

Trends in Magnetism 2024

Monday, 10 June 2024 - Friday, 14 June 2024

Lund University, Physics Department

Scientific Programme

The preliminary programme, consisting of 7 topical sessions, is listed below. Talks are 30+5 minutes.

Imaging and X-ray techniques (Monday Afternoon)

Speaker	Title	Affiliation	Time
Tim A. Butcher	Magnetic Nanoscale Imaging with Soft X-ray Ptychography	Paul Scherrer Institut	13:30-14:05
Claudiu Bulbucan	Tunable Magnetic Sample Environment at SoftiMAX	SoftiMAX beamline, MAX IV	14:05-14:40
COFFEE			14:40-15:00
Felix Sorgenfrei	Theory of X-ray absorption spectroscopy for ferrites	Uppsala University	15:00-15:35
Hedda Christine Soland	Lorentz-STEM imaging of artificial spin ice structures using a conventional ADF detector	Lund University	15:35-16:10

Skyrmions (Tuesday Morning)

Speaker	Title	Affiliation	Time
Sagar Sarkar	Role of inter-layer magnetic coupling in GdRu₂Si₂ and its modulation with uniaxial pressure	Uppsala University	09:15-09:50
Rohit Pathak	The physical mechanism of skyrmion stability and mechanical control in GdRu₂Si₂	Uppsala University	09:50-10:25
COFFEE			10:25-10:45
Claudio Verdozzi	Skyrmions from localized spins and itinerant electrons	Lund University	10:45-11:20
Ivan de Paula Miranda	Induced magnetic moments and spin textures in synthetic ferrimagnetic Pt/Co/Gd heterolayers	Uppsala University	11:20-11:55

Applications and Devices (Tuesday Afternoon)

Speaker	Title	Affiliation	Time
Sanna Awlmark	Magnetic consequences of hypervelocity impact - A close-up of magnetite shock features and changes in magnetic properties in rocks from the Siljan impact structure in Sweden	Department of Geology, Lund University	13:30-14:05
Akash Kumar	Magnetic tunnel junction-based readout for spin Hall nano-oscillators	University of Gothenburg, Sweden	14:05-14:40
Pavel Bessarab	Energy-efficient control of magnetic states	Linnaeus University	14:40-15:15
COFFEE			15:15-15:35
Mehran Sedrpooshan	Magnetization Reversal in Self-Assembled 1D Nanostructures; a Multiscale Study	Lund University	15:35-16:10
Avinash Kumar Chaurasiya	Tunable cross talk between coherently excited phonons and magnons using femtosecond laser comb	University of Gothenburg, Sweden	16:10-16:45

Posters (Tuesday late afternoon)

Poster format: A0, portrait

2D materials and topology (Wednesday Morning)

Note: this session takes place in Lundmarksalen in the Astronomy building, just across the street from the physics building!

Speaker	Title	Affiliation	Time
Carlo Maria Canali	Chern and axion topological phases in magnetic topological insulator thin-film heterostructures	Linnaeus University	08:50-09:25
Alexander Edström	Magnetoelectricity of topological solitons in 2D magnets	KTH Royal Institute of Technology	09:25-10:00
Biplab Sanyal	High temperature 2D magnets: insights from ab initio theory	Uppsala University	10:00-10:35
COFFEE			10:35-10:50
Shahid Sattar	Surface reconstruction effects in thin-films of antiferromagnetic topological insulator MnBi₂Te₄	Linnaeus University, Kalmar, Sweden	10:50-11:25
Thorbjørn Skovhus	Minority magnons in monolayer Fe₃GeTe₂	Technical University of Denmark	11:25-12:00

Strong Correlations (Wednesday Afternoon)

Note: this session takes place in Lundmarksalen in the Astronomy building, just across the street from the physics building!

Speaker	Title	Affiliation	Time
Pascale Deen	Magnetism, topology and the hyperkagome lattice	ESS/ Copenhagen University	13:30-14:05
Ahmed Alshemi	Investigating the superconducting state of 2H-NbS₂ as seen by the vortex lattice	Lund University	14:05-14:40
Carmine Autieri	Staggered Dzyaloshinskii-Moriya interaction in altermagnets and magnetic interfaces	International Research Centre MagTop, Institute of Physics, Polish Academy of Sciences	14:40-15:15
COFFEE			15:15-15:35
Hugo U. R. Strand	Larmor precession in strongly correlated itinerant electron systems	Örebro University	15:35-16:10
Mathias Augustin	Estimation of exchange parameters in systems deformed by a strain-gradient	KTH	16:10-16:45

Conference Dinner

Conference dinner at Bryggan (IKDC). The dinner starts at 19:00 and will be a three-course dinner. Sign up on the registration form!

The restaurant is reachable by tram via the stop Ideonstorget, or by foot from the conference location.

Modeling and Learning (Thursday Morning)

[Speaker | Title | Affiliation | Time]

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[Danny Thonig | Non-local spin and lattice damping from first principles | School of Science and Technology, Örebro University | 09:20-09:55]

[Fredrik Nilsson | Computational discovery of point defects for quantum technology | Technical University of Denmark | 09:55-10:30]

[COFFEE | | 10:30-10:50]

[Maryna Pankratova | Machine learning method for magnetic interactions extraction | Uppsala University | 10:50-11:25]

[Vladislav Borisov | Some thoughts on scale-bridging modelling of magnets | Uppsala University | 11:25-12:00]

ESS Visit (Thursday Afternoon)

We will travel together to ESS by tram, we will meet in front of Physics at 13:20. The visit itself starts at 14:00.

Nanoparticles and amorpheous materials (Friday Morning)

[Speaker | Title | Affiliation | Time]

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[Julia LÖfstrand | Uncovering the initial nucleation during ultra-fast annealing of Fe-Co-Nb-B bulk metallic glasses | Uppsala University | 09:10-09:45]

[Rasmus Westerström | Template-free generation of functional magnetic nanostructures with tunable composition | Lund University | 09:45-10:20]

[COFFEE | | 10:20-10:40]

[Discussion session | Main scientific challenges, how to organize magnetism research, needs at/for large research infrastructure | | 10:40-11:15]