List of presentations

27 August 2021

Trends in MAGnetism 2021, 6-10 September, Cefalù, Palermo (Italy)

CODE	Technical Categories
AA	Magnetization dynamics, damping and ultrafast switching
AB	Antiferromagnetic spintronics. Antiferromagnetic and ferrimagnetic materials
AC	Spintronics for unconventional computing
AD **BD**	Statics and dynamics of solitons (Domain walls and Skyrmions, etc)
AE **BE**	Spin waves, magnonics and magnonic applications, Opto-magnonics. Hybrid magnonic heterostructures. Spin waves on curved surfaces and 3D heterostructures
AF **BF** **CF**	Novel magnetic materials and multilayers. Materials properties. Magnetism and superconductivity
AG	Static and dynamic spin Hall and spin-orbital torques. Static and dynamic spin Hall and spin orbital torques
AH	Micromagnetic modeling and hysteresis
AI	Spin injection and spin-dependent tunneling
LIVE	Session Lecture
BA	Interdisciplinary talks
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Trends in MAGnetism 2021, 6-10 September, Cefalù, Palermo (Italy)

AA: Magnetization dynamics, damping and ultrafast switching

AA	01	**Stefano Bonetti,** Ca Foscari University of Venice, Italy - *Inertial spin dynamics in ferromagnets* (invited)
AA	02	**Andrei Kirilliouk,** Radboud University, The Netherlands - *Nonthermal all-optical switching of magnetization: mechanisms and challenges* (invited)
AA	03	**Stephane Mangin,** Université de Lorraine, France - *Single ultra-fast spin current pulse to switch magnetization* (invited)
AA	04	**Shigemi Mizukami,** Tohoku University, Japan - *All-optical probe of magnetization dynamics in synthetic antiferromagnets* (invited)
AA	05	**Martina Basini,** Stockholm University, Sweden - *Towards ultrafast magnetization creation and control via dynamical multiferroicity*
AA	06	**Antoni Ignacy Frej,** University of Bialystok, Poland - *All-optical magnetic recording with single L-band laser pulse in YIG:Co*
AA	07	*withdrawn*
AA	08	**Quentin Remy,** Université de Lorraine, France - *Control of Single Pulse All Optical Magnetization Switching of Ferromagnets*

AB: Antiferromagnetic spintronics. Antiferromagnetic and ferrimagnetic materials

AB	01	**Olena of Gomonay,** Johanes Gutenberg University, Germany - *Current-induced switching in antiferromagnets: role of thermal heating and strain effects* (invited)
AB	02	**Vincent Jacques,** Université de Montpellier and CNRS, France - *Exploring antiferromagnetic order at the nanoscale with a single spin microscope (invited)*
AB	03	**Tomas Jungwirth,** University of Nottingham, United Kingdom - *Ferromagnets, antiferromagnets and altermagnets* (invited)
AB	04	**Jairo Sinova,** Johannes Gutenberg University Mainz, Germany - *Topological spintronics in antiferromagnets and the crystal Hall effect* (invited)
AB	05	*withdrawn*
AB	06	**Silvia Damerio,** University of Groningen, The Netherlands - *Spin Hall Magnetoresistance in Pt/ CaFe2O4 multi-domain thin films*
AB	07	*withdrawn*
AB	08	**Hai Zhong,** Qnami AG, Switzerland - *Quantitative imaging of antiferromagnetic spin cycloidal textures on strain engineered BiFeO3 thin films with a scanning nitrogen-vacancy magnetometer*
AB	09	*withdrawn*
AB	10	**Victor Lopez Dominguez,** Northwestern University, USA - *Antiferromagnetic PtMn memory devices controlled by electric current*
AB	11	**Luis Sánchez-Tejerina,** University of Salamanca, Spain - *Ferro-, ferri-, and antiferromagnetic materials within the same micromagnetic framework*
AB	12	**Michał Ślęzak,** AGH University of Science and Technology, Poland - *Field-free switching between orthogonal spin states in antiferromagnetic NiO(111) on Fe(110)*

