

Magnetism Division Fachverband Magnetismus (MA)

Manfred Fiebig
Department of Materials, ETH Zurich
Vladimir-Prelog-Weg 4
8093 Zurich, Switzerland
manfred.fiebig@mat.ethz.ch

Andy Thomas
Leibniz Institute for
Solid State and Materials Research Dresden
Helmholtzstraße 20
01069 Dresden
a.thomas@ifw-dresden.de

Overview of Invited Talks and Sessions (Lecture halls H33, H37, H38, H39, H48, H52, and H53; Poster C and E)

Invited Talks

MA 3.1	Mon	9:30–10:00	H38	Three-dimensional solitons in magnetism, nuclei and particle physics — •PAUL SUTCLIFFE
MA 3.2	Mon	10:00–10:30	H38	Simulations of particlelike states in three-dimensional magnets: chiral skyrmions, bobbbers and hopfions — •FILIPP N. RYBAKOV
MA 3.4	Mon	10:45–11:15	H38	Quantitative measurements of three dimensional magnetic textures using off-axis electron holography — •ANDRÁS KOVÁCS, NIKOLAI KISELEV, JAN CARON, THIBAUD DENNEULIN, FENGSHAN ZHENG, DONGSHENG SONG, STEFAN BLÜGEL, RAFAL E DUNIN-BORKOWSKI
MA 3.5	Mon	11:30–12:00	H38	Three-dimensional nanomagnetism: Present and future — •AMALIO FERNANDEZ-PACHECO
MA 3.7	Mon	12:15–12:45	H38	Revealing magnetic configurations with X-ray magnetic nanotomography — •VALERIO SCAGNOLI
MA 7.1	Mon	15:00–15:30	H37	The Surface Spin Flop in Synthetic Antiferromagnets with Perpendicular Magnetic Anisotropy — •BENNY BÖHM, NIKOLAI KISELEV, DARIUS POHL, LORENZO FALLARINO, LEOPOLD KOCH, BERND RELLINGHAUS, KORNELIUS NIELSCH, OLAV HELLWIG
MA 11.1	Mon	15:45–16:15	H38	Microstructure optimization for rare-earth efficient permanent magnets — •THOMAS SCHREFL, JOHANN FISCHBACHER, ALEXANDER KOVACS, LUKAS EXL, KAZUYA YOKOTA, TETSUYA SHOJI
MA 11.2	Mon	16:15–16:45	H38	Advanced methods for the development of high performance hard and soft magnetic materials — •DAGMAR GOLL, GERHARD SCHNEIDER
MA 11.4	Mon	17:15–17:45	H38	Compositionally graded films as model systems to study magnetic materials for energy applications — •NORA DEMPSEY
MA 11.5	Mon	17:45–18:15	H38	Dissecting the magneto-structural transformation in materials with first-order field-induced transitions — •KONSTANTIN SKOKOV
MA 20.1	Tue	14:00–14:30	H37	Magnetoelectric Inversion of Domain Patterns — •NAËMI LEO, VERA CAROLUS, JONATHAN WHITE, MICHEL KENZELMANN, MATTHIAS HUDL, PIERRE TOLEDANO, TAKASHI HONDA, TSUYOSHI KIMURA, SERGEY IVANOV, MATTHIAS WEIL, THOMAS LOTTERMOSER, DENNIS MEIER, MANFRED FIEBIG
MA 27.1	Wed	9:35–10:15	H38	Magnetism in biomedicine: basics and applications — •KANNAN KRISHNAN
MA 27.2	Wed	10:15–10:45	H38	Spin-dynamics of a magnetic nanoparticle chain. — •MICHAEL WINKLHOFER
MA 27.3	Wed	11:15–11:35	H38	Magnetic materials for biodetection — •GALINA V. KURLYANDSKAYA, ALEXANDER P. SAFRONOV
MA 27.4	Wed	11:35–11:55	H38	From synthetic to biological magnetic microswimmers — •DAMIEN FAIVRE
MA 34.1	Wed	15:00–15:30	H37	Reservoir Computing with Random Skyrmion Fabrics — •DANIELE PINNA, GEORGE BOURIANOFF, KARIN EVERSCHOR-SITTE
MA 37.1	Wed	15:45–16:15	H38	Magnon Transport and Magnonic Topological Insulators — •DANIEL LOSS
MA 37.2	Wed	16:15–16:45	H38	Implementation of the Stimulated-Raman-Adiabatic-Passage mechanism in magnonics — •BURKARD HILLEBRANDS

