PICO 2026

Celebrating ER-C 2.0

NINTH CONFERENCE ON FRONTIERS OF ABERRATION CORRECTED ELECTRON MICROSCOPY

Kasteel Vaalsbroek (NL)

May 3rd – 7th 2026

Hosted by the Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons

CONFERENCE OVERVIEW

Introduction

The PICO conference series brings together researchers from academia, research institutions, and industry to exchange the latest developments in electron microscopy and related fields.

It serves as an international forum for presenting advances in instrumentation, methodology, and applications across materials science, structural biology, nanoscience, and beyond.

At a Glance

~ 250 participants

~ 25 countries represented

2 guests of honor

50 scientific oral presentations

6 scientific flash presentations

3 industrial oral presentations

11 industrial pitches

90 scientific posters

24 industry & facility posters

Conference Venue

Bilderberg Kasteel Vaalsbroek
Vaalsbroek 1
6291 NH Vaals
The Netherlands

Located near the borders of Germany and The Netherlands, Kasteel Vaalsbroek provides a historic setting that supports both scientific exchange and informal discussion in a relaxed atmosphere.

Scientific Scope

The program covers cutting-edge topics in electron microscopy and materials characterization, including advanced imaging of materials and devices, elemental mapping and correlative microanalysis, in situ and operando studies, advanced diffraction and detector technologies (including 4D STEM), cryo-electron microscopy and structural biology, spectroscopy and quantitative analysis, and quantum-based imaging methods. It also highlights instrumentation, detector development, and data science and AI approaches across all areas of modern microscopy.

WELCOME TO PICO 2026

Celebrating ER-C 2.0

Welcome to **PICO 2026 – the ninth Conference on Frontiers of Aberration Corrected Electron Microscopy**. It is a pleasure to welcome participants from around the world to Kasteel Vaalsbroek, NL, for several days of stimulating scientific exchange, lively discussions, and new collaborations.

PICO has become a well-established forum for presenting the latest advances in aberration-corrected electron microscopy and related techniques. The program brings together leading experts, emerging researchers, and industrial partners to share developments spanning materials science, structural biology, instrumentation, and data analysis. In addition to keynote lectures and invited presentations, the poster sessions provide an important opportunity for in-depth discussions and exchange of ideas across disciplines.

Beyond the scientific program, PICO offers a unique setting to strengthen existing collaborations and initiate new ones. The informal atmosphere of the conference venue, combined with dedicated networking and social events, has long been a defining characteristic of the PICO series.

We would like to thank all speakers, contributors, sponsors, and participants for their support and engagement, which make this conference possible. We hope that you will enjoy both the scientific program and the opportunity to connect with colleagues and friends.

We wish you a productive and inspiring conference.

The PICO 2026 Organizers

Rafal Dunin-Borkowski, Joachim Mayer, Carsten Sachse, and Genevieve Wilbs

PROGRAM AT A GLANCE

Time	Sunday May 03rd 2026	Time	Monday May 04th 2026	Time	Tuesday May 05th 2026	
		07:00	Breakfast	07:00	Breakfast	
		08:30	Eva Olsson	08:30	Jani Kotakoski	Martina Schifferer
		09:05	Gunnar Schröder	09:05	Stefan Löffler	Arjen Jakobi
		09:40	Chris Russo	09:40	Marc Heggen	Benoît Zuber
		10:15	Coffee Break	10:15	Coffee Break	
		10:45	Michael Elbaum	10:45	Maria Varela	Beata Turoňová
		11:20	Nigel Browning	11:20	**Industry Presentation** ThermoFisher Materials Science	**Industry Presentation** ThermoFisher Life Sciences
				11:35	David Smith	Katharina Hipp
12:00	CONFERENCE REGISTRATION	11:55	**Flash Presentations**	12:10	Lunch Group 1	
		12:30	Lunch Group 1	12:40	Lunch Group 2	
		13:15	Lunch Group 2	13:15	Bus to Jülich Campus	
		14:00	**LAUDATIO** Ute Kaiser	14:00	**Campus Tour**	
14:30	HOTEL CHECK-IN	14:15	**GUEST OF HONOR** Max Haider			
		14:50	Rasmus Schröder			
15:00	Welcome Reception	15:25	**Industry Presentation** JEOL			
16:00	**Opening Remarks**	15:40	Coffee Break			
16:15	Peijun Zhang	16:10	Ido Kaminer			
16:50	Stefan Raunser	16:45	Ute Kaiser			
17:25	Demie Kepaptsoglou	17:20	Juri Barthel			
18:00	Simon Ringer	17:55	**Industry Pitches** DECTRIS HITACHI GATAN AMETEK NanoMEGAS Tescan	17:30	Bus to Vaalsbroek	
18:35	Dinner Group 1	18:20	Dinner Group 1	18:15	Dinner Group 1	
19:15	Dinner Group 2	19:15	Dinner Group 2	19:15	Dinner Group 2	
20:00	**Networking Event**	20:00	**Poster Session A/B/C/D**	20:00	**Poster Session E/F/G/H**	
22:00	**END**	22:00	**END**	22:00	**END**	

Time	Wednesday May 06th 2026		Time	Thursday May 07th 2026
07:00	Breakfast		07:00	Breakfast
08:30	Sara Bals	Wanda Kukulski	08:30	HOTEL CHECK-OUT
09:05	Andrew Minor	Marion Jasnin	09:05	Carsten Sachse & Joachim Mayer
09:40	Naoya Shibata	Arne Moeller	09:40	Bonnie Murphy
10:15	Coffee Break		10:15	Coffee Break
10:45	Peter Hartel	Florian Schur	10:45	Irene Vercellino
11:20	Jan Rusz	Irina Gutsche	11:20	Peter van Aken
11:55	Baptiste Gault	Peter Rosenthal	11:55	Henning Stahlberg
12:30	Lunch Group 1		12:30	Lunch Group 1
13:15	Lunch Group 2		13:15	Lunch Group 2
14:00	**LAUDATIO** Phil Batson		14:00	Patricia Abellan
14:15	**GUEST OF HONOR** Ondrej Krivanek		14:35	Nestor Zaluzec
14:50	Christoph Koch		15:10	Matthias Wolf
15:25	Coffee Break		15:45	Raynald Gauvin
16:10	Wu Zhou		16:20	**Closing Remarks**
16:45	Phil Batson		16:40	DEPARTURE
17:20	Maureen Lagos			
17:55	**Industry Pitches** BRUKER Quantum DETECTORS CondenZero Protochips Delmic QSEM			
18:25	Wine Reception & Best Poster Award			
20:00	**Conference Dinner**			
22:00	**END**			