AC: Spintronics for unconventional computing

AC	01	**Supriyo Bandyopadhyay,** Virginia Commonwealth University, USA - *Straintronics for Unconventional Computing* (invited)
AC	02	**Kerem Yunus Camsari,** Purdue University, USA - *p-bits for Quantum Inspired Algorithms* (invited)
AC	03	**Massimiliano Di Ventra,** University of California, USA **-** *Digital Memcomputing: from logic to dynamics to topology* (invited)
AC	04	**Julie Grollier,** Université Paris Saclay, France - *Microwave spintronic neural networks* (invited)
AC	05	**Eleonora Raimondo,** University of Messina, Italy - *Study of the robustness of neural networks based on spintronic neurons*
AC	06	**Alberto Riminucci,** Institute for the Study of Nanostructured Materials, Italy - *Organic spintronic multilevel resistive switching devices as synapses for neuromorphic computing*
AC	07	*withdrawn*
AC	08	**Pietro Tullo,** Politecnico of Bari, Italy - *Numerical study of noise-induced convergence of Ising machines based on spintronic oscillators*
AC	09	**Kang L Wang,** University of California, USA - *Topological spintronics: dynamics and symmetry breaking for high speed and energy efficiency memory* (invited)

AD - BD: Statics and dynamics of solitons (Domain walls and Skyrmions, etc)

AD	01	**Olivier Boulle,** SPINTEC (Univ. Grenoble Alpes/CNRS/CEA), France - *Antiferromagnetic skyrmions and skyrmion racetrack defined by light ion irradiation for skyrmions logics* (invited)
AD	02	**Pietro Gambardella,** ETH Zurich, Switzerland - *Coupled nanomagnets and domain wall logic circuits enabled by the Dzyaloshinskii-Moriya interaction* (invited)
AD	03	**Kai Liu,** Georgetown University, USA - *Chemisorption-Induced Dzyaloshinskii-Moriya Interactions and Spin Textures* (invited)
AD	04	**Christopher Marrows,** University of Leeds, United Kingdom - *Skyrmions in chiral magnetic multilayers* (invited)
AD	05	**Peter Fischer,** Lawrence Berkeley National Laboratory, USA - *Advanced x-ray characterization of novel topological spin textures at their fundamental length and time scales* (invited)
AD	06	*withdrawn*
AD	07	*withdrawn*
AD	08	**Stavros Komineas,** University of Crete, Greece - *Traveling skyrmions in chiral antiferromagnets*
AD	09	**Konstantin Gusliyenko,** Universidad del País Vasco, Spain - *Ferromagnetic skyrmion spin-torque nano-oscillators*
AD	10	*withdrawn*
AD	11	**Krisztian Palotas,** Wigner Research Center for Physics, Hungary - *Magnetic skyrmions probed by SP-STM: topology imprinted on the charge current and spin transfer torque*

AD	12	*withdrawn*
AD	13	**Börge Göbel,** Martin-Luther-Universität, Germany - *Beyond skyrmions: Alternative nano-objects for spintronics*

