Norwegian Electro-optics Meeting

Optics Group of the Norwegian Physical Society

Norwegian Electro-Optics Meeting

Hotel Riviera, Moss
22-24 April 2026

The Norwegian Electro-Optics Meeting series is organized by the Optics Group of the Norwegian Physical Society (NFS). NFS is an organization for Norwegian physicists and physics enthusiasts whose purpose is to promote research, dissemination, and collaboration in the field of physics.

Practical information

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22-24 April 2026, Moss

About this event

The traditional Norwegian Electro-Optics Meeting will take place on April 22nd to 24th, 2026, at Hotel Riviera, Moss, close to the Oslo fjord.

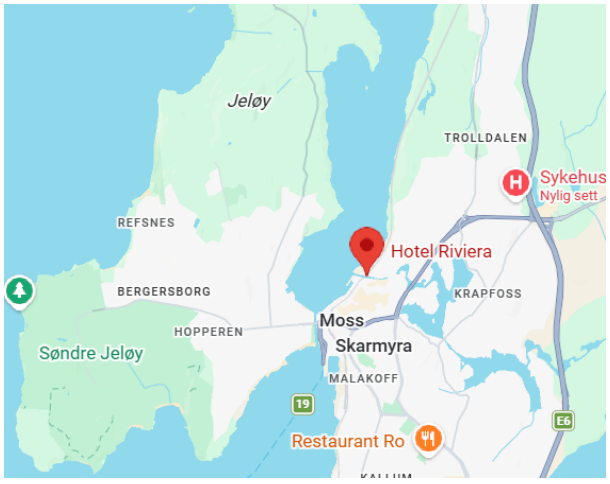
The Norwegian Electro-Optics Meeting is the main Norwegian forum for scientific and technical optics, bringing together basic research, innovation, and industry applications. The presentations will include invited talks by leading international scientists, as well as presentations from researchers, graduate students, and Norwegian companies. The meeting series is organized by the Optics Group of the Norwegian Physical Society.

Location

Hotel Riviera
Bernt Ankers gate 2, 1534 Moss

Be aware of road work around the hotel in this time period. Not all routes will be available by car. More information will be posted on our website.

Breakfast, lunch and dinner is included in your hotel stay. The hotel also offers a dedicated spa area on the top floor.



Information

Updated information about location, travelling and abstracts can be found via our website:
https://electrooptics.no/

Contact

For questions regarding event administration please contact:

Maren Anna Brandsrud (chair)

Norwegian University of Life Sciences

maren.brandsrud@nmbu.no

Posters and Presentations

We kindly ask that you print your own poster in size A0 or 70 x 100 cm (portrait/vertical orientation).

Deliver your presentation at the registration desk before your session starts, or by email to maren.brandsrud@nmbu.no.

Student prizes

At the end of the meeting, we will award student prizes for best poster and best presentation!

The contributions will be evaluated by a scientific committee and audience votes (system to be announced). **Look for the symbol below in the program which marks the presentations and posters from students:**

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Program Day 1
22 April 2026

Norwegian Electro-Optics Meeting

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Time		Speaker
11:30	**Kickoff-lunch in the hotel restaurant**	
12:30-12:45	**Opening by the dean of the Faculty of Science and Technology Norwegian University of Life Sciences**	Ingunn Burud
	Session 1: Photonics for spectroscopy / Chair Jon Kristian Hagene	
12:45-13:30	**Keynote lecture: Hyperspectral Imaging - The Breakdown of an Explosion**	**Philippe Monnoyer**
13:30-13:45	Enhanced hyperspectral imaging using adaptive optical components	Stephane Nicolas
13:45-14:00	Compact Mid-Infrared Tunable Interband Cascade Laser-Based Spectrometers with Thin-Film Waveguides for Protein Sensing	Mehmet Can Erdem
14:00-14:15	Comprehensive performance assessment of broadly tunable mid-infrared interband cascade laser	Pranish Karki
14:15	Coffee/tea break	
14:45-15:00	Nanophotonic MIR spectroscopic gas analyzer: Compact assembly for microbial monitoring	Ragnar Seton
15:00-15:15	Carbon dioxide leak detection for CCUS applications	Jonas Westberg
15:15-15:30	First-principles approach for robust NIR spectroscopy in real-world applications	Vilde Vraalstad
15:30-15:45	Emerging nanophotonic sensors: for single-molecule detection to patient-level healthcare monitoring	Angelos Xomalis
15:45-16:00	Converting mid-infrared light to visible using molecular optomechanics in dual-resonant metasurfaces	Julia Lövgren
16:00-16:30	Group photo	
17:00-19:00	**Social activity : Snack & Historic tour in Møllebyen**	
20:00	**Dinner in the hotel restaurant**	