Book of Abstracts

ABSTRACTS

Guests of Honor

GUESTS of HONOR

Institute Website

WEBSITE

GUESTS OF HONOR

Max Haider

Max. Haider received his PhD in Physics from the Technical University of Darmstadt, Germany, in 1987. He specialized in electron optics and instrumentation. Already during his diploma work in Darmstadt he was involved in the development of correctors, which attracted his attention over his whole career. He became a group leader at the EMBL, Heidelberg in 1990 where he started two projects of aberration correctors: a Cc/Cs-corrector for a low voltage SEM and together with H. Rose and K Urban the Cs-corrector project for TEM in 1991. Both projects could be finished successfully with an improvement of the attainable resolution in 1995 and 1997, respectively. In 1996, he founded together with J. Zach the company CEOS which concentrates on the development of correctors and other advanced electron optical components. Until the end of 2018, about 800 correctors have been installed worldwide with the corrector technology of CEOS and this figure was even almost doubled (1587) at the end of 2025.

He received several awards, like the Beckurts Award in 2006, the Honda Prize in 2007, the Wolf Prize in 2011 and the BBVA Award in 2014. Since 2008, he has been appointed as an Honorary Professor at the Karlsruhe Institute of Technology. In 2015, he received the Honorary Fellowship of the Royal Microscopy Society and the NIMS Award have been awarded to him. In 2019, he was nominated for the European Inventor Award for his life-time achievements. In the same year, he has been selected as a member of the Class 2019 Fellows of the Microscopy Society of America. And, also in 2019, he became an Honorary Member of the German Society of Electron Microscopy. In 2020, he was elected together with H. Rose, K. Urban and O. Krivanek to become a winner of the Kavli-Award. Due to the SARS-CoV pandemic, the Award Ceremony in Oslo had to be postponed until September 2022. And, finally, in 2021 he was awarded as a Distinguished Scientist in Physical Sciences.

Ondrej Krivanek

Ondrej Krivanek has advanced electron microscopy (EM) by developing instruments such as electron energy loss spectrometers, imaging filters, aberration correctors, monochromators, and whole electron microscopes, which have endowed EM with extraordinary new capabilities. He and his collaborators have introduced new experimental techniques such as imaging and spectroscopy of light atoms using annular dark field STEM, EELS and EDXS, and vibrational spectroscopy carried out in the electron microscope. Research made possible by these advances includes imaging and analyzing the bonding properties of single light atoms, and analyzing the vibrational properties of materials with spatial resolution reaching the single-atom level.

Ondrej is also known for co-founding and leading Nion Company, a maker of advanced electron microscope, acquired by Bruker Corporation in 2024. He is currently Senior Scientific Advisor in the Electron Microscopy Unit of Bruker AXS, Affiliate Professor at Arizona State University, and Fellow at the Laboratory of Molecular Biology in Cambridge UK. His work has been honored by several prizes, fellowships and honorary doctorates, including an election to the UK Royal Society and the US Academies of Sciences, Engineering and Medicine, and the 2020 Kavli Prize for Nanoscience.

SUNDAY, May 3rd, 2026

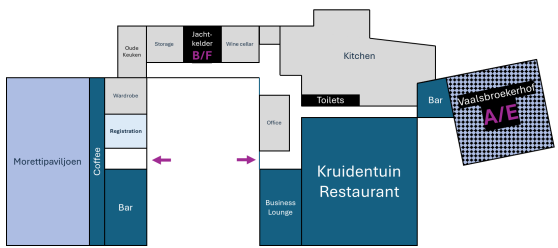
WHEN	WHO	WHAT	WHERE
12:00 – 16:00	All Participants	CONFERENCE REGISTRATION	"Woonkamer" castle ground floor
14:30 – 23:00	Hotel Guests	HOTEL CHECK-IN	hotel reception desk
15:00 – 16:00	All Participants	Welcome Reception	"Binnenplaats" in front of the castle
16:00	Rafal Dunin-Borkowski, Joachim Mayer, and Carsten Sachse - *Forschungszentrum Jülich (Germany)*	**Opening Remarks**	"Morettipaviljoen" castle ground floor
16:15	Peijun Zhang – *University of Oxford (UK)*	From In Situ Chromatin and HIV-1 Nuclear Transport to Atomic-Resolution Pol II Dynamics	
16:50	Stefan Raunser - *Max Planck Institute of Molecular Physiology (Germany)*	Unlocking the secrets of the cytoskeleton and heart muscle	
17:25	Demie Kepaptsoglou -*SuperSTEM Laboratory (UK)*	Pushing the limits of detection in STEM EELS: magnon spectroscopy in an electron microscope	
18:00	Simon Ringer - *University of Sydney (Australia)*	Frontiers in Short Range Order - Measurement and Phenomenological Implications	
18:35	Dinner Group 1	Dinner	"Kruidentuin" restaurant
19:15	Dinner Group 2		
20:00 – 22:00	All Registered Participants	**Networking Event**	"Morettipaviljoen" castle ground floor