MA 37.4	Wed	17:15–17:45	H38	Spintronics at interfaces of insulators and non-magnetic metals - magnon Bose-Einstein condensation and induced superconductivity — ●NIKLAS ROHLING, EIRIK LØHAUGEN FJAERBU, ARNE BRATAAS
MA 37.5	Wed	17:45–18:15	H38	Magnon Transport and Dynamics in Magnetic Insulator — ●JING LIU
MA 37.7	Wed	18:30–19:00	H38	Tunable long distance spin transport in antiferromagnetic insulators — ●MATHIAS KLÄUI
MA 42.1	Thu	9:30–10:00	H38	Magnetic nanomembranes: From flexible magnetoelectronics to remotely controlled microrobotics — ●OLIVER G. SCHMIDT
MA 42.2	Thu	10:00–10:30	H38	Curvature-induced chiral effects in nanomagnets — ●OLEKSANDR PYLYPOVSKYI
MA 42.3	Thu	10:30–11:00	H38	Chiral magnetoresistance in curved and noncurved geometries — ●PIETRO GAMBARDELLA
MA 42.4	Thu	11:00–11:30	H38	Domain Wall Dynamics in Curved Geometries — ●ROBERT M. REEVE, MOHAMAD-ASSAAD MAWASS, KORNEL RICHTER, ANDRE BISIG, BENJAMIN KRÜGER, MARKUS WEIGAND, HERMANN STOLL, ANDREA KRONE, FLORIAN KRONAST, GISELA SCHÜTZ, MATHIAS KLÄUI

Invited talks of the joint Symposium SKM Dissertation-Prize 2019

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	9:30– 9:50	H2	Synchronization and Waves in Confined Complex Active Media — ●JAN FREDERIK TOTZ
SYSD 1.2	Mon	9:50–10:10	H2	Spin scattering of topologically protected electrons at defects — ●PHILIPP RÜSSMANN
SYSD 1.3	Mon	10:10–10:30	H2	Beyond the molecular movie: Revealing the microscopic processes behind photo-induced phase transitions — ●CHRIS W. NICHOLSON
SYSD 1.4	Mon	10:30–10:50	H2	Thermodynamic bounds on current fluctuations — ●PATRICK PIETZONKA
SYSD 1.5	Mon	10:50–11:10	H2	Lightwave-driven quasiparticle acceleration — ●FABIAN LANGER
SYSD 1.6	Mon	11:10–11:30	H2	Ultrafast plasmon-driven point-projection electron microscopy — ●JAN VOGELSANG
SYSD 1.7	Mon	11:30–11:50	H2	Helimagnets, sand patterns and fingerprints linked by topology — ●PEGGY SCHÖNHERR

Invited talks of the joint Symposium Geometry, Topology, and Condensed Matter

See SYGT for the full program of the symposium.

SYGT 1.1	Tue	9:30–10:00	H1	Thermal Properties of Vortices on Curved Surfaces — ●JOSÉ LORENZANA
SYGT 1.2	Tue	10:00–10:30	H1	Curvature-induced effects in manomagnets — ●DENIS SHEKA
SYGT 1.3	Tue	10:30–11:00	H1	Magnetization configurations and reversal of individual ferromagnetic nanotubes — ●MARTINO POGGIO
SYGT 1.4	Tue	11:15–11:45	H1	An experimental perspective on topology and nanoelectronics in graphene and related 2D materials. — ●IVAN J. VERA-MARUN
SYGT 1.5	Tue	11:45–12:15	H1	Roles of the curvature in two-dimensional nematic films — ●GAETANO NAPOLI

Invited talks of the joint Symposium Hydrodynamic Electronics: Transport in ultra-pure Quantum Systems

See SYHE for the full program of the symposium.

