Optics & Photonics in Sweden 2024 (OPS)
5 - 8 November 2024

Chalmers University of Technology, Lindholmen

PhotonicSweden
The Swedish Technology Platform in Optics and Photonics

CHALMERS
UNIVERSITY OF TECHNOLOGY

GENERAL INFORMATION

The Optics & Photonics in Sweden conference (OPS 2024) will be held on 5 - 8 November 2024 at Chalmers University of Technology, Lindholmen in Gothenburg. The conference is organised by PhotonicSweden (PS). More information: **photonicsweden.org**

LOCAL ORGANIZING COMMITTEE

- Peter Andrekson, Victor Torres Company and Magnus Karlsson

PROGRAMME COMMITTEE

- Peter Andrekson, Chalmers
- Cord Arnold, Lund University
- Petra Bindig, PhotonicSweden
- Joakim Bood, LTH
- Mohamed Bourennane, SU
- Åsa Claesson, RISE, Acreo Swedish ICT AB
- Kenneth Järrendahl, LiU
- Magnus Karlsson, Chalmers
- Dietmar Letalick, FOI
- Sergei Popov, KTH
- Victor Torres Company Chalmers
- Laszlo Veisz, Umeå University

- Petra Hardtke, Thorlabs AB
- Per Olof Hedekvist, RISE
- Ewa Orlowska, Hamamatsu Photonics Norden AB
- Lars Rymell, Eclipse Optics
- Carl Sundström, AFRY
- Fredrik Wikfledt, Laser Components
- Mikael Winters, Coherent
- Elisabeth Österlund, Svensk Elektronik
- Lennart BM Svensson, PhotonicSweden

KEYNOTE SPEAKERS

will highlight European research and developments.

INVITED TALKS

will cover a variety of topics in Optics and Photonics, reflecting current Swedish research and development at universities, institutes and industry.

A POSTER SESSION

will provide an additional opportunity to display to the most recent developments and achievements. It will also give an overview of Optics and Photonics in Sweden and offer a good platform for creating new collaborations.

BEST POSTER AWARDS

The best poster will be awarded with 3,000 SEK
The second and third prize will be awarded with 1,000 SEK. The poster awards are sponsored by:

IEEE photonics SOCIETY

AN EXHIBITION AND A SESSION WITH COMPANY PRESENTATIONS

will be held in parallel to the technical sessions to provide industry, institutes, and associations an opportunity to display their products and services and bridge the gap between science and industry.
Contact: **lennart@photonicsweden.org**

ABSTRACT SUBMISSION FOR POSTER PRESENTATIONS

Authors are requested to submit an abstract of a half to one page (font 11, including figures and references). Contributions will be accepted for poster presentation. All authors are requested to register for the meeting separately from abstract submission.

Required poster size: The posters should have a maximum size of DIN A0 (841 x 1189 mm) preferably in a portrait format (not landscape format). Pins and similar pads will be provided by the organizer.

Abstracts shall be sent to **petra@photonicsweden.org**
Deadline for abstracts: 15 October 2024

SPONSORING OPPORTUNITIES

Please contact Lennart BM Svensson if you are interested in our exhibition and sponsor opportunities:
Contact: **lennart@photonicsweden.org**

FURTHER INFORMATION

For further information please go to
photonicsweden.org

CONFERENCE & EXHIBITION VENUE

Chalmers Conference Lindholmen
Lindholmspiren 5, 417 56 Göteborg
https://chalmerskonferens.se/en/konferens/lindholmen-conference-centre/

JOB FAIR AT EXHIBITION

We will arrange a matchmaking between companies and job seekers at the conference Optics and Photonics in Sweden 2023. It will take place on 18 and 19 October in the exhibition area. All exhibiting companies welcome students (graduates, undergraduates and PhD students) to discuss jobs, internships , etc.