MONDAY, May 4th, 2026

WHEN	WHO	WHAT	WHERE
07:00	Hotel Guests	Breakfast	"Kruidentuin" restaurant
08:30	Eva Olsson - *Chalmers University of Technology (Sweden)*	Tailoring In Situ Electron Microscopy Studies	"Morettipaviljoen" castle ground floor
09:05	Gunnar Schröder – *Forschungszentrum Jülich (Germany)*	Structure Determination of Amyloid Fibrils by Cryo-EM	
09:40	Chris Russo – *MRC Laboratory of Molecular Biology (UK)*	What is the best temperature for electron cryomicroscopy of biological specimens?	
10:15	All Participants	Coffee Break	"Morettipaviljoen" coffee bar castle ground floor
10:45	Michael Elbaum - *Weizmann Institute of Science (Israel)*	Contrast in cryo-tomography by 3.5 & 4D-STEM	"Morettipaviljoen" castle ground floor
11:20	Nigel Browning - *University of Liverpool (UK)*	Application of sparse sampling to the multi-scale quantification of dynamic processes	
11:55	Selected Poster Presenters	Flash Presentations	
12:30	Lunch Group 1	Lunch	"Kruidentuin" restaurant
13:15	Lunch Group 2		
14:00	Ute Kaiser – *Ulm University (Germany)*	**LAUDATIO on MAX HAIDER**	"Morettipaviljoen" castle ground floor
14:15	**GUEST OF HONOR** Max Haider – *CEOS GmbH (Germany)*	Personnel remembrance of aberration correction over more than four decades and state of the MC-development	
14:50	Rasmus Schröder - *Heidelberg University and University Hospital (Germany)*	EELS of backscattered electrons: what aberration correction can do for an ultra-low energy SEM	
15:25	Julius Bürger - *JEOL*	**Industry Presentation:** EXELFS analysis of beam-sensitive CeO2 nanoparticles	
15:40	All Participants	Coffee Break	"Morettipaviljoen" coffee bar castle ground floor
16:10	Ido Kaminer - *Technion – Israel Institute of Technology (Israel)*	Toward Attosecond Electron Tomography of Optical Near-Fields	"Morettipaviljoen" castle ground floor
16:45	Ute Kaiser – *Ulm University (Germany)*	Emergent states of matter in functional 2D materials enabled by Cc/Cs-corrected low-voltage HRTEM	
17:20	Juri Barthel - *Forschungszentrum Jülich (Germany)*	Model for High-Resolution Secondary Electron Imaging	
17:55	Berk Küçükoğlu – *DECTRIS* Felix von Cube – *Hitachi High-Tech* Jordan Moering - *Ametek / Gatan+EDAX* Martijn Fransen – *NanoMEGASS* Daniel Nemecek – *Tescan Group*	**Industry Pitches**	
18:20	Dinner Group 1	Dinner	"Kruidentuin" restaurant
19:15	Dinner Group 2		
20:00	All Participants	Poster Session A/B/C/D	See Poster Floorplan

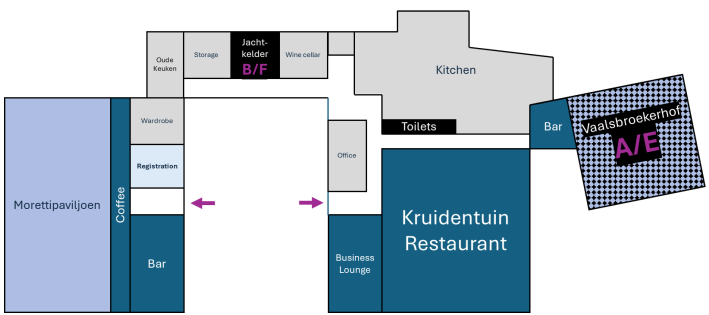
TUESDAY, May 5th, 2026

WHEN	WHO	WHAT	WHERE	WHO	WHAT	WHERE
07:00	Hotel Guests	Breakfast	"Kruidentuin" restaurant			
08:30	Jani Kotakoski - *University of Vienna (Austria)*	2D material manipulation in the electron microscope under low-pressure atmospheres	"Morettipaviljoen" castle ground floor	Martina Schifferer - *German Center for Neurodegenerative Diseases (Germany)*	Array Tomography enables multimodal visualization in neuropathology	"Vaalsbroekerhof" castle ground floor
09:05	Stefan Löffler – *TU Wien (Austria)*	The TEM: a versatile toolkit for exploring quantum mechanics		Arjen Jakobi - *Kavli Institute of Nanoscience (The Netherlands)*	Fluid Dynamics of Cryo-EM Sample Vitrification	
09:40	Marc Heggen – *Forschungszentrum Jülich (Germany)*	Atomic scale insights into catalyst dynamics by environmental in-situ electron microscopy		Benoît Zuber - *University of Bern (Switzerland)*	Advancing in situ cryo- electron tomography from protein localization to quantitative cellular analysis	
10:15	Participants of Materials Science Session	Coffee Break	"Morettipaviljoen" coffee bar castle ground floor	Participants of Life Sciences Session	Coffee Break	"Vaalsbroekerhof" coffee bar castle ground floor
10:45	Maria Varela - *Universidad Complutense de Madrid (Spain)*	Mapping of crystalline and electronic phenomena by atomic resolution in situ stem techniques	"Morettipaviljoen" castle ground floor	Beata Turoňová - *Max Planck Institute of Biophysics (Germany)*	Twist and Scout: Analysis and Curation of Particles in Cryo-Electron Tomography Using TANGO	"Vaalsbroekerhof" castle ground floor
11:20	Wouter Van den Broek – *Thermo Fisher Scientific, Materials Science*	**Industry Presentation:** Correction of partial coherence effects in ptychography		Itziar Serna-Martin – *Thermo Fisher Scientific, Life Sciences*	**Industry Presentation:** New developments in cryo-EM: Pushing boundaries for in situ structural determination and contextual imaging	
11:35	David Smith - *Arizona State University (USA)*	Ongoing studies of ultrawide-bandgap semiconductors		Katharina Hipp - *Max Planck Institute for Biology Tübingen (Germany)*	Nucleocytoviricota in brown algae and their impact on cell architecture	
12:10	Lunch Group 1	Lunch	"Kruidentuin" restaurant			
12:40	Lunch Group 2					
13:15	All Registered Participants	Bus to Jülich Campus	Parking space in front of the castle			
14:00		**Campus Tour**	**Forschungszentrum Jülich**			
17:30		Bus to Vaalsbroek	Building 05.13 E1			
18:15	Dinner Group 1	Dinner	"Kruidentuin" restaurant			
19:15	Dinner Group 2					
20:00	**All Participants**	**Poster Session E/F/G/H**	**See Poster Floorplan**			



