

Division of Magnetism Fachverband Magnetismus (MA)

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Overview of Invited Talks and Sessions

Lecture rooms HSZ 04, HSZ 401, HSZ 403, HSZ 101, POT 6; Poster P3 (CHE Foyer), Poster P2-EG (HSZ/EG)

MA-organised interdivisional symposia

Attosecond and coherent spins: New frontiers

SYAS 1.1	Mon	15:00–15:30	HSZ 02	Ultrafast Coherent Spin-Lattice Interactions in Ferromagnets — •STEVEN L. JOHNSON
SYAS 1.2	Mon	15:30–16:00	HSZ 02	Ab-initio treatment of ultrafast spin-dynamics — •SANGEETA SHARMA
SYAS 1.3	Mon	16:00–16:30	HSZ 02	Light-wave driven Spin Dynamics — •MARTIN SCHULTZE
SYAS 1.4	Mon	16:45–17:15	HSZ 02	All-coherent subcycle switching of spins by THz near fields — •CHRISTOPH LANGE
SYAS 1.5	Mon	17:15–17:45	HSZ 02	Ultrafast optically-induced spin transfer in ferromagnetic alloys — •STEFAN MATHIAS

Curvilinear condensed matter

SYCL 1.1	Fri	9:30–10:00	HSZ 02	Topology and transport in nanostructures with curved geometries — •CARMINE ORTIX
SYCL 1.2	Fri	10:00–10:30	HSZ 02	Properties of domain walls and skyrmions in curved ferromagnets. — •VOLODYMYR KRAVCHUK
SYCL 1.3	Fri	10:30–11:00	HSZ 02	3D Mesoscopic Magnetic Architectures: Fabrication, Actuation & Imaging — •LAURA HEYDERMAN
SYCL 1.4	Fri	11:15–11:45	HSZ 02	3D nanostructures for superconductivity and magnetism — •OLEKSANDR DOBROVOLSKIY
SYCL 1.5	Fri	11:45–12:15	HSZ 02	Effect of Curvature on Topological Defects in Chiral Condensed and Soft Matter — •AVADH SAXENA

INNOMAG e.V. Dissertation Prize

Finalists session

MA 16.1	Mon	15:00–15:25	POT 6	Spintronics with Terahertz Radiation: Probing and driving spins at highest frequencies — •TOM S. SEIFERT
MA 16.2	Mon	15:25–15:50	POT 6	Linear and nonlinear spin waves in nanoscale magnonic structures for data processing — •QI WANG
MA 16.3	Mon	15:50–16:15	POT 6	Highly efficient domain wall motion in ferrimagnetic bi-layer systems at the angular momentum compensation temperature — •ROBIN BLÄSING
MA 16.4	Mon	16:15–16:40	POT 6	Spin-orbit driven transport: Edelstein effect in Rashba systems and topological materials — •ANNIKA JOHANSSON

MA-organised topical talks

MA 25.1	Tue	9:30–10:00	POT 6	Emergent electromagnetic response of nanometer-sized spin textures — ●MAX HIRSCHBERGER
MA 34.1	Wed	9:30–10:00	POT 6	Anatomy of skyrmion-defect interactions and their impact on detection protocols — ●SAMIR LOUNIS
MA 36.1	Wed	15:00–15:30	HSZ 101	2D Magnetic Materials — ●ALBERTO MORPURGO
MA 44.1	Thu	9:30–10:00	HSZ 101	Vacuum Resonance States as Atomic-Scale Probes of Noncollinear Surface Magnetism — ●ANIKA SCHLENHOFF

PhD focus sessions (invited talks only)

Symposium on “Strange bedfellows — magnetism meets superconductivity”

MA 20.1	Tue	9:30–10:15	HSZ 04	Magnetism and superconductivity: building new physics one atom at a time — ●ALEXANDER BALATSKY
MA 20.3	Tue	10:30–11:00	HSZ 04	Yu-Shiba-Rusinov states of single magnetic atoms and nanostructures probed by scanning tunneling spectroscopy — ●KATHARINA J. FRANKE
MA 20.5	Tue	11:15–11:45	HSZ 04	Majorana bound states in magnetic skyrmions — ●JELENA KLINOVAJA
MA 20.7	Tue	12:00–12:30	HSZ 04	Orbital selective superconductivity in iron-based superconductors — ●PENGCHENG DAI

Symposium on “Magnetism — a potential platform for Big Data?”

