

Hybrid Angular Momentum Transport and Dynamics

820. WE-Heraeus-Seminar

27 – 31 October 2024

at the Physikzentrum Bad Honnef, Germany

**WILHELM UND ELSE
HERAEUS-STIFTUNG**



Program

Sunday, 27 October 2024

17:00 – 21:00 Registration

18:00 *BUFFET SUPPER and informal get-together*

Monday, 28 October 2024

07:30 *BREAKFAST*

08:50 Scientific organizers **Welcome & Opening Remarks**

09:00 – 09:45 Hans Huebl **Connecting spins and phonons**

09:45 – 10:30 Akashdeep Kamra **Unconventional magnetism mediated
by spin-phonon-photon coupling**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Silvia Kusminsky **Harnessing circularly polarized optical
photons to probe and control magnons
in 2D magnets**

11:45 – 12:30 Bart van Wees **Magnon transport in the Van der Waals
antiferromagnet CrPS₄**

12:30 *LUNCH*

Program

Monday, 28 October 2024

14:30 – 15:15	Rembert A. Duine	Spin and heat transport in Van der Waals heterostructures
15:15 – 16:00	Richard Schlitz	Incoherent angular momentum transport between remote electrodes
16:00 – 16:30	<i>COFFEE BREAK</i>	
16:30 – 17:15	Benedetta Flebus	Phonon chirality
17:15 – 17:30	Stefan Jorda	About the Wilhem and Else Heraeus-Foundation
17:30 – 18:30	Impulse talks I - Afterwards: <i>Poster Session</i>	
18:30	<i>DINNER</i>	
20:00	Poster Session & discussions	

Program

Tuesday, 29 October 2024

08:00	<i>BREAKFAST</i>	
09:00 – 09:45	Christian H. Back	Signatures of magnetism control by flow of angular momentum
09:45 – 10:30	Mathias Weiler	Magnetoacoustics
10:30 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:45	Satoru Emori	Probing orbital-spin magnetism in transition metals
11:45 – 12:30	Katrin Schultheiss	Floquet magnons in a periodically-driven magnetic vortex
12:30	<i>LUNCH</i>	
14:30 – 14:55	Valentina Errani	Magnon transistor and magnon entanglement from Klein paradox in antiferromagnets
14:55 – 15:15	Aakanksha Sud	Electrically-controlled nonlinear magnon-magnon coupling in synthetic antiferromagnet
15:15 – 16:00	Ka Shen	Hybrid magnon transport in rare-earth iron garnets
16:00 – 16:30	<i>COFFEE BREAK</i>	
16:30 – 17:15	Axel Hoffmann	Hybrid magnon modes
17:15 – 18:30	Impulse talks II - Afterwards: Poster session	
18:30	<i>DINNER</i>	
20:00	Poster Session & discussions	

Program

Wednesday, 30 October 2024

08:00 *BREAKFAST*

09:00 – 09:45 Mathias Kläui **From spin-orbitronics to orbitronics:
Novel Torques and Magnetoresistance
Effects**

09:45 – 10:30 Dongwook Go **Spintronics and orbitronics: How to
distinguish spin and orbital angular
momenta**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Tom S. Seifert **Driving, transporting and sensing
orbital currents at terahertz rates**

11:45 – 12:30 Yuriy Mokrousov **Orbital Magnetism By Light**

12:30 *LUNCH*

Program

Wednesday, 30 October 2024

14:30 – 14:55	José Solano	Unraveling the temperature dependent spin-polarized transport in epitaxial Fe films via spin wave Doppler shift
14:55 – 15:15	Daegeun Jo	Unconventional torque in altermagnets induced by the magnetic octupole Hall effect
15:15 – 16:00	Helena Reichlova	Magneto-thermal transport in Altermagnets
16:00 – 16:30	COFFEE BREAK	
16:30 – 17:15	Romain Lebrun	GHz and sub-THz magnonics in antiferromagnetic insulating oxides
17:15 – 18:00	Olena Gomonay	Nonlinear magnetic dynamics of hematite probed by spin-rectification effect: Suhl instability and beyond
18:00	<i>HERAEUS DINNER</i> (social event with cold & warm buffet with complimentary drinks)	
20:00	Evening talk	Horror in research

Program

Thursday, 31 October 2024

08:00	<i>BREAKFAST</i>	
09:00 – 09:45	Markus Münzenberg	Ultrafast spintronics on attosecond time scales
09:45 – 10:30	Takashi Kikkawa	Current-induced nuclear- and electron-spin dynamics in a metallic ferromagnet
10:30 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:45	Sebastian T.B. Gönnerwein	Phonon pumping in ferromagnet/single crystal heterostructures
11:45 – 12:30	Gerrit E. Bauer	Hybrid quasi-particles that carry magnetic or electric dipoles
12:30 – 12:45	Scientific organizers	Closing remarks & Awards
12:45	<i>LUNCH</i>	

End of the seminar and departure

NO DINNER for participants leaving on Friday; however, a self-service breakfast will be provided on Friday morning