Program Day 2
23 April 2026

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Session 2: Electro-optical systems and devices / Chair: Jana Jágerská

08:30-08:45	Nanosecond-pulsed hybrid Tm–Raman fiber amplifier for high-power 2.1 µm generation	André Wean Edvardsen
08:45-09:00	Measurement accuracy in miniaturised and integrated measurement systems	Jarle Gran
09:00-09:15	Thulium-doped fiber laser architectures for TMI-free average power scaling	Lars Holmen
09:15-09:30	Integrated photonic neural networks with alternative weights	Håvard Hem Toftevaag
09:30-09:45	A Practical Approach to Stray Light Simulation in Electro-Optical Imaging Systems	Peter Wiker
09:45	Coffee/tea break	
10:15-11:00	**Keynote lecture: Integrated Millimeterwave Photonics on Lithium Niobate and Tantalate**	**Cristina Benea-Chelmus**
11:00-11:15	Broadband Photonics Integrated Circuits Based on Aluminum Oxide	Firehun Tsige Dullo
11:15-11:30	Advancing High-Throughput Super-Resolution Microscopy: Photonic Chip Technology with Enhanced Data Analysis Capabilities	Ine Jernelv
11:30	**Lunch**	

Session 3: Quantum / Chair: Karl Henrik Haugholt

12:15-13:00	**Keynote lecture: Quantum Advantage with Optical Systems**	**Ulrik L. Andersen**
13:00-13:15	Quantum sensing activities at FFI	Kristoffer W. B. Hunvik
13:15-13:30	Quantum-emitter-embedded metasurfaces (QEMS) provide ångström-tunable polarization-resolved solid-state photon sources	Paul Thrane
13:30-13:45	EU Pilot Photonics for Quantum (P4Q)	Christopher Dirdal
13:45	Coffee/tea break	

Session 4: Space / Chair Even Frøen

14:15-14:30	A Norwegian contribution to satellite-based astronomy with ARRAKIHS	Gunnar Mæhlum
14:30-14:45	The NorSat-4 optical imaging satellite for maritime surveillance	Torbjørn Skauli
14:45-15:00	Long-range 3D vision in outer space	Anders H. Hansen
15:00-15:15	A range gating flash lidar for autonomous moon landing	Eystein Sæther
15:15-15:30	Preliminary design of the CENSSAT-1 camera, an optical payload for space weather monitoring	Shayla Viet
15:30-15:45	From Commercial Cameras to Orbit: NEO's Path into New Space Hyperspectral Imaging	Lars Lierstuen
15:45	**Tycho Jæger Prize**	
16:15	Annual Meeting of the Optics Group of the Norwegian Physical Society (NFS)	
16:45-18:15	**Poster session**	
20:00	**Gala dinner**	

Program Day 3
24 April 2026

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Session 5: Applied spectroscopy, microscopy and data analysis
Chairs Tiril Lintvedt and Vilde Vraalstad

08:30-08:45	Rapid and gentle volumetric imaging of host–pathogen interactions in salmon skin cells using projective oblique plane microscopy	Jon-Richard Sommernes
08:45-09:00	MUSICAL – super-resolution optical microscopy and motion tracing	Jean-Claude Tinguely
09:00-09:15	Continuous, Interpretable, Minimalistic Machine Learning (CIM-ML): Semi-causal Modelling of Electro-Optical BIG DATA	Harald Martens
09:15-09:30	Exploring tissue-mimicking phantoms for the development of multi-wavelength PPG sensor systems	Hanne Daltveit
09:30-09:45	From applied research to global products: NEO technology development and R&D activities	Peder Oscar Andersen
09:45-10:00	Application of Raman spectroscopy for estimating omega-3 fatty acids in Atlantic salmon: from phenotype to genotype	Jisoo Park
10.00	Coffee/tea break	
10:30-11:15	**Keynote lecture: Exploring biotechnology frontiers with process Raman spectroscopy**	**Karen Esmonde-White**
11:15-11:30	A portable dry film FTIR instrument for industrial food and bioprocess applications	Erik Tengstrand
11:30-11:45	Mid-Infrared Sensor Technologies: From Clinical Diagnostics to Food Safety	Boris Mizaikoff
11.45	Small Coffee/tea break	
12:00-12:15	In depth method validation of calibration transfer	Erik Tengstrand
12:15-12:30	Optical properties of green fjords	Arne Skodvin Kristoffersen
12:30-12:45	Estimation of Light Penetration in Fish Tissue Using Hyperspectral Imaging and 3D Surface Profiling	Rowan Romeyn
12:45-13:00	**Closing remarks**	
13:00	**Lunch**	