MA 35.1	Wed	15:00–15:30	HSZ 04	Data Storage and Processing in the Cognitive Era — ●GIOVANNI CHERUBINI
MA 35.2	Wed	15:30–16:00	HSZ 04	Brain-inspired approaches and ultrafast magnetism for Green ICT — ●THEO RASING
MA 35.3	Wed	16:15–16:45	HSZ 04	How good are spin waves for data processing? — ●ANDRII CHUMAK
MA 35.4	Wed	16:45–17:15	HSZ 04	Unconventional computing with stochastic magnetic tunnel junctions — ●ALICE MIZRAHI

MA-organised focus sessions (invited talks only)

Spin-charge interconversion

MA 10.1	Mon	15:00–15:30	HSZ 04	SrTiO₃-based 2-dimensional electron gases for ultralow power spintronics — ●MANUEL BIBES
MA 10.5	Mon	17:15–17:45	HSZ 04	Theory of spin-to-charge conversion in a topological oxide two-dimensional electron gas — ●ANNIKA JOHANSSON
MA 10.3	Mon	16:00–16:30	HSZ 04	Spin-charge interconversion in graphene/TMD Van der Waals heterostructures — ●BART VAN WEES
MA 10.4	Mon	16:45–17:15	HSZ 04	Ferroelectric control of the spin-to-charge conversion in the ferroelectric Rashba semiconductor GeTe — ●CHRISTIAN RINALDI
MA 10.2	Mon	15:30–16:00	HSZ 04	Spin-to-charge current conversion for logic devices — ●FELIX CASANOVA
MA 10.6	Mon	17:45–18:15	HSZ 04	Nonlinear magnetoresistance from surface states of a topological insulator — ●GIOVANNI VIGNALE

Magnon polarons — magnon-phonon coupling and spin transport

MA 29.1	Wed	9:30–10:00	HSZ 04	Magnon-polaron transport in magnetic insulators — ●BENEDETTA FLEBUS
MA 29.2	Wed	10:00–10:30	HSZ 04	Spin-phonon coupling in non-local spin transport through magnetic insulators — ●REMBERT DUINE
MA 29.3	Wed	10:30–11:00	HSZ 04	Anisotropic transport of spontaneously accumulated magneto-elastic bosons in yttrium iron garnet films — ●ALEXANDER A. SERGA
MA 29.5	Wed	11:15–11:45	HSZ 04	Boltzmann approach to the longitudinal spin Seebeck effect — ●RICO SCHMIDT

MA 29.6	Wed	11:45–12:15	HSZ 04	Magnon-polaron excitations in the noncollinear antiferromagnet Mn_3Ge — ●ALEKSANDR SUKHANOV
MA 29.7	Wed	12:15–12:45	HSZ 04	Magnon-Polarons in different flavors: (anti)ferromagnetic to topological — ●AKASHDEEP KAMRA

Higher-order magnetic interactions — implications in 2D and 3D magnetism

MA 43.1	Thu	9:30–10:00	HSZ 04	Magnetic vortices, skyrmions, and hedgehogs stabilized by long-range multiple-spin interactions — ●YUKITOSHI MOTOME
MA 43.2	Thu	10:00–10:30	HSZ 04	Formation of spin-hedgehog lattices and giant topological transport properties in chiral magnets — ●NAOYA KANAZAWA
MA 43.3	Thu	10:30–11:00	HSZ 04	Topological-chiral magnetic interactions driven by emergent orbital magnetism — ●S. GRYTSIUK
MA 43.5	Thu	11:30–12:00	HSZ 04	How to understand the physics of complex spin structures — ●MATTHIAS BODE
MA 49.1	Thu	15:00–15:30	HSZ 04	The role of itinerant electrons and higher order magnetic interactions among fluctuating local moments in producing complex magnetic phase diagrams. — ●CHRISTOPHER PATRICK

Joint symposia

Invited talks of the joint symposium SYSD

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	9:30– 9:55	HSZ 02	Disentangling transport in topological insulator thin films down to the nanoscale — ●FELIX LÜPKE
SYSD 1.2	Mon	9:55–10:20	HSZ 02	Spintronics with Terahertz Radiation: Probing and driving spins at highest frequencies — ●TOM SEBASTIAN SEIFERT
SYSD 1.3	Mon	10:20–10:45	HSZ 02	Non-radiative voltage losses in organic solar cells — ●JOHANNES BENDUHN
SYSD 1.4	Mon	10:45–11:10	HSZ 02	Multivalent ions for tuning the phase behaviour of protein solutions — ●OLGA MATSARSKAIA
SYSD 1.5	Mon	11:10–11:35	HSZ 02	Network Dynamics under Constraints — ●MALTE SCHRÖDER
SYSD 1.6	Mon	11:35–12:00	HSZ 02	Exciton spectroscopy of van der Waals heterostructures — ●PHILIPP NAGLER

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Invited talks of the joint symposium SYWH

See SYWH for the full program of the symposium.