BD	01	**Luis Lopez-Diaz,** University of Salamanca, Spain - *Domain wall motion by means of magnonic currents in antiferrromagnets (invited)*
BD	02	*withdrawn*
BD	03	**Hans J. Hug,** Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland - *Quantitative magnetic force microscopy – an experimental tool to develop thin film systems supporting skyrmion bobbers at room temperature* (invited)
BD	04	**Oleg Tretiakov,** University of New South Wales, Australia - *Fast domain wall motion in chiral ferromagnets and ferrimagnetic insulators* (invited)
BD	05	**Felix Büttner,** Helmholtz-Zentrum Berlin, Germany - *Fluctuation-mediated picosecond nucleation of magnetic skyrmions*
BD	06	*withdrawn*
BD	07	**Mai Kameda,** Tohoku University, Japan - *Attractive inter-skyrmion couplings induced by distorted skyrmions*
BD	08	**Dimitris Kechrakos,** School of Pedagogical and Technological Education (ASPETE), Greece - *Formation and electrical detection of skyrmion lattice on cylindrical nanotubes*
BD	09	*withdrawn*
BD	10	**Alexander Mook,** University of Basel, Switzerland - *Quantum damping of skyrmion crystal eigenmodes due to spontaneous quasiparticle decay*
BD	11	*withdrawn*
BD	12	**Ildus Sharafullin,** Bashkir State University, Ufa, Russia - *Skyrmions and phase transitions in a ferromagnetic/ferroelectric superlattices with triangular lattice*
BD	13	**Riccardo Tomasello,** Politecnico di Bari, Italy - *Role of current driven torques on skyrmion motion in Antiferromagnets*

AE - BE: Spin waves, magnonics and magnonic applications, Opto-magnonics. Hybrid magnonic heterostructures. Spin waves on curved surfaces and 3D heterostructures

AE	01	**Burkard Hillebrands,** Technische Universität Kaiserslautern, Germany - *Magnonic qubit computing* (invited)
AE	02	**Olivier Klein,** INAC-Spintec, France - *Coherent long-range coupling between spins by chiral phonons* (invited)
AE	03	**Denys Makarov,** Helmholtz-Zentrum Dresden-Rossendorf e.V., Germany - *Designing chiral magnetic responses by tailoring geometry of thin films: curvilinear ferro- and antiferromagnets* (invited)
AE	04	**Axel Hoffmann,** Argonne National Laboratory, USA - *Hybridized Magnons in Thin Film Systems* (invited)
AE	05	**Mattia Bassotti,** Università di Perugia, Italy - *A micromagnetic study of spin-wave eigenmodes of isolated, twins and chains of Néel skyrmions*

AE	06	**Jorrit Hortensius,** Delft University of Technology, The Netherlands - *Coherent spin-wave transport in an antiferromagnet*
AE	07	*Withdrawn*
AE	08	**Carlos Gonzalez-Ballestero,** Institute for Quantum Optics and Quantum Information, Austria - *Spin-Steered Magnonics*
AE	09	*withdrawn*
AE	10	*withdrawn*
AE	11	**Isabella Rahel Boventer,** Université Paris-Saclay, France - *Reconfigurable magnonic crystal based on multiferroic-ferromagnetic heterostructures*
AE	12	**Alexey B. Ustinov,** St. Petersburg Electrotechnical University, Russia - *Nonlinear spin-wave logic gates based on magnetic films*

BE	01	*withdrawn*
BE	02	**Daniela Petti,** Politecnico di Milano, Italy - *Nanoscale engineered spin textures for magnonics* (invited)
BE	03	**Vittorio Basso,** Istituto Nazionale di Ricerca Metrologica, Italy - *Electric field effect on spin waves spin currents*
BE	04	**Sebastian Alejandro Diaz,** University of Basel, Switzerland - *Chiral hinge magnons in second-order topological magnon insulators*
BE	05	**Tomoki Hirosawa,** University of Tokyo, Japan - *Magnonic quadrupole topological insulator in antiskyrmion crystals*
BE	06	**Mateusz Gołębiewski,** Uniwersytetu Poznańskiego, Poland **-** *Control and manipulation of self-images using phase/amplitude change of input wave fronts and potential application in magnonics*
BE	07	**Alessandra Manzin -** Istituto Nazionale di Ricerca Metrologica, Italy - *Application of magnonic crystals in magnetic particle detection*
BE	08	**Shin Miyahara,** Fukuoka University, Japan - *Anomalous spin wave excitation in helical magnets*
BE	09	**Christina Psaroudaki,** California Institute of Technology, USA - *Spin Wave Radiation by a Topological Charge Dipole*
BE	10	**Davi Röhe Rodrigues,** Johannes Gutenberg-University of Mainz, Germany - *Exotic spinwave effects in topological magnetic textures*
BE	11	**Alexey B. Ustinov,** St. Petersburg Electrotechnical University, Russia - *Effect of vanadium dioxide film on the magnonic crystal band-gaps*
BE	12	**Alexis Wartelle,** Technical University of Munich, Germany - Investigation of caustic spin wave beams in soft thin films