APPLICATION FOR STUDENT FREE ADMISSION

Up to 13 students in a Bachelor's degree or Master's degree program can apply for free admission for OPS-2024. 10 are sponsored by ThorLabs Sweden AB, and 3 by Yokogawa Europe B.V.

THORLABS
YOKOGAWA

REGISTRATION FOR PARTICIPANTS

The registration deadline for online-registration is at 1 st of November.

REGISTRATION FEES

4.100 kr +25% VAT	Non Members
3.100 kr + 25% VAT	Personal Members of PhotonicSweden and/or European Optical Society (EOS)
1.800 kr + 25% VAT	Student Members & Pensioner Members of PhotonicSweden and/or European Optical Society (EOS)
1.800 kr +25% VAT	Invited Speakers

Observe that all Swedish participants must pay 25% VAT (Moms). The option without VAT is only for VAT-registered companies outside Sweden.

All fees includes one person conference fee and all lunches & coffee breaks and dinner.

Personal annual member fee is 350 SEK/Year and student & pensioner annual member fee is 110 SEK/Year. Personal membership includes membership in PhotonicSweden, Svenska OptikSällskapet and European Optical Society.

* ***New EU VAT rules for courses and conferences*** *In March 2019, the European Court of Justice rejected Sweden's interpretation of the part of the VAT directive relating to access to events. The ruling means that payments to gain physical access to courses and conferences are to be seen as access to events and must therefore al-ways be made in the country where the event is held. The change also means that foreign companies attending courses in Sweden will receive invoices issued with Swedish VAT. Participants from companies and organizations within the EU with a VAT number have the opportunity to claim back the VAT on the participation fee via their local tax authori-ty. The UK left the EU (Brexit) in 2020 and is thus no longer an EU country. Now the same rules regarding VAT apply to the UK as to other countries outside the EU.*

REGISTRATION FOR EXHIBITORS

The registration deadline for online-registration is at 10h of October.

EXHIBITION FEES

19.900 kr + 25% VAT	Non Members *(incl. one person participation fee)*
15.600 kr + 25% VAT	Company Members of PhotonicSweden *(incl. one person participation fee)*
3.100 kr + 25% VAT	additional exhibitors colleagues *(incl. one person participation fee)*

Observe that all Swedish exhibitors must pay 25% VAT (Moms). The option without VAT is only for VAT-registered companies outside Sweden.

All fees includes one person conference fee and all lunches & coffee breaks and dinner. Exhibition stand will be selected based on registration order. Map of exhibition floor will later be sent out to exhibitors.

Hotels & Travels

Radisson Blu Riverside Hotel (The nearest hotel is Radisson only 30 meters from the premises)
Lindholmspiren 4,
417 56 Gothenburg
The promo code is 682601
Single room SEK 1,690 / Double room SEK 1,890
The prices include VAT and breakfast is included
Direct book your room here: Rooms (radissonhotels.com)
Ph: +46 31 383 40 00
E-mail: reservations.riverside.gothenburg@radissonblu.com
Web: https://www.radissonhotels.com/en-us/hotels/radisson-blu-gothenburg-riverside?cid=a%3Ase+b%3Abng+c%3Aemea+i%3Alocal+e%3Ardb+d%3Anob+h%3ASEGOTRIV

Strawberry – Clarion Hotel Karlatornet
(New opens 2024-09-01 is the 2nd nearest hotel behind Radisson also close to the premises)
Cassiopejagatan 14
417 55 Gothenburg
Telefon: +46 31 361 91 10
E-post: cl.karlatornet@strawberry.se
Web: https://www.strawberry.se/hotell/sverige/goteborg/clarion-hotel-karlatornet/
Phone: +46 31 30 50 130
E-mail: cl.pier@strawberry.se
Web. https://www.strawberryhotels.com/hotels/sweden/gothenburg/clarion-hotel-the-pier/