WEDNESDAY, May 6th, 2026

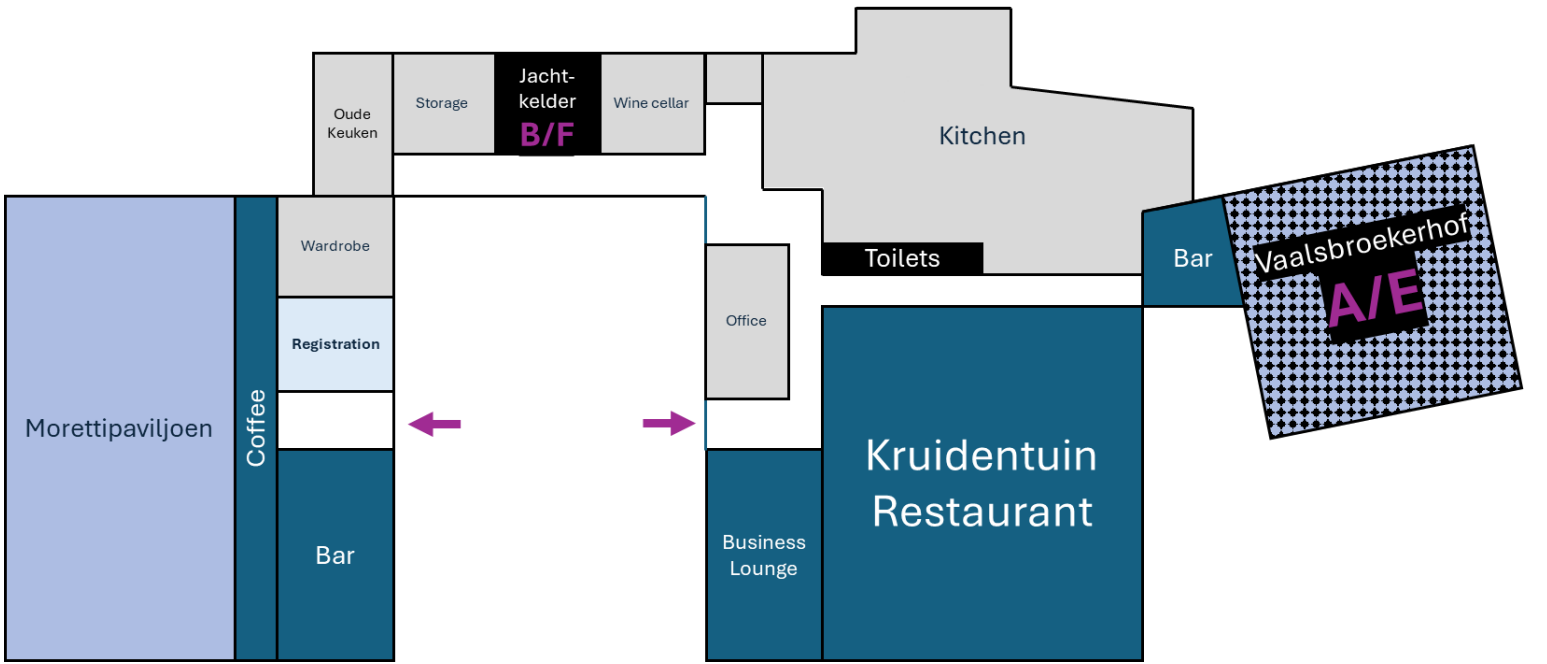
WHEN	WHO	WHAT	WHERE	WHO	WHAT	WHERE
07:00	Hotel Guests	Breakfast	"Kruidentuin" restaurant			
08:30	Sara Bals - *University of Antwerp (Belgium)*	3D characterization of the structure and stability of complex nanomaterials using electron microscopy	"Morettipaviljoen" castle ground floor	Wanda Kukulski - *University of Bern (Switzerland)*	The apoptotic factor Apaf1 inside cells during cell death -a case for cryo-CLEM	"Vaalsbroekerhof" castle ground floor
09:05	Andrew Minor – *Berkeley (USA)*	Interpreting short range order with electron microscopy		Marion Jasnin - *Technical University of Munich (Germany)*	Resolving Arp2/3 complex-mediated branch nucleation in space and time using cryo-electron tomography	
09:40	Naoya Shibata - *The University of Tokyo (Japan)*	Recent advances and applications of magnetic-field-free atomic-resolution electron microscopy		Arne Moeller - *Osnabrück University (Germany)*	High-resolution Cryo-EM of P-gp and its regulation through lipids and substrates	
10:15	Participants of Materials Science Session	Coffee Break	"Morettipaviljoen" coffee bar castle ground floor	Participants of Life Sciences Session	Coffee Break	"Vaalsbroekerhof" coffee bar castle ground floor
10:45	Peter Hartel – *CEOS (Germany)*	Milestones in hexapole aberration corrector development	"Morettipaviljoen" castle ground floor	Florian Schur - *Institute of Science and Technology Austria (Austria)*	Large-scale 3D imaging of cellular actin networks using cryo-ET	"Vaalsbroekerhof" castle ground floor
11:20	Jan Rusz - *Uppsala University (Sweden)*	Atomic spatial resolution in vibrational and magnetic properties from theoretical perspective		Irina Gutsche – *IBS (France)*	Decoding respiratory syncytial virus replication: in serendipity we trust	
11:55	Baptiste Gault - *Max Planck Institute for Sustainable Materials (Germany)*	10y of developing cryo-atom probe tomography		Peter Rosenthal - *The Francis Crick Institute (UK)*	Imaging viral glycoproteins involved in virus assembly and cell entry	
12:30	Lunch Group 1	Lunch	"Kruidentuin" restaurant			
13:15	Lunch Group 2					
14:00	Phil Batson - *Rutgers University (USA)*	**LAUDATIO on ONDREJ KRIVANEK**	"Morettipaviljoen" castle ground floor			
14:15	**GUEST OF HONOR** Ondrej Krivanek - *Arizona State University (USA)*	A voyage of discovery: from modest beginnings to detecting the vibrations of single atoms				
14:50	Christoph Koch - *Humboldt-Universität zu Berlin (Germany)*	Comparing 2D and 3D phase imaging in TEM, STEM, and SEM				
15:25	All Participants	Coffee Break	"Morettipaviljoen" coffee bar castle ground floor			
16:10	Wu Zhou - *University of Chinese Academy of Sciences, Beijing (China)*	Atomic Coordination Measurement at the Single-Atom Limit	"Morettipaviljoen" castle ground floor			
16:45	Phil Batson - *Rutgers University (USA)*	Geometric Constraints on Quantum Measurement Revealed by Spatially Resolved EELS				
17:20	Maureen Lagos - *McMaster University (Canada)*	Unveiling phonon-assisted processes using atom-wide electron beams				
17:55	Tracy Lovejoy - *BRUKER* Matúš Krajňák - *Quantum DETECTORS* Denys Sutter - *CondenZero* David Nackashi - *Protochips* Ellie Johnston - *Delmic* John Gaida – *QSEM*	**Industry Pitches**				
18:25	Rafal Dunin-Borkowski, Joachim Mayer, and Carsten Sachse - Forschungszentrum Jülich (Germany)	Best Poster Award				
18:35	All Participants	Wine Reception	"Binnenplaats" in front of the castle			
20:00	All Registered Participants	Conference Dinner	castle – see seating plan			