AF - BF - CF: Novel magnetic materials and multilayers. Materials properties. Magnetism and superconductivity

AF	01	*withdrawn*
AF	02	**Gisela Schütz,** Max Planck Institute for Intelligent Systems, Germany - *Magnetic parameters in reduced dimensions* (invited)
AF	03	**Vittorio Basso,** Istituto Nazionale di Ricerca Metrologica, Italy - *The magnon mean scattering time from the spin Seebeck effect*

AF	04	**Irina Bobkova,** Moscow Institute of Physics and Technology, Russia - *Long-range interaction of magnetic moments in a coupled system of S/F/S Josephson junctions with anomalous ground state phase shift*
AF	05	**Yonatan Calahorra,** Technion-IIT, Israel - *Magnetization and magnetoresistance of Ni/porous-GaN composites*
AF	06	*withdrawn*
AF	07	*withdrawn*
AF	08	**Tomáš Maleček,** Charles University, Czech Republic - *Influence of static and dynamic epitaxial strain on La2/3Sr1/3MnO3 ultrathin films*
AF	09	**Kamil Nowak,** AGH University of Science and Technology, Poland - *Influence of introduction small amounts of metallic dopants on topological surface states of Bi2Se3 topological insulator*
AF	10	*withdrawn*
AF	11	**Silvia Tacchi,** Università di Perugia, Italy - *Tailoring magnetic properties of Pt/Co multilayers by helium ion irradiation*
AF	12	*withdrawn*

BF	01	**Christos Panagopoulos,** Nanyang Technological University, Singapore - *Non-collinear magnetism on proximate superconductors* (invited)
BF	02	**Pushpendra Gupta,** National Institute of Science Education and Research (NISER), India - *Simultaneous observation of anti-damping and inverse spin Hall effect in La0.67Sr0.33MnO3/Pt bilayers system*
BF	03	*withdrawn*
BF	04	**Elena A Denisova,** Kirensky Institute of Physics FRC KSC SB RAS, Russia **-** *Magnetic properties of 3-d metal rods with gradients of composition produced by electroless deposition*
BF	05	*withdrawn*
BF	06	**Hubert Głowiński,** Institute of Molecular Physics Polish Academy of Sciences, Poland - *The correlation between orbital magnetic moments and effective magnetic anisotropy in Au/CoFeB/Au systems*
BF	07	**Maria Angeles Laguna-Marco,** Universidad de Zaragoza, Spain - *On the magnetism of novel Ir1–xCrxO2 thin films*
BF	08	**Piotr Mazalski,** University of Bialystok, Poland - *Strong interfacial Dzyaloshinskii-Moriya interaction and magnetic anisotropy in NiO/Co/Pt trilayers*
BF	09	**Cinthia Piamonteze,** Photon Science Division, Switzerland - *Tuning magnetic and electronic properties of NdNiO3 by a proximity layer*
BF	10	**Aleksei Valerevich Shestakov,** FRC Kazan Scientific Center of RAS, Russia - *Temperature features of magnetic resonance of Mn0.13Hg0.87Te*
BF	11	*withdrawn*
BF	12	**Anna Zakharova,** Paul Scherrer Institute, Switzerland - *Interplay between magnetism and interface-induced effects in ultra-thin manganites*

CF	01	**Javad Shabani,** New York University, USA - *Progress in realizing topological superconductivity in planar Josephson junctions* (invited)