ANNE L'HUILLIER

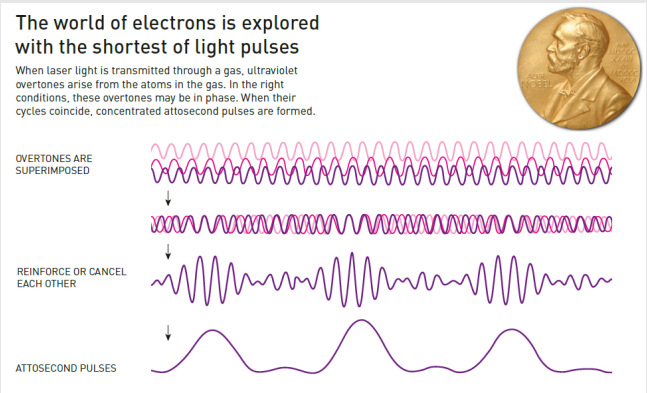
Biography

Anne L'Huillier is a Swedish/French researcher in attosecond science. During the first part of her career, she worked at the Commissariat à l'Energie Atomique, in Saclay, France, first as a PhD student until 1986, then as a permanent researcher until 1995. She was postdoc at Chalmers Institute of Technology, Gothenburg. Sweden in 1986, and at the University of Southern California, Los Angeles, USA in 1988. In 1995, she moved to Lund University, Sweden and became full professor in 1997. Her research, both theoretical and experimental, is centered around high-order harmonic generation in gases and its applications, in particular in attosecond science. She was awarded the Nobel Prize in Physics 2023 together with Pierre Agostini and Ferenc Krausz for "for experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter".

Abstract

The route to attosecond light pulses

When an intense laser interacts with a gas of atoms, high-order harmonics are generated. In the time domain, this radiation forms a train of extremely short light pulses, of the order of 100 attoseconds. Attosecond pulses allow the study of the dynamics of electrons in atoms and molecules, using pump-probe techniques. This presentation will highlight some of the key steps of the field of attosecond science.



FRANCESCO POLETTI

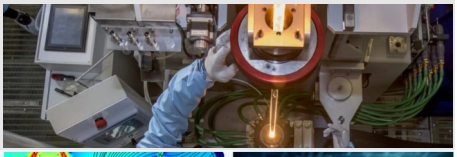
Biography

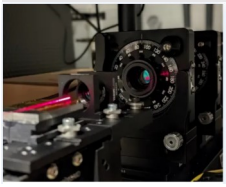
Prof Francesco Poletti is one of the pioneers of hollow core fibre technology. He leads the Hollow Core Fibre (HCF) group at the ORC, University of Southampton, as well as the research activities on HCFs for optical data communications at Microsoft Azure Fiber. He has co-authored more than 500 peer-reviewed publications and over 20 patents in the area of fiber optics, amongst which seminal works introducing the nested antiresonant nodeless HCF concept (NANF) and using it to demonstrate lower loss than fundamentally possible with silica fibres in the near-infrared. He held research fellowships from the Royal Society and the ERC. His pioneering work on HCFs led to the creation of the ORC startup Lumenisity, which in 2022 was acquired by Microsoft Azure, where he is currently Partner Researcher.

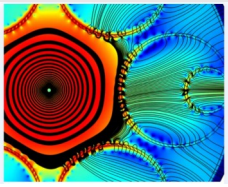
Abstract

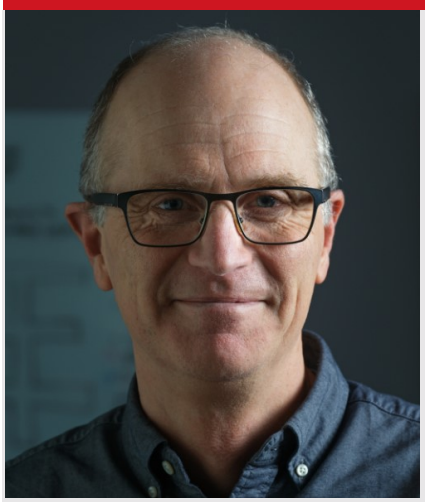
Hollow core fibres: when less is more

For decades, hollow core fibres have been a fascinating tool for scientists, enabling long distance light guidance in any gas, as well as innovative experiments exploiting the long light:gas interaction length. Recently though, thanks to nested antiresonant designs, the loss of these fibres has reached lower values than fundamentally achievable in conventional glass-guiding telecoms fibres, opening exploitation opportunities in data-transmission systems. This, added to negligible nonlinearity, very high damage threshold and ultimately low latency, has dramatically increased global interest in the technology for numerous applications involving the transmission and delivery of light.