Posters

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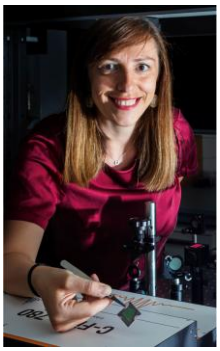
Oblique Plane Microscopy of human stem cell derived cardiomyocytes	Hildegunn Haugan
Revolutionizing Fish Egg Quality Assessment: Rapid Fatty Acid Detection with Raman Spectroscopy and Artificial Intelligence	Sahar Mejri
Real-Time Quality Metrics for PPG Monitoring in First Responder Applications	Andreas Sundsbø
First demonstration of dual-mode photodiode self-calibration in air	Maša Paunov
Thermo-optic Mach–Zehnder interferometers for predictable power splitting in photonic integrated circuits	Charlotte Tjore
Metasurface Polarimeter System for Digital Histopathology	Paul Thrane
Innovative GeSi wall waveguides for on-chip broadband mid-IR spectroscopy	Noémie Mestre
A Microfluidic Surface-Enhanced Raman Spectroscopy Approach for Ultra-Sensitive Pesticide Monitoring in Water	Elizaveta Vereshchagina
MEMS-Based Plasma Emission Spectroscopy Based Platforms for Real-Time Gas Analysis	Elizaveta Vereshchagina
Reversal Asymmetry of Reciprocal Metasurface Enables Ultra-Compact Varifocal Reflective Lens	Christopher Dirdal
Micro Electromechanical System Fabry-Perot based spectrometer for monitoring surface contamination in space related applications	Grégory Bouquet
Realisation of a NV-based quantum sensor: First steps and lessons learned	Karl Henrik Haugholt
Design of Silicon meta-optics for long wave infrared imaging	M. Nadeem Akram

Keynote speakers

Philippe Monnoyer obtained his Ph.D. in physical chemistry in 1998. In the early years, he acquired experience in multiple technology fields such as holographic recording materials formulations at the Space Center of Liège, interferential photography at the Rowland Institute at Harvard MA, and microlithography solutions for the semiconductor industry at Imec. He later developed proprietary process chemical formulations for Motorola and Freescale Semiconductors in Crolles, in collaboration with ST Microelectronics and NXP. From 2010 to 2016, Philippe headed the silicon-related activities and cleanrooms at VTT Ltd (Technical Research Centre of Finland). In recent years, he has headed business development actions to further sharpen the integrated competitive technology of VTT Ltd as solutions for global needs. He now accompanies clients globally to evaluate and adopt VTT's key sensing technologies, e.g. hyperspectral imaging, to empower or enable new business opportunities in many application fields.

Ulrik L. Andersen is a professor of quantum physics at the department of Physics at the Technical University of Denmark (DTU). He is heading the section on Quantum Physics and Information Technology (QPIT) and he is the director of the Danish National Research Council Center of Excellence on Macroscopic Quantum States (bigQ). In 2022 & 2024, he co-founded the companies Alea Quantum Technologies & DiaSense, specializing in the development and commercialization of quantum safe communication systems & quantum sensors for healthcare.



Cristina Benea-Chelmus is a Tenure Track Assistant Professor in Engineering at EPFL since January 2022. She leads the Hybrid Photonics Laboratory which develops hybrid electronic-photonic chips for both applied and fundamental sciences. Her research interfaces millimeterwave and terahertz signals with optical ones, aiming to provide innovative solutions for high-capacity communications, millimeterwave quantum circuits, chip-based sensing and time-domain ranging technologies. Prior to her appointment, she was a Postdoctoral scientist at Harvard, leading efforts on tunable metasurfaces, supported by the Hans-Eggenberger Foundation and the Swiss National Science Foundation. She received her Ph.D. in 2018 from ETH Zurich on quantum metrology of vacuum field fluctuations, for which she received multiple recognitions, and studied at KIT, Germany until 2013.

Karen Esmonde-White is an Industry Manager at Endress+Hauser, focusing on Raman spectroscopy in Food & Beverage and Chemical applications. She completed her Ph.D. in Biomedical Engineering at the University of Michigan in 2009. She also holds a M.Eng. in Pharmaceutical Engineering and a M.S. and B.S. in Chemistry. In addition to her research, Karen is an active volunteer for the SciX conference and the Federation of Analytical Chemistry and Spectroscopy Societies (FACCS), where she most recently served as Governing Board Chair in 2024-2025. Karen also serves as a reviewer for spectroscopy, clinical and biomedical optics journals.