

Advanced Imaging of Ferroic Materials

857. WE-Heraeus-Seminar

31 May – 04 June 2026

at the Physikzentrum Bad Honnef, Germany

**WILHELM UND ELSE
HERAEUS-STIFTUNG**



Program

Sunday, 31 May 2026

- 16:00 – 21:00 Registration
- 18:00 *BUFFET SUPPER and informal get together*
- 19:30 – 19:40 Organizers **Welcome and Introduction**
- 19:40 – 21:10 **Evening Session – Framing the Topic of the Seminar**
- Introductory presentations:
- Manfred Fiebig **Modern Understanding of Ferroics**
- Dennis Meier **Advanced Imaging – What’s Possible and What’s Not**

Monday, 01 June 2026

- 07:30 *BREAKFAST*
- Session 1 – Fundamentals of Ferroics I**
(Chair: *Gustau Catalan*)
- 08:30 – 09:15 Andrés Cano **Concept and Definition of Ferroic Order**
- 09:15 – 10:00 Jiri Hlinka **Ferro-axial Order and Point-group Symmetry Breaking**
- 10:00 – 10:30 *COFFEE BREAK*
- Session 2 – Imaging of Ferroic Order I**
(Chair: *Andrés Cano*)
- 10:30 – 11:15 Hiroko Yokota **Polar Structure Imaging by Second Harmonic Generation Microscopy**

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Monday, 01 June 2026

11:15 – 12:00 Salia Cherifi-Hertel **Imaging Polar Topological Textures Using Second-harmonic Generation Microscopy**

12:00 – 12:15 **Conference Photo (in front of the main entrance)**

12:15 – 13:45 *LUNCH*

Session 3 – Imaging of Ferroic Order II
(Chair: Salia Cherifi-Hertel)

13:45 – 14:30 Claire Donnelly **Mapping Topological Textures in Compensated Magnets with X-rays**

14:30 – 15:15 Marco Beleggia **Electron Optical Phase Contrast Imaging of Ferroic Materials**

15:15 – 15:30 *COFFEE BREAK*

15:30 – 18:00 **Poster Session**

18:30 *DINNER*

Program

Tuesday, 02 June 2026

07:30 *BREAKFAST*

Session 4 – Imaging of Ferroic Order III
(Chair: Christian Degen)

08:30 – 09:15 Marty Gregg **Scanning Probe Tomography and
Ferroelectric Domain Walls**

09:15 – 10:00 Colin Ophus **4D-STEM Imaging of Functional
Materials: From Nanobeam Diffraction
to Neural-prior Ptychography**

10:00 – 10:30 *COFFEE BREAK*

Session 5 – Modelling of Ferroics and Antiferroics I
(Chair: Jorge Íñiguez-González)

10:30 – 11:15 Anna Grünebohm **Ferroelectric Switching in the Presence
of Defects – Microscopic Insights from
Ab Initio Based Simulations**

11:15 – 12:00 Thomas Lottermoser **Multi-order Ferroics: A Playground for
Domain Topologies**

12:15 – 13:45 *LUNCH*

Session 6 – Modelling of Ferroics and Antiferroics II
(Chair: Marty Gregg)

13:45 – 14:30 Jorge Íñiguez-
González **Methods for Predictive Atomistic
Simulations of Ferroic Materials**

14:30 – 15:15 Long-Qing Chen **Thermodynamics and Phase-field
Method of Ferroelectric Domain
Structures**

15:15 – 15:45 *COFFEE BREAK*

Program

Session 7 – Dissemination and Funding

(Chair: Claire Donnelly)

15:45 – 16:30	Daniel McNally	Inside Nature Materials: An Editor' Perspective
16:30 – 17:15	Nicola A. Spaldin	How the ERC Works (and How to Get a Grant)
17:15 – 17:30	Stefan Jorda	The Wilhelm and Else Heraeus Foundation
17:30	Appreciation of the WEH Poster Awards	
18:30	<i>DINNER</i>	

Program

Wednesday, 03 June 2026

07:30 *BREAKFAST*

Session 8 – Imaging of Noncollinear and Anti-ferroic Order I

(Chair: Michele Conroy)

08:30 – 09:15 Christian Degen **Imaging of Multiferroic Order Using Scanning Nitrogen-vacancy Microscopy**

09:15 – 10:00 Gustau Catalan **Functional Oxide Membranes**

10:00 – 10:30 *COFFEE BREAK*

Session 9 – Imaging of Noncollinear and Anti-ferroic Order II

(Chair: Felix Büttner)

10:30 – 11:15 Michele Conroy **Probing Emergent Polar and Topological States in Ferroic Materials via Advanced In Situ Electron Microscopy**

11:15 – 12:30 Bernd Kaestner **Nanoscale Imaging of Antiferromagnetic Domains via Nearfield-induced Photocurrents**

12:30 – 13:45 *LUNCH*

Session 10 – Non-equilibrium and Control I

(Chair: Theo Rasing)

13:45 – 14:30 Kathrin Dörr **Single-crystal-like Magnetic Switching of Antiferromagnetic LaFeO₃ Films**

14:30 – 15:15 Felix Büttner **Ultrafast Formation of Nanoscale Textured Ferroic Phases**

15:15 – 16:00 Martina Basini **Dynamical Multiferroic States in Perovskites**

Program

16:15 **Excursion**

19:00 *HERAEUS DINNER*
(social event with cold & warm buffet with complimentary drinks)

Program

Thursday, 04 June 2026

07:30 *BREAKFAST*

Session 11 – Non-equilibrium and Control II

(Chair: Martina Basini)

08:30 – 09:15 Theo Rasing **Ultrafast Magnetism**

09:15 – 10:00 Uwe Bovensiepen **Non-equilibrium Dynamics of the
Electron, Spin, and Structural Degrees
of Freedom in Condensed Matter**

10:00 – 10:30 *COFFEE BREAK*

Session 12 – Whither Ferroics

(Chairs: Manfred Fiebig & Dennis Meier)

10:30 – 11:15 Nicola A. Spaldin **Ferroic Order in Antiferroics**

11:15 – 12:00 Paolo Radaelli **Altermagnetism and Spin Groups**

12:00 – 12:15 **Closing remarks**

12:30 *LUNCH*

End of the seminar and departure