PER NORDLUND

Biography

Per Nordlund is Lead Optical Designer at Hasselblad with several decades in optical design at Hasselbla, and will present the history of Hasselblad lenses, and development process today in modern optics.

Abstract

Victor Hasselblad AB is a Swedish manufacturer of medium format cameras, photographic equipment and image scanners based in Gothenburg, Sweden. The company originally became known for its classic analog medium-format cameras that used a waist-level viewfinder. In 1948, Victor Hasselblad travelled to New York and presented at a press conference the very first Hasselblad camera for civilian use. It was the world's first single lens mirror reflex camera in the medium format (6×6 cm) with interchangeable lenses, film magazines and viewfinders. In 1957, the Hasselblad 500C entered the market. This was a model of exceptional quality. It was also the camera that astronaut Wally Schirra, on his own initiative, introduced to NASA and took in the Mercury capsule Sigma 7 in 1962. NASA would later use a modified Hasselblad 500C on five space missions, before the Hasselblad company noticed.

ÖDGÄRD ANDERSSON

Biography

Ödgärd Andersson is CEO at Zenseact AB and global leader and change driver, specifically focused on transformations powered by software, data and AI. Domain knowledge in autonomous vehicles, software defined vehicles, connected vehicles, AI, complex embedded SW systems, scaled software development, SaaS, Telecom, IoT and data. Passion for creating positive change via collaboration and for building strong diverse teams.

Abstract

"The quickest path to road safety is through high-performing AI. As cars become robots, we create software to make sure they behave".
Zenseact is an applied automotive AI company developing world-leading safety software for AD and ADAS. Our technology encompasses every aspect of automation, from sensor fusion, computer vision, and object detection to positioning and actuation, using a combination of rule-based code and deep learning algorithms. Our ultimate vision is to help make car accidents a thing of the past – to create a day when all roads are safe, and lives are no longer lost to preventable accidents.

TUESDAY, 05 NOVMEBER 2024

15:00-20:00 Room: **Foajén**
Exhibition set-up

13:00-18:00 Room: **Konferens Hallen**
Nordic Photonics Forum Meeting

Why is Gothenburg a Hotspot for Innovation, Master of Collaboration and a Frontrunner in Sustainability?
Kent Jellmund, Investment advisor ICT, Business Region Göteborg,

The new face for Grafen Flagship - twelve new projects and one including Photonics
Lilei Ye, PhD, Business developer, Chalmers Industriteknik

Chips JU and Sweden's status in the semiconductor issue & how can photonics get involved?
Elisabet Österlund, President, Svensk Elektronik

Flagship for Photonics Research and Innovation (PREIN) a joint national program for Photonics multi-disciplinary science and technology development in Finland
Goery Genty, Professor and leader of the Ultrafast Photoncis research group

Advancing Optics and Photonics Worldwide
Claus Roll, Director, Europe, OPTICA (formerly OSA)

Women in Technology
Ellen Andreasson, Co-founder & CEO, Envue Technologies AB

PhotonHub Europe - training and innovation support in photonics
Åsa Claesson, Senior Scientist, Business Development Fiber Optics

PhotonHub Success Story - Experience in applying for and participating in a PhotonHub project
Zoran Popovic, Founder & Chief Scientific Officer, Profundus AB