THURSDAY, May 7th, 2026

WHEN	WHO	WHAT	WHERE
07:00	Hotel Guests	Breakfast	"Kruidentuin" restaurant
until 10:00	Hotel Guests	HOTEL CHECK-OUT	hotel reception desk
09:05	Carsten Sachse & Joachim Mayer – *Forschungszentrum Jülich (Germany)*	Progress of phase I of project ER-C 2.0: installation and performance of the instruments BIO and TOMO	"Morettipaviljoen" castle ground floor
09:40	Bonnie Murphy - *Max Planck Institute of Biophysics (Germany)*	Advances in 3D reconstruction of analytical signals for elemental mapping in cryo-preserved biological samples	
10:15	All Participants	Coffee Break	"Morettipaviljoen" coffee bar castle ground floor
10:45	Irene Vercellino – *Forschungszentrum Jülich (Germany)*	Cryo-EM reveals naturally occurring dimeric photosystem II lacking the Mn4CaO5 cluster	"Morettipaviljoen" castle ground floor
11:20	Peter van Aken - *Max Planck Institute for Solid State Research (Germany)*	Advancing Quantum Material Characterization via the JEOL Atomic-Resolution Multi-Dimensional TEM: From Sub-15 meV Excitations to Dynamic Polarization Mapping	
11:55	Henning Stahlberg - *Federal Institute of Technology Lausanne (Switzerland)*	Stroboscopic single electron Cryo-EM and 4D STEM to study Parkinson's Disease	
12:30	Lunch Group 1	Lunch	"Kruidentuin" restaurant
13:15	Lunch Group 2		
14:00	Patricia Abellan – *CNRS (France)*	Radiolysis of liquid water and dyes in the stem	"Morettipaviljoen" castle ground floor
14:35	Nestor Zaluzec – *ZNL-MMC (USA)*	Microanalytical Sensitivity of X-ray Energy Dispersive Spectroscopy in the Analytical Electron Microscope	
15:10	Matthias Wolf - *Okinawa Institute of Science and Technology Graduate University (Japan)*	High resolution and high throughput on the JEOL CryoARM300-II with narrow-gap optics	
15:45	Raynald Gauvin - *McGill University (Canada)*	On the Computation of Electron Trajectories with Bohmian Mechanics and their Measurement with Electron Holography	
16:20	Rafal Dunin-Borkowski, Joachim Mayer, and Carsten Sachse - *Forschungszentrum Jülich (Germany)*	**Closing Remarks**	
16:40	All Participants	DEPARTURE	

CASTLE GROUND FLOOR



POSTER PROGRAM INDUSTRY

These posters are presented on MONDAY and TUESDAY

POSTER SESSION A/ E:
"Vaalsbroekerhof" castle ground floor

Thermo Fisher Scientific	Ricardo	Egoavil	PS AE01	Progress in field-free magnetic imaging on Thermo Scientific transmission electron microscopes
JEOL	Shigeyuki	Morishita	PS AE02	Development of a Cc/Cs Corrector Based on Hexapole and Quadrupole Fields
DECTRIS AG	Jan	Vavra	PS AE03	Exploring electron dose fractionation in TEM for material science applications using the latest generation of fast hybrid pixel detectors
Ametek GmbH	Saleh	Gorji	PS AE04	Atomic-resolution counted eels on non-aberration-corrected microscopes using GIF Continuum and advanced eaSI workflows
Tescan Group	Daniel	Nemecek	PS AE05	Sensitivity and robustness of quantitative phase analysis and strain measurements by precession-assisted 4D-STEM

POSTER SESSION B / F:
"Jachtkelder" castle ground floor

Bruker Nano GmbH	Julien	Aubourg	PS BF01	Elemental quantification of a stem sample with varying thickness

POSTER SESSION C /G:
"Haardkamer" castle first floor

Protochips, Inc.	David	Nackashi	PS CG01	A new method for quantifying light delivery in a closed-cell gas-phase *in situ* TEM system.

