inorganic and organic coating
12:15-12:30	<i>G. Barrera (INRIM)</i> - Factors affecting Magnetic Particle Imaging: Challenges and Solutions
12:30-12:45	<i>A. Ponti (SCITEC-CNR)</i> - Zwitterionic Magnetic Nanoparticles Induce Innate Immune Memory
12:45-13:00	<i>B. Dalla Ventura (Univ. Napoli)</i> - Efficient colorimetric immunosensor to detect glyphosate in tap water by spinning magnetic nanoparticles in rotating magnetic Fields
13:00-14:30	Lunch
	<i>Chair: G. Maruccio (Univ. Salento)</i>
14:30-15:30	Plenary lecture P. Cappellaro (MIT) - Quantum-Enhanced Sensing of Magnetic Fields
15.30-16.15	Oral session Spintronics
15:30-15:45	<i>A. Di Pietro (INRIM)</i> - Reversible anisotropy manipulation via gate voltages in ferromagnet/oxide multilayers
15:45-16:00	<i>C. Rinaldi (Politecnico Milano)</i> - Perspectives of spin-textured ferroelectric semiconductors
16:00-16:15	<i>M. Benini (ISMN-CNR)</i> - In-depth modification in Co thin films induced by the interfacing with molecular layers detected by Zero-Field NMR
16:15-17:30	Coffee Break and Poster Session II
17:30-19:00	AlMagn General Assembly
20:30	Social dinner

April 13th, 2022

Chair: R. Sessoli (Univ. Firenze)

09:00-10:00 **Plenary lecture** E. Coronado (Univ. de Valencia) – Molecular Spin Science and Technology

10:00-10:30 **Keynote lecture** C. Ciccarelli (Univ. of Cambridge) Moving towards faster and lower power spintronics

10:30-11:00 Coffee Break and Poster Session II

Chair: C. de Julián Fernández (IMEM-CNR)

11:00-12:30 **Oral session** Low Dimensional Magnetic Nanostructures

11:00-11:15 *P. Maltoni (Univ. Uppsala)* - Magnetic Interactions and Reversal Processes in Ferrites-based Nanostructures

11:15-11:30 *B. Muzzi (Univ. Toulouse, France)* - Coating cobalt nanorods with gold containing shells

11:30-11:45 *G. Gubbiotti (IOM-CNR)* - New perspectives in Magnonics: from 2D to 3D systems

11:45-12:00 *M. Takhsha (IMEM-CNR)* - A Journey Across Martensitic Phase Transition in Heusler Films by Advanced Imaging in Temperature and Magnetic Field

12:00-12:15 *S. Laureti (ISM-CNR)* - Disclosing the nature of asymmetric interface magnetism in Co/Pt Multilayers

12:15-12:30 *E. Longo (IMM-CNR)* - Large spin-to-charge conversion at room temperature in extended epitaxial Sb_2Te_3 topological insulator chemically grown on Silicon

12:30-13:00 **Keynote lecture** M. Cinchetti (*TU Dortmund*) - Molecular Interfaces under the (Photoemission) Microscope

13:00-13:20 Prizes & Closing Remarks