CF	02	**Daniel E. Buergler,** Peter Grünberg Institut (PGI-6), Forschungszentrum Jülich, Germany - *Towards molecular hybrid spintronic devices: Novel ferrocene- and pyrene- based cyclophane chemisorbed on ferromagnetic Co(111) nanoislands*
CF	03	*withdrawn*
CF	04	**Ilya Eremin,** Ruhr-University Bochum, Germany - *Magnetic skyrmionic textures in proximity to a superconductor: vortex-skyrmion interaction and Meissner currents*
CF	05	*withdrawn*
CF	06	*withdrawn*
CF	07	*withdrawn*
CF	08	*withdrawn*
CF	09	*withdrawn*
CF	10	**Christian Rinaldi,** Politecnico di Milano, Italy - *Room-temperature and non-volatile electric control of spin currents generation in the ferroelectric semiconductor GeTe*
CF	11	**Irina Vazhenina,** Federal Research Center KSC SB RAS, Russia - *The study of three-layer films FeNi/Dy/FeNi in wide temperature range by resonance method*

AG: Static and dynamic spin Hall and spin-orbital torques. Static and dynamic spin Hall and spin orbital torques

AG	01	**Johan Åkerman,** University of Gothenburg, Sweden - *Microwave signal generation and neuromorphic computing using large spin Hall nano-oscillator arrays* (invited)
AG	02	**Andrew Kent,** New York University, USA - *Spin-transfer switching and magnetic interactions in perpendicular magnetic tunnel junctions nanopillars* (invited)
AG	03	**Silvia Picozzi,** Istituto CNR-SPIN Chieti, Italy - *Spin-orbit coupling: an endless source of complex magnetism* (invited)
AG	04	**Lucian Prejbeanu,** SPINTEC, Univ. Grenoble Alpes, CEA/CNRS, France - *MRAM adoption in microelectronics: status and perspectives* (invited)
AG	05	**Andrei Slavin,** Oakland University, USA - *Tuneable receiver of sub-THz signals based on an antiferromagnet* (invited)
AG	06	**Hyunsoo Yang,** National University of Singapore, Singapore - *Spin-orbit torque of topological spin textures and magnons* (invited)
AG	07	**Weisheng Zhao,** Beihang University, P.R. China - *From Spin Transfer Torque (STT) to Toggle Spin Torque (TST) for the next generation of MRAM* (invited)
AG	08	**Massimiliano d'Aquino,** University of Naples Federico II, Italy - *Chaotic dynamics and thermal switching in ac-driven nanomagnets*
AG	09	**Roberto de Orio,** TU Wien, Austria - *Deterministic spin-orbit switching scheme for an array of perpendicular MRAM cells suitable for large scale integration*
AG	10	*withdrawn*
AG	11	**Esteban José Garzón,** University of Calabria, Italy - *Dual-Barrier MTJ Based Cryogenic STT-MRAMs*
AG	12	**Andrea Grimaldi,** University of Messina, Italy - *Probabilistic computing solver applied to MAX-SAT instances*
AG	13	**Luciano Mazza,** Politecnico of Bari, Italy - *Spin-torque diodes for computing multiplication*
AG	14	**Brindaban Ojha,** National Institute of Science Education and Research (NISER), India - *Driving skyrmions with low threshold current density in amorphous CoFeB thin film*

AG	15	**Gaspare Varvaro,** CNR - ISM, nM2-Lab, Italy - *SAF-based perpendicularly magnetized GMR spin valves on large-area flexible substrates*