POSTER SESSION D / H:
"Tuinkamer" castle first floor

Quantum Detectors Ltd	Matus	Krajnak	PS DH01	Merlin T4: pushing the boundaries of STEM/TEM with the new Timepix4 ASIC
NanomMEGAS SRL	Martijn	Fransen	PS DH02	Precession-enhanced Electric Field and Pair Distribution Function mapping in the Transmission Electron Microscope
TVIPS GmbH	Tia	Truglas	PS DH03	Streamlined Software for 4D STEM Experiments and Real-Time Virtual Detector Calculation

POSTER PROGRAM MONDAY

Please note that poster sessions A / B / C / D will run in parallel

POSTER SESSION A: advanced materials & device microscopy
"Vaalsbroekerhof" castle ground floor

Rebekka	Klemmt	PA01	Studying extended-range order using pair-angle distribution functions
Jom	Luiten	PA02	Microwave-cavity-based ultrafast electron microscopy and spectroscopy
Julius	Huijts	PA03	The ultracold electron source: principle, recent developments and potential applications
Junbeom	Park	PA04	Python-based data processing for quantitative analysis of focused ion beam (FIB) tomography
Thomas	Schachinger	PA05	Electron microscopy and trams: towards a friendly coexistence
Haipei	Shao	PA06	Low-dose imaging and electron diffraction
Janghyun	Jo	PA07	Resistive switching of individual TiO_2 nanoparticles studied by off-axis electron holography
Qianqian	Lan	PA08	Determination of the bowing of spontaneous polarization in $In_xGa_{1-x}N$ using off-axis electron holography and electrostatic modeling
Yan	Lu	PA09	Ag/au contact electrification measured using off-axis electron holography
Dorothee	Rosenzweig	PA10	Electron beam charging at p-n junctions: interplay of electron dose and charge carrier dynamics
Hayden C.	Barry	PA11	Atomic-scale Interface analysis of NbTiN trilayer superconducting junctions
Xinren	Chen	PA12	Correlative 4D-STEM and atom probe tomography
Vinayak	Dravid	PA13	Generalized electron-driven non-equilibrium Systems for *in-situ* microscopy
Eva	Duft	PA14	Magnetic domain structures in lamellae of the van der Waals magnets Fe_3GeTe_2 and Fe_3GaTe_2
András	Kovács	PA15	Direct observation of the Verwey transition in magnetite
Yoshie	Murooka	PA16	Microstructural dynamics revealed by electron beam techniques
Akhil	Nair	PA17	Exploring the influence of Cr on bond characteristics in $(Fe,Cr)_2B$
Amir	Sabet Ghorabaei	PA18	Shearing of chemically complex vanadium carbide nanoprecipitates in microalloyed steels
Lena	Sagenschneider	PA19	Spin reorientation effect in a thin film of the kagome magnet Fe_3Sn_2
Nan	Wang	PA20	Dominant role of defect-induced strain in the first-order transition of $Fe_{50}Rh_{50}$
Julia	Pürstl	PA21	On cooling-rate dependent eutectoid interface development in Ti-7.5Cu
Rostislav	Řepa	PA22	Hybrid tunable plasmonic devices using gold and vanadium dioxide
Jakob	Ruickoldt	PA23	Crane and pike: together they guide
Ahad Ali	Kazmi	PA24	The structure-based assembly mechanism of the mitochondrial respiratory chain
Brigitte	Bochtler	PA25	Preserving the technological DNA of electron microscopy: the vision of the electron microscopy museum Nürnberg
Marta	Lipińska-Chwałek	PA26	ReMade@ARI: a hub for materials research
		PA27	RIANA: research infrastructure access in nanoscience & nanotechnology

POSTER SESSION B: Elemental Mapping, EDX/EDS & Correlative Microanalysis

"Jachtkelder" castle ground floor

Hui	Chen	PB01	Leveraging Machine Learning for Advanced Nanoscale X-ray Analysis: Unmixing Multicomponent Signals and Enhancing Chemical Quantification
Paul	Smeets	PB02	Elucidating impact of novel diseases and ocean acidification on coral skeletons
Vesna	Srot	PB03	Understanding the mechanism of coloration and materials optimization in rodent teeth
Rhonda	Stroud	PB04	Prospecting for Lunar Volatiles with Aberration-Corrected STEM-EELS-EDXS
Elena	Willinger	PB05	Atomistic Insight into the Structural Differences of the η- and γ-Al_2O_3 and the Related Catalytically Active Sites
Ulrich	Poppe	PB06	Fabrication and investigation of magnetic ring phase plates
Ciqi	Liao	PB07	Quantitative comparison of resolution limits: critical specimen thickness in cryo-TEM, EFTEM, and iDPC-STEM
Michael	Schnedler	PB08	Quantifying carbon site switching dynamics in GaN by electron holography

POSTER SESSION C: In Situ Heating, Gas Cell & Environmental TEM

"Haardkamer" castle first floor

Daan Hein	Alsem	PC01	High-resolution In-situ High-pressure and Temperature Gas Cell Transmission Electron Microscopy of Heterogeneous Catalysts at >20 bar and 450 °C
Frederik	Dam	PC02	Open Gas-Cell Transmission Electron Microscopy at 0.5 Å Information Limit
Tommaso	Costanzo	PC03	GIS free lamella preparation for in situ heating TEM
Xiaolei on behalf of Zhipeng	Wang Li	PC04	Integrated in-situ EM platform for cross-scale characterization under coupled multi-fields
Xinxin	Hu	PC05	Investigation of Twisted Free-standing Membranes Using Advanced Microscopy
Michael	Faley	PC06	Superconducting devices for operation in TEM
Benjamin Michael	Zingsem Schaaf	PC07	In-Situ Microwave Excitation and Spatially Resolved Magnetic Resonance in Transmission Electron Microscopy using Broadband Radio Frequency Sample Holders