SYWH 1.1	Wed	15:00–15:30	HSZ 02	Engineering 2D materials with a twist — ●CORY DEAN
SYWH 1.2	Wed	15:30–16:00	HSZ 02	Flat Bands and Correlated Electronic States in Two Dimensional Atomic Crystals — ●EVA Y. ANDREI
SYWH 1.3	Wed	16:00–16:30	HSZ 02	Lightwave electronics and valleytronics in van der Waals layered materials — ●RUPERT HUBER
SYWH 1.4	Wed	16:30–17:00	HSZ 02	Interaction and Topological Effects in Atomically Thin Two-dimensional Materials — ●STEVEN G. LOUIE

SYWH 1.5 Wed 17:00–17:30 HSZ 02 **Excitons in 2D Semiconductors and Heterostructures** —
•ALEXANDER HÖGELE

Invited talks of the joint symposium SYED

See SYED for the full program of the symposium.

SYED 1.1 Thu 9:30–10:00 HSZ 01 **Ultrafast electron dynamics at laser-irradiated surfaces** — •BAERBEL RETHFELD
 SYED 1.2 Thu 10:00–10:30 HSZ 01 **Unraveling Momentum-Dependent Electron-Phonon Coupling and its Role in the Origin of Charge Density Wave Phases** — •BRADLEY SIWICK
 SYED 1.3 Thu 10:30–11:00 HSZ 01 **Light MATTERS!!!** — •HRVOJE PETEK
 SYED 1.4 Thu 11:15–11:45 HSZ 01 **Quantum localization and delocalization of charge carriers in molecular organic crystals** — •JOCHEN BLUMBERGER
 SYED 1.5 Thu 11:45–12:15 HSZ 01 **Single-Atom Catalysis (SAC): How Structure Influences Reactivity** — •GARETH PARKINSON

Invited talks of the joint symposium SYES

See SYES for the full program of the symposium.

SYES 1.1 Thu 9:30–10:00 HSZ 02 **Understanding the physical variables driving mechanosensing** — •PERE ROCA-CUSACHS
 SYES 1.2 Thu 10:00–10:30 HSZ 02 **Mechanics of life: Cellular forces and mechanics far from thermodynamic equilibrium** — •TIMO BETZ
 SYES 1.3 Thu 10:30–11:00 HSZ 02 **A hydrodynamic approach to collective cell migration in epithelial tissues** — •JAUME CASADEMUNT
 SYES 1.4 Thu 11:15–11:45 HSZ 02 **The spindle is a composite of two permeating polar gels** — •JAN BRUGUES
 SYES 1.5 Thu 11:45–12:15 HSZ 02 **Adding magnetic properties to epitaxial graphene** — •RODOLFO MIRANDA
 SYES 2.1 Thu 15:00–15:30 HSZ 01 **Interactions in assemblies of surface-mounted magnetic molecules** — •WOLFGANG KUCH
 SYES 2.2 Thu 15:30–16:00 HSZ 01 **Towards phononic circuits based on optomechanics** — •CLIVIA M. SOTOMAYOR-TORRES
 SYES 2.3 Thu 16:00–16:30 HSZ 01 **Optical properties of 2D materials and heterostructures** — •JANINA MAULTZSCH
 SYES 2.4 Thu 16:45–17:15 HSZ 01 **Bringing nanophotonics to the atomic scale** — •JAVIER AIZPURUA
 SYES 2.5 Thu 17:15–17:45 HSZ 01 **Infrared signatures of the coupling between vibrational and plasmonic excitations** — •ANNEMARIE PUCCI

Invited talks of the joint symposium SYCL

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SYCL 1.1 Fri 9:30–10:00 HSZ 02 **Topology and transport in nanostructures with curved geometries** — •CARMINE ORTIX
 SYCL 1.2 Fri 10:00–10:30 HSZ 02 **Properties of domain walls and skyrmions in curved ferromagnets.** — •VOLODYMYR KRAVCHUK
 SYCL 1.3 Fri 10:30–11:00 HSZ 02 **3D Mesoscopic Magnetic Architectures: Fabrication, Actuation & Imaging** — •LAURA HEYDERMAN
 SYCL 1.4 Fri 11:15–11:45 HSZ 02 **3D nanostructures for superconductivity and magnetism** — •OLEKSANDR DOBROVOLSKIY
 SYCL 1.5 Fri 11:45–12:15 HSZ 02 **Effect of Curvature on Topological Defects in Chiral Condensed and Soft Matter** — •AVADH SAXENA

