Optics & Photonics in Sweden 2023 (OPS)
17-19 October 2023

Kista, Stockholm at KTH-Electrum

PhotonicSweden
The Swedish Technology Platform in Optics and Photonics

KTH
VETENSKAP
OCH KONST

GENERAL INFORMATION

The Optics & Photonics in Sweden conference (OPS 2023) will be held on 17-19 October 2023 in Kista, Stockholm at Electrum. The conference is organised by PhotonicSweden (PS).
More information: **photonicsweden.org**

GENERAL CHAIR
- Mattias Hammar (KTH)

PROGRAMME COMMITTEE
- Mårten Armgarth,
- Petra Bindig, PhotonicSweden
- Joakim Bood, LTH
- Åsa Claesson, RISE, Acreo Swedish ICT AB
- Kenneth Järrendahl, LiU
- Magnus Karlsson, Chalmers
- Dietmar Letalick, FOI
- Magnus Svensson, WISE
- Laszlo Veisz, Umeå University
- Max Yan, KTH

- Ulf Dahlberg, Ulf B Dahlberg Development AB
- Petra Hardtke, Thorlabs AB
- Urban Konradsson-Botes, Tillquist AB
- Ewa Orlowska, Hamamatsu Photonics Norden AB
- Lisa Rähmisch, LU
- Christofer Silfvenius, Scania
- 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 September 2023

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 VENUE
Kungliga Tekniska Högskolan (KTH)
Electrum, Kista
Kistagangen 16
Isafjordsgatan 22 Taxistop
164 40 Kista

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 10 students in a Bachelor's degree or Master's degree program can apply for free admission for OPS-2023, which is sponsored by ThorLabs Sweden AB.
https://photonicsweden.org/wp-content/uploads/Apply-for-student-free-admission-to-Optics-Photonics-2023-V1.pdf

THORLABS

REGISTRATION FOR PARTICIPANTS

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

REGISTRATION FEES

3.300 kr +25% VAT	Non Members
2.600 kr + 25% VAT	Personal Members of PhotonicSweden and/or European Optical Society (EOS)
1.500 kr + 25% VAT	Student Members & Pensioner Members of PhotonicSweden and/or European Optical Society (EOS)
1.500 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

15.900 kr + 25% VAT	Non Members *(incl. one person participation fee)*
13.600 kr + 25% VAT	Company Members of PhotonicSweden *(incl. one person participation fee)*
2.600 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.

Goods for the OPS-2023 conference ships to:

Larger goods and pallets must be delivered to:

KTH-Electrum - The Goods reception
Goods labeling: OPS-2023
Isafjordsgatan 24
SE-164 40 Kista
Sweden

Special contact person for delivery & pickup at the Goods reception (Godsmottagningen)
Anders Lundin +46-(0)8-790 4390
https://goo.gl/maps/9M5H6MRkhWK98UuK6

Smaller packages can be delivered directly to.

KTH EECS Servicecenter Electrum
Goods labeling: OPS-2023
Kistagången 16
SE-164 40 Kista
Sweden

KTH-Electrum Servicecenter: +46-(0)8-790 40 00
Opening hours: 08:00-16:00
https://goo.gl/maps/VTHwb9BsQes4xa7n9

HOTEL LIST

HOTELS IN KISTA

Memory Hotel in Kista
Borgarfjordsgatan 3-5, 164 25 Kista
+46 (0)8 793 07 00
hotel@memoryhotel.se
www.memoryhotel.se
Room-price includes breakfast buffé, WiFi Internet, spa & gym, sauna and cooling pool, free parking.

Forenom Aparthotel Stockholm Kista
Torshamnsgatan 32, 164 40 Kista
+46 (0)8 40 95 61 00
sales@forenom.se
www.forenom.com/sv/lagenhetshotell/stockholm/forenom-aparthotel-stockholm-kista/285/

Connect Hotel Kista
Isafjordsgatan 7, 164 40 Kista
+46 (0)8 42 00 3000
kista@connecthotels.se
connecthotels.se/kista

Scandic Victoria Tower
Arne BeurlingsTorg 3, 164 40 Kista
+46 (0)8 517 533 00
victoriatower@scandichotels.com
www.scandichotels.com/victoriatower

Good Morning Kista
Finlandsgatan 7, 164 74 Kista
+46 (0)8 594 606 40
kista@gmorninghotels.se
ligula.se/goodmorninghotels/kista

Stay XtraHotel
Helsingforsgatan 27-29, 164 78 Kista
+46 (0)8 271 270
info@stayxtra.com
stayxtra.com