18:00-19:00 Room: **Foajén**
Networking with refreshments and finger food

WEDNESDAY, 06 NOVEMBER 2024

09:00 - 10:00 — Room: **Foajén**
On-side registration and welcome coffee

10:00-10:15 — **Room: Konferens Hallen**
Opening Remarks
Åsa Claesson, PhotonicSweden and RISE; Magnus Karlsson, Chalmers Technical University

10:15-10:45 — Room: **Konferens Hallen**
Session Chair: Lennart BM Svensson
Keynote Talk
Per Nordlund, Lead Optical Designer, Victor Hasselblad AB
The history of Hasselblad lenses, and development process today in modern optics

10:45-12:00 — Room: **Konferens Hallen**
Session Chair: Lennart BM Svensson
Exhibitor presentations

12:00-13:30 — Room: **Foajén**
Lunch & Poster Session & Exhibition — **Restaurant**

13:30-14:00 — Room : **Konferens Hallen**
Session Chair: Lennart BM Svensson
Keynote Talk
Ödgärd Andersson, Chief Executive Officer Zenseact AB / TRATON Supervisory Board member (a Volvo Cars AB company)
The quickest path to road safety is through high-performing AI. As cars become robots, we create software to make sure they behave

14:00-14:15 — Room: **Foajén**
Coffee break

Room: Konferens Hallen

14:15-15:35
Session A1 | Quantum Technology
Session Chair: Magnus Karlsson

14:15-14:35
Interactions between light, sound, and microwaves for quantum information processing
Raphael van Laer, Chalmers Technical University

14:35-14:55
Dynamic manipulation of transverse spatial photonic quantum states to experimentally test the connection between Wave-Particle Duality and Entropic Uncertainty
Daniel Spegel-Lexne, Linköping University

14:55-15:15
Non-Classical Light Generation in Subwavelength Semiconductor Waveguides
Albert Peralta Amores, Royal Institute of Technology (KTH)

15:15-15:35
Val Zwiller, Royal Institute of Technology (KTH)

Room: Pascal

14:15-15:35
Session B1 | Photonics Metrology Applications
Session Chair:

14:15-14:35
Traceable measurement techniques for characterization of photonic components
Virpi Korpelainen, Senior Scientist, National Metrology Institute - VTT MIKES, Finland

14:35-14:55
Evaluation of microlens arrays using UA3P profilometer
Reinhard Windemuth, Sales Director SMT&ME Solutions for EU, Panasonic Connect Europe GmbH, Germany

14:55-15:15
Advancing Adaptive Optics - Entering a new universe of retinal diagnostics and retinal imaging technology
Åsa Lindström, Chief Executive Officer, Profundus AB, Sweden

15:15-15:35
Laser diagnostics developments for aerospace propulsion systems
Alexis Bohlin, Principal Research Engineer, Inspection Technologies, GKN Aerospace Sweden AB (former Volvo Aero AB)

CONFERENCE SCHEDULE

WEDNESDAY, 06 NOVMEBER 2024

Room: **Konferens Hallen**	Room: **Pascal**
15:40-17:00 **Session A2 | Photonics for Medicine Technology** *Session Chair:*	15:40-17:00 **Session B2 | Photonics for Automotive** *Session Chair:*
15:40-16:00 **Medical applications of laser acceleration** *Olle Lundh, Lund University*	15:40-16:00 **Development of a faster automotive anti-collision system with use of event cameras** Mahan Haddad, Engineering Manager at Driving Product Innovation, Terranet AB, Sweden
16:00-16:20 **Modeling of laser speckles to predict healing potential of diabetic foot ulcers** *Ingemar Fredriksson, Linkäping University , Perimed*	16:00-16:20 **Human Insight AI, technology that understands, supports and predicts human behavior in complex environments** Jörgen Thaung, Head of the optics lab, Smart Eye AB, Sweden
16:20-17:00 *Francesca Pennacchietti, Royal Institute of Technology (KTH)*	16:20-17:00 ***Tyri's progress in sustainability: Recyclable and climate neutral industrial lighting*** *Stuart Campell, Research And Development Specialist, TYRI Sweden AB*
17:00-19:00 **Poster Session & Exhibition**	Room: **Foajén**
19:00-22:30 **Conference dinner**	Location: **Restaurant**