SYHE 1.1	Wed	9:30–10:00	H1	Hydrodynamic theory of dissipative magnetophonons — ●SEAN HARTNOLL
SYHE 1.2	Wed	10:00–10:30	H1	Unconventional transport in mesostructures of ultra-pure delafossite metals — ●ANDREW MACKENZIE
SYHE 1.3	Wed	10:30–11:00	H1	Topological Materials with liquid electrons — ●CLAUDIA FELSER
SYHE 1.4	Wed	11:15–11:45	H1	Hydrodynamic approach to electronic transport — ●BORIS NAROZHNY
SYHE 1.5	Wed	11:45–12:15	H1	Electron hydrodynamics in graphene: introduction and status — ●DENIS BANDURIN

Invited talks of the joint Symposium Interaction Effects and Correlations in twodimensional Systems - New Challenges for Theory

See SYTS for the full program of the symposium.

SYTS 1.1	Wed	15:00–15:30	H1	Spectra of layered semiconductors from many-body perturbation theory — ●MICHAEL ROHLFING
SYTS 1.2	Wed	15:30–16:00	H1	Dark exciton dynamics in 2D materials — ●ERMIN MALIC
SYTS 1.3	Wed	16:00–16:30	H1	Excitons versus electron-hole plasma in monolayer transition metal dichalcogenide semiconductors — ●ALEXANDER STEINHOFF
SYTS 1.4	Wed	16:45–17:15	H1	Theory of near K-point optical properties of TMDC multilayers — ●TINEKE STROUCKEN
SYTS 1.5	Wed	17:15–17:45	H1	High-throughput modeling and discovery of novel 2D materials — ●KRISTIAN THYGESEN

Invited talks of the joint Symposium Czech Republic as Guest of Honor

See SYCZ for the full program of the symposium.

SYCZ 1.1	Thu	9:30–10:00	H4	Crystal symmetries and transport phenomena in antiferromagnets — ●TOMAS JUNGWIRTH
SYCZ 1.2	Thu	10:00–10:30	H4	Terahertz subcycle charge and spin control — ●RUPERT HUBER
SYCZ 1.3	Thu	10:30–11:00	H4	1D molecular system on surfaces — ●PAVEL JELINEK
SYCZ 1.4	Thu	11:15–11:45	H4	Tunneling microscopy on insulators provides access to out-of-equilibrium charge states — ●JASCHA REPP
SYCZ 1.5	Thu	11:45–12:15	H4	Occam’s razor and complex networks from brain to climate — ●JAROSLAV HLINKA
SYCZ 1.6	Thu	12:15–12:45	H4	Long range temporal correlations in complex systems — ●HOLGER KANTZ

Invited talks of the joint Symposium Interactions and Spin in 2D Heterostructures

See SYIS for the full program of the symposium.

SYIS 1.1	Thu	15:00–15:30	H1	Magic Angle Graphene: a New Platform for Strongly Correlated Physics — ●PABLO JARILLO-HERRERO
SYIS 1.2	Thu	15:30–16:00	H1	Bilayer Graphene Quantum Devices — ●KLAUS ENSSLIN
SYIS 1.3	Thu	16:00–16:30	H1	Light-Matter interaction in van der Waals heterostructures — ●TOBIAS KORN
SYIS 1.4	Thu	16:45–17:15	H1	Spin transport in Van der Waals materials and heterostructures — ●BART VAN WEES
SYIS 1.5	Thu	17:15–17:45	H1	Flipping the valley in graphene quantum dots — ●MARKUS MORGENSTERN

Invited talks of the joint Symposium Identifying Optimal Physical Implementations for beyond von Neumann Computing Concepts

See SYCC for the full program of the symposium.

