

Transverse Effects in Thermoelectric Systems

819. WE-Heraeus-Seminar

13 – 16 October 2024

at the Physikzentrum Bad Honnef, Germany

**WILHELM UND ELSE
HERAEUS-STIFTUNG**



Program

Sunday, 13 October 2024

16:30 – 21:00	Registration	
18:00	<i>BUFFET SUPPER and informal get together</i>	
19:30 – 19:45	Scientific organizers	Welcome words
19:45 – 20:45	Joshua Goldberger	Paving Transverse Paths in Thermoelectrics

Monday, 14 October 2024

08:00	<i>BREAKFAST</i>	
09:00 – 10:00	Yaxian Wang	Goniopolar Thermoelectrics: A Theoretical Perspective
10:00 – 11:00	Sunglae Cho	Misfit Layered Composite Crystals: Growth and Thermoelectric Properties
11:00 – 11:30	<i>COFFEE BREAK</i>	
11:30 – 12:20	Yosuke Goto	Axis-dependent Conduction Polarity of Mg_3Sb_2 and Mg_3Bi_2 for Transverse Thermoelectric Devices
12:20 – 12:40	Ryuji Okazaki	Transverse Thermoelectric Effect in a Mixed-dimensional Material LaPt_2B
12:40	<i>LUNCH</i>	

Program

Monday, 14 October 2024

14:00 – 15:00	Juri Grin (online)	Transverse Seebeck Effect and Chemical Bonding in Complex Intermetallic Compound $\sigma\text{-Al}_{13}\text{Co}_4$
15:00 – 16:00	Silke Buehler- Paschen	Topological Semimetals in Heavy Fermion Compounds
16:00 – 16:40	Poster Flashes	
16:40 – 18:30	Posters + coffee	
18:30	<i>DINNER</i>	
19:30 – 20:30	Gabi Schierning	Decoupling Transport Properties of Surface and Bulk Carriers in Topological Insulator Materials

Program

Tuesday, 15 October 2024

08:00	<i>BREAKFAST</i>	
09:00 – 10:00	Ken-ichi Uchida	Hybrid Transverse Magneto-thermoelectric Conversion in Artificially Tilted Multilayers and Thermoelectric Permanent Magnets
10:00 – 11:00	Günter Reiss	Seebeck, Spin Seebeck and Nernst Effects in Multilayered Thin Film Heterostructures
11:00 – 11:30	<i>COFFEE BREAK</i>	
11:30 – 12:20	Sarah Watzman	Topology and Anisotropy as Tuning Mechanisms for an Enhanced Nernst Effect
12:20 – 12:40	Min Young Kim	The Effect of Oxygen-vacancy Defects on Anomalous Nernst Thermopower
12:40	<i>LUNCH</i>	

Program

Tuesday, 15 October 2024

14:00 – 15:00	Jörg Töpfer	Transverse Multilayer Thermoelectric Generators with Thermoelectric Oxides
15:00 – 16:00	Tim Roediger	Fast Response Heat-flux Measurements Based on ALTP Sensors
16:00 – 16:30	<i>COFFEE BREAK</i>	
16:30 – 16:50	Jan Spiece	Peltier-Enhanced Anomalous Ettingshausen Effect in a Nano-Scale Magnetic Weyl Semimetal
16:50 – 17:10	Matt Beekman	An International Nernst Effect Measurement Round Robin
17:10 – 17:30	Sang Jun Park	Designing Flexible Hard Magnetic Materials for Zero-magnetic-field Operation of the Anomalous Nernst Effect
17:30 – 18:30	Matthew Grayson	Essential Role of Temperature-dependent Energy Gaps in (p x n)-type Transverse Thermoelectrics
18:30	<i>HERAEUS DINNER</i> <i>(social event with cold & warm buffet with complimentary drinks)</i>	
after dinner	Posters + coffee	

Program

Wednesday, 16 October 2024

08:00	<i>BREAKFAST</i>	
09:00 – 10:00	Claudia Draxl	Electronic and Thermodynamic Properties of Real Materials: Example of Thermoelectric Clathrates
10:00 – 11:00	Christina Scheu	New Insights Into Thermoelectric Materials Through Length-bridging Characterization
11:00 – 11:20	<i>COFFEE BREAK</i>	
11:20 – 11:40	Alessandro Sola	Transverse Thermopower of Polycrystalline MnBi with Tuned Microstructure and Magnetic Properties
11:40 – 12:00	Lawrence Rhoads	Method to Characterize Full Seebeck and Resistivity Tensors from a Single Sample of Transverse Thermoelectric
12:00	<i>Conclusion and LUNCH</i>	

End of the seminar and departure

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