Scandic Kista
Färögatan 9, 164 40 Kista
+46 (0)8 517 388 00
kista@scandichotels.com
www.scandichotels.se/hotell/sverige/stockholm/scandic-kista

HOTELS IN STOCKHOLM

Elite Hotel Arcadia
Körsbärsvägen 1, 114 23 Stockholm
+46 (0)8 566 215 00 | reservation.arcadia@elite.se
Reservations +46 (0)771 788 789
www.elite.se

Best Western Time Hotel
Vanadisvägen 12, 113 46 Stockholm
+46 (0)8 545 473 00 | reservations@timehotel.se
www.timehotel.se

Best Western Hotel Karlaplan
Skeppargatan 82, 114 59 Stockholm
+46 (0)8 31 32 20 | info@hotelkarlaplan.se
www.hotelkarlaplan.se

Clarion Collection Hotel Tapto
Jungfrugatan 57, 115 31 Stockholm
+46 (0)8 664 50 00
www.clarionhotel.com/hotel-stockholm-sweden-SE018

Scandic Park
Karlavägen 43, 114 31 Stockholm
+46 (0)8 517 348 00 | park@scandichotels.com
www.scandichotels.com

Hotel Birger Jarl
Tulegatan 8, 113 53 Stockholm
+46 (0)8 674 18 00 | info@birgerjarl.se
www.birgerjarl.se

Clas The Corner Hotel & Inn
Surbrunnsgatan 20, 113 48 Stockholm
+46 (0)8 16 51 36 | info@claspahornet.se
claspahornet.se

SOME CHEAPER OPTIONS

STF Gärdet
(hostel in Gärdet 30 min from KTH by foot or by underground red line, stop "Gardet")
Sandhamnsgatan 59A, 115 28 Stockholm
+46 (0)8 463 22 90 | gardet@stfturist.se
www.svenskaturistforeningen.se

Drotting Victorias Orlogshem
(in Gamla Stan, the old town)
limited number of rooms
Teatergatan 3, 111 48 Stockholm
+46 (0)8 611 0113 | info@orlogshemmet.com
www.orlogshemmet.com

PETER SEITZ alias PROFESSOR PHOTON

Biography

Peter is Prof. em. of Optoelectronics at the Swiss Federal Institute of Technology EPFL, he is Senior Technologist Europe of Hamamatsu Photonics, he is Vice President of the large PPP Photonics21, he is Vice President of the Swiss Academy of Engineering Sciences SATW, and he is a member of the Scientific Advisory Committee of the Werner-Siemens Foundation. He was the co-founder and first Managing Director of the ETH HighTech startup incubator ieLab (Innovation & Entrepreneurship Lab), and he has co-founded a dozen DeepTech startups himself. Together with his teams, he has published more than 200 scientific publications, he was awarded two dozen international prizes, and he is the inventor or co-inventor of 75 patents.

Peter is also the co-founder of the Swiss "Children's Lab", and this experience convinced him that all of us have retained our capacity to marvel at the unexpected and to be thrilled by the almost magical properties of nature – in particular if they are presented by an unexpected, irreverent but uncompromisingly scientific person as Professor Photon.

Summary

The rumours are true: Professor Photon has an alter ego! Whenever things become less wondrous and exciting but more serious and official, he is transforming into the alternate persona of Peter Seitz.

Although Professor Photon may be old-fashioned and sometimes a bit scatter-brained, he leaves no doubt about his enthusiasm for physics when lecturing. He is determined to amaze you with surprising and little-known facts about photonics: How to coax photons out of sugar, how to build an X-ray source with household items, and (possibly) how to create thermonuclear fusion reactions in your kitchen. He will also talk about Z-rays, the detection of single photons at room temperature, and he will demonstrate how nature has endowed you with the gift of polarization perception.

The motto of Professor Photon is clear and unwavering: "*Gå utanför läroplanen*" *(So that you go beyond the curriculum*) !

Some of the photons in this presentation will be brought to you by Hamamatsu Photonics Europe.

HÅKAN LANS

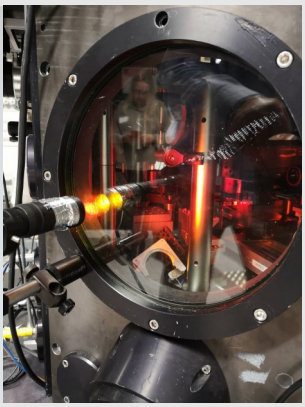
Biography

Mr Håkan Lans (M.Sc. Engineering, Ph.D. hc) is an internationally well known electronics hardware and software engineer who has been leading the development of many products such as the computer mouse (known as the Houston Instruments HIpad), the computer colour graphics (US patent 4,303,986) etc.