SYCC 1.1	Fri	9:30–10:00	H1	On the Link Between Energy and Information for the Design of Neuromorphic Systems — ●NARAYAN SRINIVASA
SYCC 1.2	Fri	10:00–10:30	H1	Encoding neural and synaptic functionalities in electron spin: A pathway to efficient neuromorphic computing — ●KAUSHIK ROY
SYCC 1.3	Fri	10:30–11:00	H1	Neuromorphic computing with spintronic nano-oscillators — ●PHILIPPE TALATCHIAN
SYCC 1.4	Fri	11:15–11:45	H1	Artificial Intelligence and beyond von Neumann architectures, a mutual opportunity — ●MIRKO PREZIOSO
SYCC 1.5	Fri	11:45–12:15	H1	Brain-inspired approaches in ultrafast magnetism — ●JOHAN H. MENTINK

Sessions

MA 1.1–1.13	Mon	9:30–13:00	Theater	Topological Insulators (joint session TT/MA)
-------------	-----	------------	---------	---

MA 2.1–2.14	Mon	9:30–13:15	H37	Ultrafast magnetization effects and magnetization dynamics
MA 3.1–3.9	Mon	9:30–13:15	H38	Focus Session: Novel 3D magnetic spin textures
MA 4.1–4.14	Mon	9:30–13:15	H52	Topological insulators and spin-dependent transport phenomena
MA 5.1–5.14	Mon	9:30–13:15	H53	Surface magnetism and magnetic coupling phenomena (joint session MA/O/TT)
MA 6.1–6.14	Mon	15:00–18:45	Theater	Frustrated Magnets - Spin Liquids (joint session TT/MA)
MA 7.1–7.15	Mon	15:00–19:15	H37	Magnetic Textures: Statics and Imaging I
MA 8.1–8.14	Mon	15:00–18:45	H52	Magnonics
MA 9.1–9.8	Mon	15:00–17:00	H53	Cooperative phenomena: Spin structures and magnetic phase transitions
MA 10.1–10.13	Mon	15:00–18:30	Poster D	Poster Session: Topological Topics (joint session TT/MA)
MA 11.1–11.7	Mon	15:45–18:45	H38	Focus Session: Magnetic materials for energy efficient applications
MA 12.1–12.5	Mon	17:15–18:30	H53	Spincaloric transport
MA 13.1–13.13	Tue	9:30–13:00	Theater	Frustrated Magnets - General 1 (joint session TT/MA)
MA 14.1–14.4	Tue	9:30–11:30	H48	INNOMAG e.V. Dissertationspreis 2019 / Ph.D. Thesis Prize
MA 15.1–15.86	Tue	10:00–13:00	Poster E	Magnetism Poster A
MA 16.1–16.10	Tue	10:30–13:00	H37	Surface Magnetism (joint session O/MA)
MA 17.1–17.3	Tue	11:30–12:30	H48	INNOMAG e.V. Diplom-/Master Prize 2019
MA 18.1–18.8	Tue	14:00–16:00	Theater	Frustrated Magnets - General 2 (joint session TT/MA)
MA 19.1–19.8	Tue	14:00–16:00	H23	Spintronics (joint session TT/MA/DY)
MA 20.1–20.6	Tue	14:00–15:45	H37	Multiferroics and Magnetoelectric coupling I (joint session MA/KFM)
MA 21.1–21.6	Tue	14:00–15:30	H38	Magnetic textures: Transport and dynamics I
MA 22.1–22.7	Tue	14:00–15:45	H52	Terahertz spintronics
MA 23.1–23.7	Tue	14:00–15:45	H53	Soft and hard permanent bulk magnets
MA 24.1–24.6	Tue	14:15–15:45	H46	Miscellaneous: Biomaterials, Magnetic Shape Memory Alloys, Sensors and Actuators (joint session MM/MA)