08:30 Room: **Foajén**
Welcome coffee

09:30-10:15 Room: **Konferens Hallen**
Keynote Talk
Session Chair: Magnus Karlsson
The route to attosecond light pulses
***Anne l'Huillier**, Professor at Lund University*

10:30-12:00 Room: **Konferens Hallen**
PhotonicSweden Awards and Poster Prize
Session Chairs: Maria Nilsson Tengelin, RISE, and Peter Strömberg, Acoem AB

12:00-13:30
Lunch break and exhibition

13:30-14:00 Room: **Konferens Hallen**
Keynote Talk
Session Chair: Peter Andrekson
Hollow core fibres: when less is more
***Francesco Poletti** , Professor at University of Southampton, Microsoft Azure FIber*

14:00-14:20
Break

Room: **Konferens Hallen**

14:20-15:40
Session A3 | Photonics Applications

Session Chair: Peter Andrekson

14:20-14:40
Ultra-low-power Programmable Silicon Photonic Circuits Leveraging Integrated Nanomechanics
Kristinn Gylfason, Royal Institute of Technology (KTH)

14:40-15:00
Optical levitation
Dag Hanstorp, University of Gothenburg

15:00-15:20
Periodic shadowing: improving the contrast of streak cameras and spectrometers
Andreas Ehn, Lund University

15:20-15:40
Mid-IR Free-Space Optical Communications enabled by Unipolar Quantum Optoelectronics
Xiaodan Pang, Royal Institute of Technology (KTH)

Room: **Pascal**

14:20-15:40
Session B3| Photonics Industrial Applications

Session Chair:

14:20-14:40
SmartQD fiber optic cable with integrated sensors for manufacturing process monitoring
Andreas Hessel, Product Line Manager, Optoskand AB (a Coherent company), Sweden

14:40-15:00
Femtosecond Laser Systems for Industry & Science: Precision Micromachining using a Novel Femtosecond Flat-Top UV-Laser
Konstantinas Zakalskis, Sales Engineer, Light Conversion, Lithuania

15:00-15:20
TBD

15:20-15:40
TBD

THURSDAY, 07 NOVEMBER 2024 STUDY VISITS 16.00-19.00

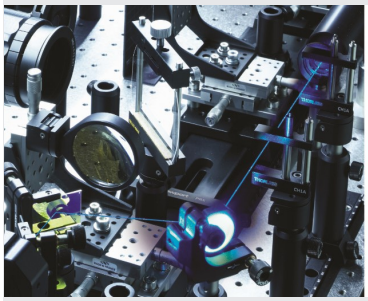
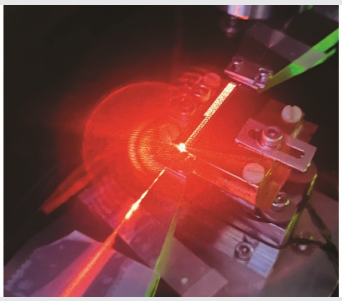
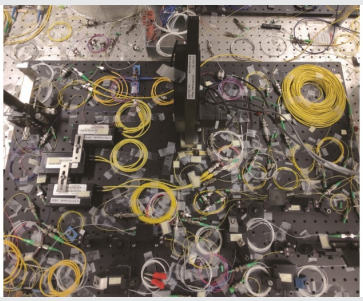
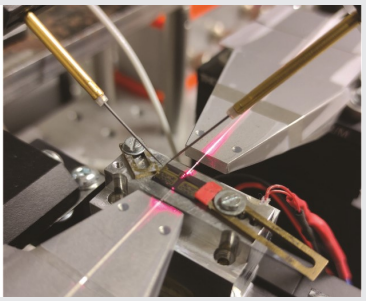
Lab Visits: 2 groups travels by bus. Participant must choose Groupe 1 or 2,