AH: Micromagnetic modeling and hysteresis

AH	01	**Patrizio Ansalone,** Istituto Nazionale di Ricerca Metrologica, Italy - *Magnetization transport and local exchange invariance*
AH	02	**Hari Rimal,** University of Perugia, Italy **-** *Ring Cores of Soft Ferrite in Power Electronics: a Macro-Magnetic Approach to the Modelling in Time Domain*
AH	03	**Antonio Faba,** University of Perugia, Italy - *Hysteresis modelling in additively manufactured FeSi magnetic cores*
AH	04	*withdrawn*
AH	05	**Simone Quondam Antonio,** University of Perugia, Italy - *Deep neural networks for the efficient computation of hysteresis processes in GO Fe-Si steel sheets under generic supply excitations*
AH	06	**Dmitry Berkov,** General Numerics Research Lab, Germany - *Switching rate computation in full-scale micromagnetic simulations*
AH	07	*withdrawn*
AH	08	**Vitalii V. Vitko,** St. Petersburg Electrotechnical University, Russia - *Investigation of microwave bistability in spin-wave active ring resonator*

AI: Spin injection and spin-dependent tunneling

AI	01	**Yukio Nozaki,** Keio University, Japan - *Spin current generation using vorticity in solids* (invited)
AI	02	**J.-Carlos Rojas-Sanchez,** Université de Lorraine, CNRS, Institute Jean Lamour, France **-** *Giant self-production of spin current and self-spin-orbit torque in ferrimagnetic materials* (invited)
AI	03	**Guoqiang Yu,** University of Chinese Academy of Sciences, China - *Current-driven magnetization switching in a van der Waals material-based spintronic device* (invited)
AI	04	**Cecile Grezes,** Université Grenoble Alpes / CEA / IRIG/ SPINTEC, France - *Unidirectional spin-Hall magnetoresistance in HgTe topological insulator - ferromagnet heterostructures*
AI	05	**Cecile Grezes,** Université Grenoble Alpes / CEA / IRIG/ SPINTEC, France - *Non-volatile electric-field control of spin-orbit torques in perpendicular ferromagnet - SrTiO3 system*
AI	06	**Jean Anne Incorvia,** The University of Texas at Austin, USA - *Transport in Scandium Nitride Magnetic Tunnel Junctions Using First Principles*

LIVE: Session Lecture

LIVE	01	**Albert Fert,** Université Paris-Saclay, France - *From topology to devices* (Nobel Lecture)
LIVE	02	**Mathias Kläui,** Johannes Gutenberg-University Mainz, Germany - *Antiferromagnetic Insulatronics: Spintronics without magnetic fields and moving electrons* (Distinguished Lecture)

BA: Interdisciplinary talks

BA	01	**Montserrat Rivas,** University of Oviedo, Spain - *A new generation of rapid diagnostic tests: the role of magnetic nanoparticles* (invited)
BA	02	**Stephan Roche,** Institució Catalana de Recerca i Estudis Avancats, Spain - *Towards van der Waals Heterostructures-based Spintronics* (invited)
BA	03	**Nicola Spaldin,** ETH Zurich, Switzerland - *Hidden, entangled and resonating order* (invited)
BA	04	*withdrawn*
BA	05	**Subhankar Bedanta,** National Institute of Science Education and Research (NISER), India - *Spinterface with fullerene*
BA	06	*withdrawn*
BA	07	**Riccardo Bertacco,** Politecnico di Milano, Italy - *TMek: a quantitative lab-on-chip rapid diagnostic test for malaria*
BA	08	**Fabio Corti,** Università degli Studi di Perugia, Italy - *Inductor SPICE model including non-linearity due to non-uniform magnetic field*
BA	09	**Luca Nessi,** Politecnico di Milano and Istituto di Fotonica e Nanotecnologie IFN-CNR, Italy - *Graphene-based ultrathin magnetic membranes for spin polarimetry*
BA	10	*withdrawn*
BA	11	**Paola Maria Tiberto,** INRiM, Italy **-** *Modelling of heating efficiency in magnetic hyperthermia: effect of non-harmonic driving field*
BA	12	**Federica Celegato,** INRIM, Italy - *FePd nanoparticles by solid-state dewetting for magnetic hyperthermia*
BA	13	**Paweł Mazurek,** AGH University of Science and Technology, Poland - *Influence of the position of the steel wire rope in relation to the Earth's magnetic field on the diagnostics with the use of MFAM Technology*

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