MA 25.1–25.11	Wed	9:30–12:30	H22	Topological Semimetals - Theory (joint session TT/MA)
MA 26.1–26.13	Wed	9:30–13:00	H37	Spin dynamics and transport
MA 27.1–27.4	Wed	9:30–12:40	H38	PhD Focus Session: Biogenic spin phenomena (joint session MA/AKjDPG)
MA 28.1–28.8	Wed	9:30–11:30	H52	Bio- and molecular magnetism including biomedical applications
MA 29.1–29.4	Wed	9:30–10:30	H53	Quantum information systems
MA 30.1–30.4	Wed	10:45–11:45	H53	Magnetic instrumentation and characterization
MA 31.1–31.4	Wed	11:45–12:45	H52	Spin dynamics: Magnetic relaxation and Gilbert damping
MA 32.1–32.4	Wed	12:00–13:00	H53	Magnetic recording, sensors and other devices
MA 33.1–33.7	Wed	15:00–18:15	H2	Focus Session: Topology in 3D Reciprocal Space: Beyond Dirac and Weyl Quasiparticles (joint session TT/MA)
MA 34.1–34.14	Wed	15:00–19:00	H37	Magnetic textures: Transport and dynamics II
MA 35.1–35.8	Wed	15:00–17:00	H52	Caloric effects in ferromagnetic materials
MA 36.1–36.12	Wed	15:00–18:15	H53	Spin transport
MA 37.1–37.8	Wed	15:45–19:15	H38	Focus Session: Insulator Spintronics
MA 38.1–38.7	Wed	17:15–19:00	H52	Spin hall effects
MA 39.1–39.1	Thu	9:30–10:15	H15	Overview Talk: Christopher Lutz (joint session O/MA)
MA 40.1–40.13	Thu	9:30–13:00	Theater	Frustrated Magnets - Strong Spin-Orbit Coupling (joint session TT/MA)
MA 41.1–41.14	Thu	9:30–13:15	H37	Magnetic Textures: Statics and Imaging II
MA 42.1–42.7	Thu	9:30–12:30	H38	Focus Session: Curvilinear magnetism
MA 43.1–43.7	Thu	9:30–11:15	H52	Micro- and nanostructured magnetic materials
MA 44.1–44.6	Thu	9:30–11:00	H53	Magnetic imaging (Experimental techniques)
MA 45.1–45.9	Thu	10:30–13:00	H15	Focus Session: Spins on Surfaces I (joint session O/MA)
MA 46.1–46.7	Thu	11:30–13:15	H52	Magnetic particles and clusters
MA 47.1–47.6	Thu	11:30–13:00	H53	Magnetic anisotropy in thin films
MA 48.1–48.10	Thu	15:00–17:45	H2	Topological Semimetals - Experiment (joint session TT/MA)
MA 49.1–49.11	Thu	15:00–18:00	H15	Focus Session: Spins on Surfaces II (joint session O/MA)
MA 50.1–50.9	Thu	15:00–17:45	H24	Topology and Symmetry-Protected Materials (joint session O/MA/TT)
MA 51.1–51.70	Thu	15:00–18:00	Poster C	Magnetism Poster B

MA 52	Thu	18:00–19:00	H48	Annual General Meeting of the MA division
MA 53.1–53.12	Fri	9:30–12:45	H33	Magnetic Heuslers, half-metals and oxides
MA 54.1–54.11	Fri	9:30–12:30	H37	Magnetic textures: Transport and dynamics III
MA 55.1–55.14	Fri	9:30–13:15	H38	Electron theory and micromagnetism
MA 56.1–56.9	Fri	9:30–11:45	H39	Multiferroics and Magnetoelectric coupling II (joint session MA/KFM)
MA 57.1–57.9	Fri	10:30–13:00	H24	Focus Session: Spins on Surfaces III (joint session O/MA)

Annual General Meeting of the Magnetism Division

Thursday 18:00–19:00 H48