

Computational Optical Microscopy

869. WE-Heraeus-Seminar

01 - 06 November 2026

at the Physikzentrum Bad Honnef, Germany

**WILHELM UND ELSE
HERAEUS-STIFTUNG**



Program

Sunday, 1 November 2026

17:00 - 21:00 Registration

18:30 - 19:30 *BUFFET SUPPER and informal get-together*

19:30 – 19:45 Scientific Organizers **Welcome Words**

19:45 – 20:00 Scientific Organizers **Video "About the Wilhelm and Else Heraeus Foundation"**

From 20:00 Social Evening

Program

Monday, 2 November 2026

08:00 – 09:00 *BREAKFAST*

09:00 - 10:00 **Perspective talk** **Super-resolution microscopy using**
Anne Sentenac **random illuminations**

10:00 - 10:30 Steffen J. Sahl **Intra-molecular MINFLUX analysis:**
 quantifying interactions and
 conformations with Ångström precision

10:30 - 11:00 Rainer Heintzmann **Generic Inverse Modeling:**
 A Modular Framework for Solving
 Complex Reconstruction Problems

11:00 - 11:05 CONFERENCE PHOTO (in front of the main entrance)

11:05 - 11:30 *COFFEE BREAK*

11:30 - 12:00 Giuseppe Vicidomini **Photon-Resolved Microscopy from a**
 Computational Imaging Point of View

12:00 - 12:30 Lars Loetgering **Spectral Unmixing Algorithms for Ultra-**
 Multiplex Fluorescence Microscopy

12:30 - 14:00 *LUNCH*

14:00 - 14:30 Olivier Haeberle **Optical diffraction tomography for**
 imaging non-fluorescent samples:
 state-of-art and perspectives

14:30 - 15:00 Anand Vijayakumar **Coded Aperture Correlation**
 Holography: Evolution, Principles, and
 Future Directions

15:00 - 15:40 **Poster Flash**

Program

Monday, 2 November 2026

15:40 - 16:00 *COFFEE BREAK*

16:00 - 17:15 **Poster session 1**

17:15 - 17:45 Monika Ritsch-Marte **Simultaneous 3D motion and
object reconstruction in
acoustically-mediated optical
tomography**

17:45 - 18:15 Yessenia Jauregui-Sánchez **Ptychography: A Coded
Optical Imaging Approach**

18:30 *Dinner*

19:30 **Social evening**

Program

Tuesday, 3 November 2026

08:00 - 09:00	<i>BREAKFAST</i>	
09:00 - 10:00	Perspective talk Sylvain Gigan	Imaging with scattered light: wavefront shaping for fluorescence imaging in complex media
10:00 - 10:30	Jerome Mertz	Imaging in thick tissue with backscattered illumination
10:30 - 11:00	Egidijus Auksorius	Computational Dynamic Full-Field OCT Microscopy for High-Speed Label-Free 3D and 4D Tissue Imaging
11:00 - 11:30	<i>COFFEE BREAK</i>	
11:30 - 12:00	Zeev Zalevsky	Computational Imaging of Hemodynamic Brain Activity
12:00 - 12:30	Sixian You	Deep label-free lifetime microscopy using single pulse sampling
12:30 - 14:00	<i>LUNCH</i>	
14:00 - 15:30	Breakout Session 1	
15:30 - 15:50	<i>COFFEE BREAK</i>	
15:50 - 16:30	Poster Flash	
16:30 - 18:00	Poster session 2	
18:30 - 19:30	<i>DINNER</i>	
From 19:30	Social evening	

Program

Wednesday, 4 November 2026

08:00 - 09:00 *BREAKFAST*

09:00 - 10:00 **Perspective talk**
Laurent Jacques

**Compressive interferometric
acquisition: from lensless imaging to
random beamforming in radio
astronomy**

10:00 - 10:30 Yoav Shechtman

**3D localization microscopy - spreading
the point-spread function**

10:30 - 11:00 Margret Keuper

tbc

11:00 - 11:30 *COFFEE BREAK*

11:30 - 12:00 Antonio Ciarlo

**From Particle Tracking to Autonomous
Optical Tweezers**

12:00 - 12:30 Pierre Weiss

**DeepBlur: Blind spatially-varying PSF
estimation for fluorescence microscopy**

12:30 - 14:00 *LUNCH*

14:00 - 18:00 EXCURSION

18:30 – 20:00 *HERAEUS DINNER*

From 20:00 **Social evening**

Program

Thursday, 5 November 2026

08:00 – 09:00 *BREAKFAST*

09:00 - 10:00 **Perspective talk**
Malgorzata
Kujawinska

**Metrology aspects of 2D/3D
Quantitative Phase Imaging in
biomedical applications**

10:00 - 10:30 Lucas Kreiss Roohian

**Multiphoton Imaging with
Computational Specificity (MICS)**

10:30 - 11:00 Maria Baczewska

**Quantitative Phase Imaging with
Multimodal Support: From Sample
Preparation to Cellular Dynamics
Analysis**

11:00 - 11:30 *COFFEE BREAK*

11:30 - 12:00 Gaoliang Dai

**Computational algorithms and AI for
enhancing topography fidelity of
optical 3D surface measurements**

12:00 - 12:30 Marketa Kubankova

**From Cell Images to Clinical Evidence:
Computational Challenges in Imaging
Cytometry**

12:30 - 14:00 *LUNCH*

14:00 - 15:30 **Breakout Session 2**

Program

Thursday, 5 November 2026

15:30 - 16:00 *COFFEE BREAK*

16:00 - 16:30 Igor Shevkunov **Single-Frame Phase Retrieval:
Identifiability, Priors, and Quantitative
Reliability**

16:30 – 17:00 Andrew Maiden **Multislice ptychography**

17:00 – 17:30 Stefan Witte **Computational imaging with table-top
extreme ultraviolet sources**

17:30 – 18:00 Manuel Martinez-
Corral **Fourier Lightfield Microscopy. A tool
for real time 3D microscopy**

18:30 - 19:30 *DINNER*

From 19:30 **Social evening**

Program

Friday, 6 November 2026

08:00 – 09:00 *BREAKFAST*

09:00 - 11:00 **Breakout results**

11:00 - 11:30 *COFFEE BREAK*

11:30 - 12:30 **Panel and poster award**

12:30 - 14:00 *LUNCH*

End of the seminar and departure