Sessions

MA 1.1–1.12 Mon 9:30–12:45 HSZ 04 **Computational Magnetism I**

MA 2.1–2.11	Mon	9:30–12:30	HSZ 101	Ultrafast Magnetization I
MA 3.1–3.13	Mon	9:30–13:00	HSZ 201	Complex Oxides: Bulk Properties (jointly with DS, HL, KFM, MA, O) (joint session TT/MA/HL)
MA 4.1–4.13	Mon	9:30–13:00	HSZ 304	Frustrated Magnets - General 1 (joint session TT/MA)
MA 5.1–5.15	Mon	9:30–13:15	HSZ 401	Cooperative Phenomena and Phase Transitions (joint session MA/TT)
MA 6.1–6.7	Mon	9:30–11:15	HSZ 403	Micro- and Nanostructured Materials (joint session MA/TT)
MA 7.1–7.8	Mon	9:30–11:30	POT 6	Topological Phenomena (joint session MA/TT)
MA 8.1–8.11	Mon	10:30–13:15	TRE Phy	Ultrafast Electron Dynamics I: Surfaces and Interfaces (joint session O/MA)
MA 9.1–9.7	Mon	11:30–13:15	POT 6	Weyl Semimetals
MA 10.1–10.6	Mon	15:00–18:15	HSZ 04	Focus Session: Spin-Charge Interconversion (joint session MA/HL)
MA 11.1–11.8	Mon	15:00–17:00	HSZ 101	Bio- and Molecular Magnetism (joint session MA/PPP)
MA 12.1–12.7	Mon	15:00–17:40	HSZ 105	Multiferroics (joint session KFM/MA)
MA 13.1–13.4	Mon	15:00–16:00	HSZ 304	Frustrated Magnets - General 2 (joint session TT/MA)
MA 14.1–14.12	Mon	15:00–18:15	HSZ 401	General Spintronics
MA 15.1–15.6	Mon	15:00–16:30	HSZ 403	Computational Magnetism II
MA 16.1–16.4	Mon	15:00–16:40	POT 6	INNOMAG e. V. Dissertation Prize
MA 17.1–17.8	Mon	16:15–18:15	HSZ 304	Skyrmions (jointly with MA, O) (joint session TT/MA)
MA 18.1–18.8	Mon	16:45–18:45	HSZ 403	Magnetic Particles and Clusters
MA 19.1–19.7	Mon	17:15–19:00	HSZ 101	Characterization and Instrumentation
MA 20.1–20.9	Tue	9:30–13:00	HSZ 04	PhD Focus Session: Symposium on "Strange Bedfellows – Magnetism Meets Superconductivity" (joint session MA/AKjDPG)
MA 21.1–21.14	Tue	9:30–13:15	HSZ 101	Ultrafast Magnetization II
MA 22.1–22.13	Tue	9:30–13:00	HSZ 304	Frustrated Magnets - Spin Liquids 1 (joint session TT/MA)
MA 23.1–23.14	Tue	9:30–13:15	HSZ 401	Functional Antiferromagnetism
MA 24.1–24.9	Tue	9:30–11:45	HSZ 403	Magnetic Heusler Compounds
MA 25.1–25.12	Tue	9:30–13:00	POT 6	Skyrmions I (joint session MA/TT)
MA 26.1–26.10	Tue	10:30–13:30	WIL B321	Ultrafast Electron Dynamics II (joint session O/MA)
MA 27.1–27.7	Tue	14:00–15:45	HSZ 02	Complex Oxides: Surfaces and Interfaces (jointly with DS, HL, KFM, MA, O) (joint session TT/MA/HL)
MA 28.1–28.5	Tue	14:00–15:15	HSZ 304	Frustrated Magnets - Spin Liquids 2 (joint session TT/MA)
MA 29.1–29.8	Wed	9:30–13:00	HSZ 04	Focus Session: Magnon Polarons – Magnon-Phonon Coupling and Spin Transport (joint session MA/HL)
MA 30.1–30.12	Wed	9:30–12:45	HSZ 101	Ultrafast Magnetization III
MA 31.1–31.12	Wed	9:30–13:00	HSZ 304	Frustrated Magnets - Strong Spin-Orbit Coupling 1 (joint session TT/MA)
MA 32.1–32.10	Wed	9:30–12:15	HSZ 401	Multiferroics and Magnetoelectric Coupling I (joint session MA/KFM)
MA 33.1–33.10	Wed	9:30–12:15	HSZ 403	Correlation Theory I
MA 34.1–34.12	Wed	9:30–13:00	POT 6	Skyrmions II (joint session MA/TT)
MA 35.1–35.4	Wed	15:00–17:15	HSZ 04	PhD Focus Session: Symposium on "Magnetism – A Potential Platform for Big Data?" (joint session MA/AKjDPG/O)
MA 36.1–36.10	Wed	15:00–18:00	HSZ 101	Spin-Dependent 2D Phenomena
MA 37.1–37.10	Wed	15:00–17:45	HSZ 304	Frustrated Magnets - Strong Spin-Orbit Coupling 2 (joint session TT/MA)
MA 38.1–38.8	Wed	15:00–17:00	HSZ 401	Multiferroics and Magnetoelectric Coupling II (joint session MA/KFM)
MA 39.1–39.4	Wed	15:00–16:00	HSZ 403	Correlation Theory II
MA 40.1–40.13	Wed	15:00–18:30	POT 6	Skyrmions III (joint session MA/TT)
MA 41.1–41.9	Wed	15:00–18:20	TOE 317	Ferrioids - Domains and Domain Walls (joint session KFM/MA)
MA 42.1–42.56	Wed	15:00–18:00	P3	Posters Magnetism I
MA 43.1–43.9	Thu	9:30–13:00	HSZ 04	Focus Session: Higher-Order Magnetic Interactions – Implications in 2D and 3D Magnetism I
MA 44.1–44.8	Thu	9:30–12:00	HSZ 101	Surface Magnetism (joint session MA/O)
MA 45.1–45.13	Thu	9:30–13:00	HSZ 401	Magnonics I
MA 46.1–46.13	Thu	9:30–13:00	HSZ 403	Spin: Transport, Orbitronics and Hall Effects I

