

Charge Transport on Ultra-short Length and Time Scales

848. WE-Heraeus-Seminar

8 - 11 February 2026

at the Physikzentrum Bad Honnef, Germany

**WILHELM UND ELSE
HERAEUS-STIFTUNG**



Program

Sunday, 8 February 2026

17:00 - 21:00 Registration

18:00 - 20:00 *BUFFET SUPPER and informal get-together*

Program

Monday, 9 February 2026

07:30 - 09:00 *BREAKFAST*

09:00 - 9:45 Cherie Kagan **Colloidal Quantum Dot Assemblies and Devices: Charge and Energy Transport and Transfer**

9:45 - 10:05 Pannan Kyesmen **Colloidal quasi-2D Cs₂AgBiBr₆ double perovskite nanosheets: synthesis and application as high-performance photodetectors**

10:05 – 10:25 Heyou Zhang **Photoswitchable Nanoparticle Arrays for All-Optical Logic Gate**

10:25 - 10:45 *COFFEE BREAK*

10:45 - 11:30 Jannika Lauth **Strongly Confined Systems and Fast Laser Pulses – A Match Made in Heaven (Optical and Electronic Properties of Flat Quantum Dots)**

11:30 - 12:15 Eleftherios Goulielmakis **Probing correlated materials with sub-cycle optical pulses**

12:15 - 12:30 *CONFERENCE PHOTO (in front of the main entrance)*

12:30 - 14:00 *LUNCH*

14:00 - 14:45 Claus Ropers **Ultrafast Electron Microscopy**

Program

Monday, 9 February 2026

14:45 – 15:05	Praful Kumar	A Generalised Framework for Light Induced Insulator-to-Metal Phase Transitions
15:05 - 15:25	Kasra Amini	High-brightness, high-throughput, ultrashort keV and MeV electrons for femtochemistry studies in photoexcited matter
15:25 - 15:45	Manish Garg	Single Molecule Electronics
15:45 - 16:05	<i>COFFEE BREAK</i>	
16:05 - 17:15	Panel Discussion 1:	The future of ultra-small and ultra-fast devices (All available keynote speakers.)
17:15 - 17:30	Stefan Jorda	About the Wilhelm and Else Heraeus Foundation
18:00 - 19:30	<i>HERAEUS-DINNER at the Physikzentrum (cold and warm buffet with complimentary drinks)</i>	
19:30 - 21:00	Poster Session 1	

Program

Tuesday, 10 February 2026

07:30 - 09:00 *BREAKFAST*

09:00 - 9:45 Chris Murray **Assembly of Nanocrystal-Based Materials and Devices**

9:45 - 10:05 Ata Bozkurt **Inter-Particle ion migration of caesium lead mixed-halide perovskite superlattices**

10:05 - 10:25 Ronja Piehler **Carrier Diffusion vs. Waveguiding effects in different layered quasi two-dimensional MAPbI-Perovskites**

10:25 - 10:45 *COFFEE BREAK*

10:45 - 11:30 Isabelle Staude **Interaction of 2D semiconductors with optically resonant nanostructures**

11:30 - 11:50 Dariia Matulka **The Electronic Spectrum in Few-Layer Quasi-2D Crystals**

11:50 - 12:35 Stefan Mathias **Unraveling charge transport in 2D quantum materials on ultrashort time- and lengthscales using time-resolved momentum microscopy**

12:35 - 14:00 *LUNCH*

14:00 - 14:45 Claudia Draxl **Many-body approaches to excitation dynamics in solids**

14:45 - 15:05 Jara Vliem **The influence of surface state bands on the optical properties of 2D Bi₂Se₃ nanoplatelets**

Program

Tuesday, 10 February 2026

15:05 - 15:50	Bridget Murphy	Structure and dynamics at liquid interfaces
15:50 - 16:10	<i>COFFEE BREAK</i>	
16:10 - 17:15	Panel Discussion 2:	Open Data (Claudia Draxl and Bridget Murphy)
18:00 - 19:30	<i>DINNER</i>	
19:30 - 21:00	Poster Session 2	

Program

Wednesday, 11 February 2026

07:30 - 09:00 *BREAKFAST*

09:00 - 09:45 Sascha Feldmann **Tracking charge, spin and light polarization in space & time in emerging semiconductors**

09:45 - 10:05 Fedor Lipilin **Natural van der Waals aluminosilicate for electronic applications**

10:05 - 10:50 Andres Castellanos-Gomez **Controlling structure and transport in 2D nanomaterials**

10:50 – 11:10 *COFFEE BREAK*

11:10 - 11:55 Hélène Seiler **Probing electronic disorder in nanomaterials with coherent two-dimensional spectroscopy**

11:55 - 12:15 Yadu Ram Panthi **Ultrafast Spectroscopic Insights into Triplet Formation and Thermal Artefacts in Functionalised DPP Derivatives**

12:15 - 12:30 **Poster prize and closing remarks**

12:30 - 14:00 *LUNCH*

End of the seminar and departure