POSTER SESSION D: Precession Diffraction, 4D STEM & Advanced Detectors

"Tuinkamer" castle first floor

Penghan	Lu	PD01	Automated stage-rocked scanning precession electron diffraction in an SEM with an ultrafast event-driven detector
Maiko	Czarnetzki	PD02	Fourier precession TEM applied to dose-sensitive biological samples
Berk	Kucukoglu	PD03	Practical challenges and strategies for phase contrast 4D-STEM tomography of thick biological specimens
Pavel	Potapov	PD04	Distortion correction in multi-frame stem
Karina Bashir	Ruzaeva Kazimi	PD05	Peak-preserving denoising of 4D-STEM diffraction using autoencoders
Chongzhi	Zhu	PD06	Maximum a posteriori denoising for 4D-STEM dataset via tensor sparsity regularization
Han	Yue	PD07	High-throughput, general-purpose electron ptychography via statistical deep learning
Martin	Vodicka	PD08	Design of a foil-lens spherical aberration corrector for SEM
Marc	Botifoll Moral	PD09	Automated analysis of stem data of semiconductor heterostructures for quantum computing
Yucheng	Zou	PD10	Quantitative determination of strain and polarization fields in semiconductor heterostructures using precession-assisted 4D-STEM
Nicolai-Leonid	Bathen	PD11	Ultrafast 4D-STEM – an ultrasensitive probe of nano-plasma dynamics

POSTER PROGRAM TUESDAY

Please note that poster sessions E / F / G / H will run in parallel

POSTER SESSION E: Cryo EM, Cryo ET & Structural Cell Biology
"Vaalsbroekerhof" castle ground floor

Sabrina	Berkamp	PE01	*In situ* structural organization of the autophagy cargo receptor p62 studied with a correlative light and electron microscopy pipeline
Catherine	Dang	PE02	Cryo-electron tomography of p62-mediated aggrephagy in cells
Ellie	Johnston	PE03	Super-resolved integrated cryo-fluorescence imaging on lamella for precision cryo-ET
Elisa	Lisicki	PE04	Need for speed: staggered cryo-plasma FIB milling enables high-throughput cryo-ET
Aikaterini	Filopoulou	PE05	Cryo-STEM: center-of-mass methods applied to biological specimens
Tom	Goetze	PE06	Functional investigation of the ESCRT-III homologue Vipp1 using in situ cryogenic electron tomography
Anja	Heddier	PE07	Structural characterization of a novel bacterial ESCRT-III protein in E. Coli
Alexandros	Katranidis	PE08	Structural organization of p62 filaments
José Daniel	Camino	PE09	Cross-seeding of tau and α-synuclein In the origin of the synucleinopathies
Yashaswini	Kalenahalli Gurusiddappa	PE10	The effect of met35 oxidation on the formation and structure of amyloid-β(1-42) fibrils
Janus	Lammert	PE11	Polymorphism in *ex-vivo* & *in-vitro* $A\beta_{42}$ fibrils
Simon	Sommerhage	PE12	Therapeutic insulin glargine forms amyloid fibrils distinct from human insulin fibrils: A cryo-EM study
Higor	Rosa	PE13	A novel eukaryotic ribosome factor enables translation restart following cellular dormancy
Paulina	Indyka	PE14	Structural basis for the semiquinone stability and superoxide production in the quinone reduction site of the cytochrome bc_1
Markus	Lentzen	PE15	On an unusual Aharonov-Bohm effect without enclosing a magnetic flux
Rakshith	Manjunatha	PE16	Ultrastable cryogenic scanning electron microscopy enabled by a cryogen-free Joule-Thomson microcooler
Benedikt	Haas	PE17	Time-resolved nanoscale thermal transport measurements in STEM
Sameh	Okasha	PE18	A strategy for characterizing domain walls motion on racetrack memory from 2D to 3D of iron nano-printed by focused electron beam induced deposition
Nadezda	Tarakina	PE19	Maximizing photocatalytic efficiency of carbon nitrides by tailoring their local structure
Joachim Dahl	Thomsen	PE20	Magnetic interactions in van der Waals heterostructures
Johann	Toyfl	PE21	Enhancing temporal resolution in ultrafast transmission electron microscopy using a v-band cavity
Xijie	Wang	PE22	Megaelectron-volt ultrafast electron microscope the future of electron imaging
Michael	Yannai	PE23	Light-enhanced electron microscopy: atomic-scale labelling of chemical functionality
Kevin	Boga	PE24	The role of DFCP1 in replication organelle membrane biogenesis in SARS-CoV-2
Iris Pia	von der Hocht Sundermeyer	PE25	Cryo-electron tomography sample preparation at the Ernst Ruska-Centre Jülich
Thomas	Heidler	PE26 PE27	Cryo-EM instrumentation at the Ernst Ruska-Centre: enhanced platforms for STEM and -CLEM workflows Instruct-ERIC: get access to advanced structural biology services

POSTER SESSION F: Spectroscopy, EELS & Quantitative Signal Analysis
"Jachtkelder" castle ground floor

Joachim Juri Ivan	Mayer Barthel Povstugar	PF01	The TOMO Project – Integrating a Fully Functional Atom Probe in an Aberration Corrected TEM
Martin	Hájek	PF03	Simulating images in tem: a comparison of inelastic scattering models
Philip	Batson	PF04	Geometric Constraints on Quantum Measurement Revealed by Spatially Resolved EELS
Wojciech	Marciniak	PF05	Time resolution in tacaw-computed eels
Joanna	Marciniak	PF06	Phonon modes decomposition in SiC
Ivan	Pinto	PF07	FFneT project: A deep learning model for detecting frequencies in FFT spectra
Georgios	Varnavides	PF08	Unified Direct Phase Retrieval Framework and Streaming Parallax Imaging for Efficient Diffractive Imaging
Gregory	Nordahl	PF09	Locally time-resolved scanning transmission electron microscopy (LTR-STEM)
Lei	Jin	PF10	Bayesian optimization boosted quantitative high resolution transmission electron microscopy

POSTER SESSION G: In Situ Electrochemistry, Catalysis & Reactive Environments
"Haardkamer" castle first floor