MA 47.1–47.7	Thu	9:30–11:15	POT 6	Skyrmions IV (joint session MA/TT)
MA 48.1–48.9	Thu	10:30–12:45	WIL B321	Ultrafast Electron Dynamics III (joint session O/MA)
MA 49.1–49.7	Thu	15:00–17:00	HSZ 04	Focus Session: Higher-Order Magnetic Interactions – Implications in 2D and 3D Magnetism II
MA 50.1–50.9	Thu	15:00–17:30	HSZ 101	Permanent Magnets
MA 51.1–51.10	Thu	15:00–17:45	HSZ 201	Ultrafast Dynamics of Light-Driven Systems (joint session TT/MA)
MA 52.1–52.10	Thu	15:00–18:00	HSZ 304	Quantum Magnets and Molecular Magnets (joint session TT/MA)
MA 53.1–53.7	Thu	15:00–16:45	HSZ 401	Magnonics II
MA 54.1–54.10	Thu	15:00–17:45	HSZ 403	Spin: Transport, Orbitronics and Hall Effects II
MA 55.1–55.8	Thu	15:00–17:15	POT 6	Non-Skyrmionic Magnetic Textures
MA 56.1–56.12	Thu	15:00–18:00	WIL A317	Surface Magnetism I (joint session O/MA)
MA 57.1–57.55	Thu	15:00–18:00	P3	Posters Magnetism II
MA 58	Thu	18:00–19:00	POT 6	General Assembly of the Division of Magnetism
MA 59.1–59.50	Fri	9:00–12:00	P2/EG	Posters Magnetism III
MA 60.1–60.13	Fri	9:30–13:00	HSZ 04	Magnetic Coupling and Anisotropy in Thin Films (joint session MA/DS)
MA 61.1–61.15	Fri	9:30–13:15	HSZ 101	Caloric Effects
MA 62.1–62.8	Fri	9:30–11:30	HSZ 401	Disordered Magnetic Materials
MA 63.1–63.13	Fri	9:30–13:00	HSZ 403	Spin: Transport, Orbitronics and Hall Effects III
MA 64.1–64.13	Fri	10:30–13:45	GER 38	Surface Magnetism II (joint session O/MA)

General assembly of the Division of Magnetism

Thursday 18.00 – 19.00 POT 6

All members of the Division of Magnetism are invited to attend!