Group 1: Chalmers Physics Department at main Campus

Kemivägen 9, 412 58 Göteborg

Chalmers 4 Lab-stations:

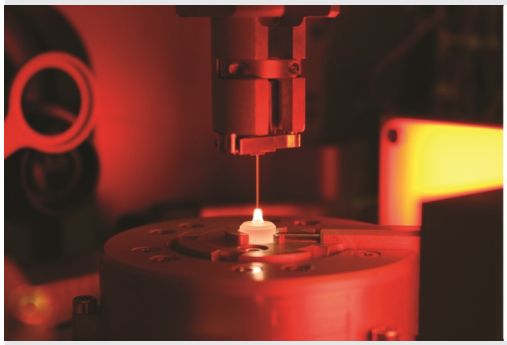
Station 1: Clean room
Station 2: Transmission lab
Station 3: Ultrafast lab
Station 4: UV emitter ab

Group 2: Company visits

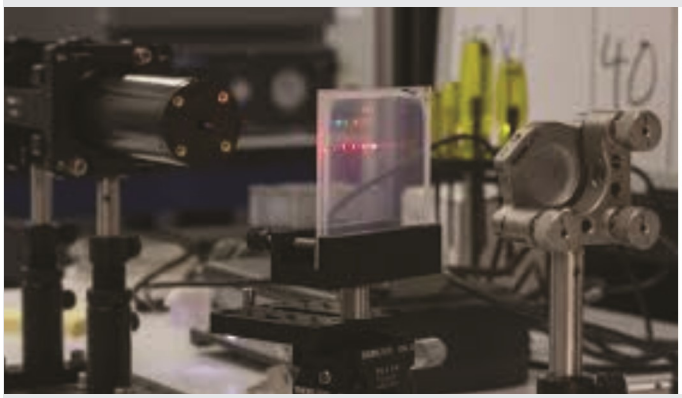
Optoskand AB

Aminogatan 30, 431 53 Mölndal




Thorlabs Sweden AB

Bergfotsgatan 7, 431 37 Mölndal




FRIDAY, 08 NOVEMBER 2024 METAPIX LINDHOLMEN CONFERENCE CENTRE, ROOM PASCAL

Kickoff Metapix competence centre

Room: **Pascal**

Metapix is a cutting-edge competence center dedicated to pioneering research and education in integrated meta-photonics. Our work spans a wide range of applications, from enhancing optical connections in data centers to advancing quantum simulations. Join us at our kickoff event to discover more about our innovative center. You'll have the opportunity to hear from renowned speakers, including Roel Baets, Dan Blumenthal, Delphine Marris-Morini, Thomas Van Vaerenbergh, and Geun Ho Ahn.
The kickoff is free of charge!

WHEN	*WHAT*
09.00	*Welcome and introduction by Victor Torres Company, Metapix Centre Director*
09.10	*Roel Baets, Ghent University*
10.10	*Coffee*
10.30	*Dan Blumenthal, University of California*
11.30	*Delphine Marris-Morini, Université Paris Saclay*
12.30	*Lunch*
13.30	*Geunho Ahn, Stanford University*
14.30	*Thomas van Vaerenberg, Hewlett Packard Labs*
15.30	*Coffee*
15.50	*Panel discussion with all speakers*
16.50	*Closing remarks*

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1ST PRIZE

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POSTER AWARD

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EOS European Optical Society — Coherence for Europe

EXHIBITORS

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KIMY PHOTONICS
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Panasonic CONNECT
Anritsu envision:ensure
LASER 2000 Experts in Photonics
ESSENT OPTICS
exatronic
TELEDYNE FLIR
Photonics Industries International, Inc.
AFRY ÅF PÖYRY
AZPECT part of amsTECHNOLOGIES where technologies meet solutions
OPTICA
Photonics Joensuu