Shibabrata	Basak	PG01	Unraveling the nanoscale secrets of electrolysis using multimodal electron microscopy for a sustainable hydrogen economy
Sorour	Semsari Parapari	PG02	Nanoscale electrochemical dynamics of copper nanostructures under confinement
Govind	Ummethala	PG03	Investigating the Influence of Metal Ion Additives on the Electroplating Process of Zn using Liquid Cell Transmission Electron Microscopy
Saleh	Firoozabadi	PG04	Correlating Atomic-Scale Dynamics and Reaction Products Using Aberration-Corrected ETEM with a Local Probe Mass Spectrometer
Nico	Reinders	PG05	In-situ electron microscopy investigation of palladium-zirconium nanoparticle catalysts during dry reforming of methane
Martynas	Skapas	PG06	In Situ TEM Study of Size-Controlled Bi Quantum Dots in an Annealed GaAsBi/AlGaAs Multiple Quantum Well Structure
Miran	Joo	PG07	Structural analysis of the 9R phase in Ir-Pd-Pt-Rh-Ru compositionally complex solid solution thin films by nano-beam electron diffraction
Walter	Schaap	PG08	Electron Holography of Light-induced Charge Transfer

POSTER SESSION H: Quantum States, Vibrations & Holography / Ptychography
"Tuinkamer" castle first floor

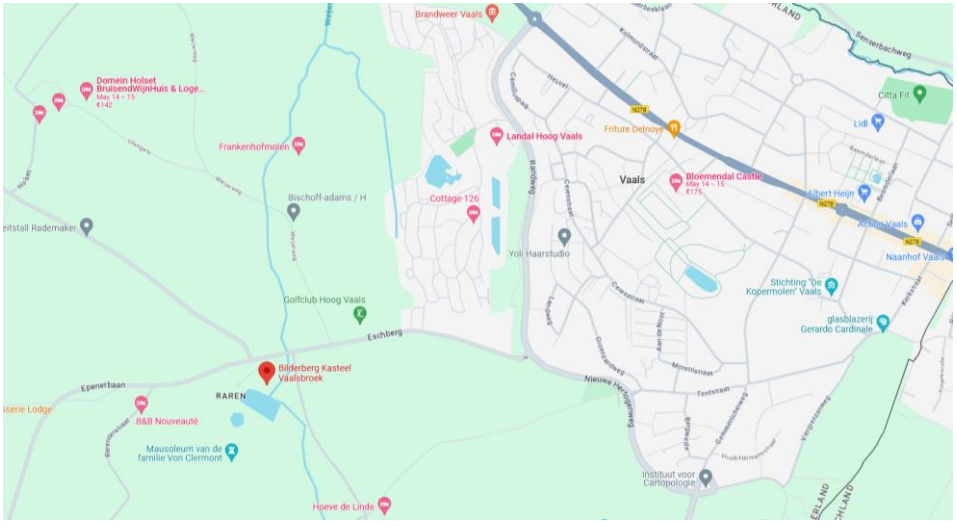
Nora	Bach	PH01	Inelastic electron-light interaction probed by holographic scanning transmission electron microscopy
Xue	Bai	PH02	Characterisation of antiferromagnetic $NiPS_3$ using TEM and ptychography simulations
Anton	Gladyshev	PH05	Correlated atomic vibration imaging with sub-Ångström resolution
Zuxian	He	PH06	Quantum Nuclear Effects in Temperature-Dependent EELS
Martin	Osmera	PH07	STEM-EELS: Computational study of vibrational dynamics of defects at atomic-scale
Koudai	Tabata	PH08	Atomic-scale double-slit interference reveals correlated atomic vibrations
Milan	Šabata	PH09	High-performance C++/CUDA wavefront propagation for real-time beam shaping: a deterministic physics engine for electron microscopy
Daniel	Schaefer	PH10	Momentum-resolved EELS for elemental mapping via 3D reconstruction

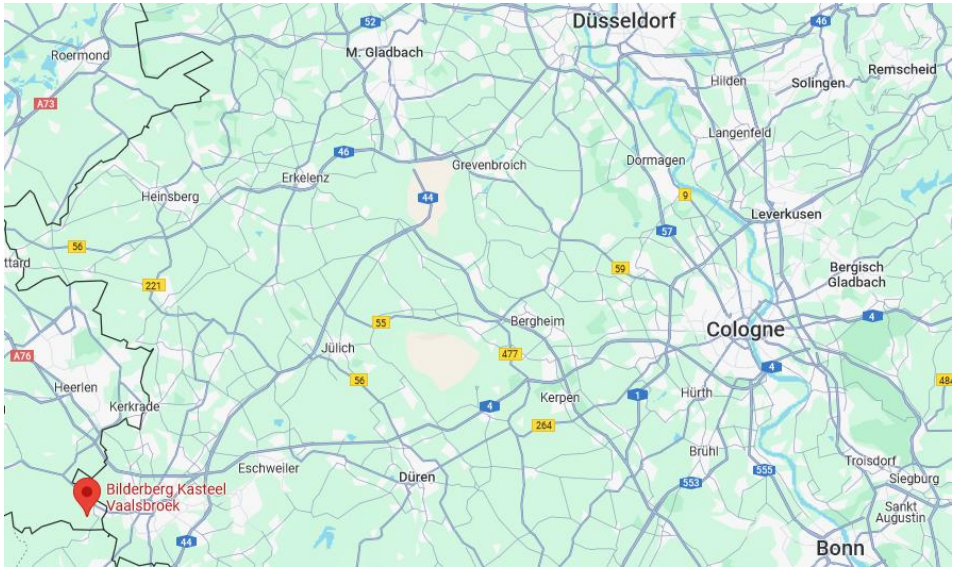
ADDRESS

Bilderberg Kasteel Vaalsbroek
Vaalsbroek 1
6291 NH Vaals
The Netherlands
Phone +31 43 308 93 08

Free parking space is available in front of the hotel.

ROAD MAP

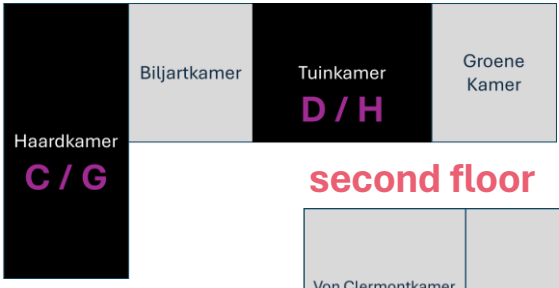




VENUE

ground floor

first floor



second floor

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