After a degree in Engineering 1968 he continued for 10 years with research and development at the Swedish Defence Research Institute (FOA) and University of Stockholm. In the mid 1980´s he and his team started to work with the development and exploitation of a satellite navigation systems. The challenge was to develop the software and hardware needed to integrate GNSS navigation technology with different types of communication, navigation and surveillance systems. This technology is now internationally known as Self Organising Time Division Multiple Access (STDMA) datalink and has been decided as world standard within the UN special agencies International Civil Aviation Organisation (ICAO) and International Maritime Organisation (IMO). The STDMA technology is also subject to European standardisation within the European Telecommunications Standard Institute (ETSI) and European Organisation for Civil Aviation Equipment (EUROCAE). The basic functions in STDMA was patented 1991 and patent has now been granted in most parts of the world (US patent 5,506,587). Mr Lans is also a holder of a multi engine pilot license.

A summary of few of his many achievements:

1993 Received the International Seatrade Award for the most important innovation for maritime safety.
1993 Awarded the Gold medal by The Royal Swedish Academy of Engineering Sciences (IVA).
1994 Selected for the American Laurels Award 1993 in Electronics.
1995 Receives the Polhems Prize - a gold medal - for excellence in Engineering Science.
1996 Elected permanent member of The Royal Swedish Academy of Engineering Science (IVA).
1997 Elected permanent member of The Royal Swedish Academy of War Sciences (Kungliga Krigsvetenskapsakademien).
2001 Awarded the degree Ph.D. honoris causa (teknologie doktor) by the University of Uppsala, Sweden.
2002 Awarded His Majesty the King of Sweden Gold Medal with high blue ribbon.
2017 Honorary member of the Swedish Association of Graduate Engineers (Sveriges Ingenjörer) .



LASZLO VEISZ

Biography

Full professor, Department of Physics, Umeå University, Sweden. Laszlo does research in Plasma Physics, Atomic, Molecular and Optical Physics and Optics. His current projects are 'Relativistic sub-5-fs optical parametric synthesizer', 'Laser-driven electron acceleration', 'Nonlinear attosecond physics'.

Some of Laszlo's achievements are

- The first laser-driven electron acceleration and characterization experiments with a few-cycle laser, including the direct temporal measurement of the shortest relativistic electron pulses.
- Development of shock-front injection technique to enhance and control laser-driven electron acceleration
- The first generation of intense isolated attosecond pulses from relativistic plasmas and their first temporal characterization
- First demonstration of nonlinear interaction of 100 eV attosecond pulses with matter.
- (Re-)creating a competitive research infrastructure including the high-power few-cycle laser and the laboratory in Umeå, Sweden

Summary

A unique laser system with higher peak power and shorter pulse duration than most other lasers in the world is now inaugurated at the Department of Physics at Umeå University. The new laser will help to study electron processes in atoms and molecules, and thereby be able to answer questions associated with processes on very short time-scales. Laszlo Veisz and his research group have designed and built the unique system.
The new Light Wave Synthesizer system is the most powerful in Sweden, and one of the most powerful lasers in the world. More specifically it delivers the highest peak power (100 TW) in combination with very short laser pulse duration. The time span for one laser pulse is 4.3 femtoseconds. The short laser pulses can also be used to generate very short electron bunches. These electron bunches can in their turn enable studies of completely new phenomena with a sub-atomic spatial as well as temporal resolution not available nowadays. Furthermore, this laser system is optimal source to generate single intense attosecond pulses.

PER FRANKELIUS

Biography

Chief Initiative Officer Innovation at Agtech 2030 and Associate Professor (Docent) in Business Administration at Linköping University. His research focus on invention and innovation in relation to agriculture and has been published in e.g. Journal of High Technology Management Research, the Lancet, and Agronomy Journal.

Per is Fellow of the Linnean Society of London and Fellow of The Royal Swedish Academy of Agriculture and Forestry. He is also a member of the Board of AgroÖst. In 2006 he was elected to the Swedish Broadcasting Commission and during 2004-2010 he was on the board of the Swedish Entrepreneurship Forum. In 2013–2019 he was responsible for the project, Greenovation Sweden". The project was hosted by Linköping University. Among the partners were 3M, Lantmännen, SSAB, SMHI, SLU Holding and Elmia. Since 2015 he have been a member of the jury for the Elmia Agriculture Innovation Award. In 2018, Sweden's Innovation Agency, Vinnova, granted funding for the Agtech 2030 innovation initiative with Per as process leader. This investment in agricultural technology has an expected budget of 20 million Euro over 10 years. The initiative involves more than 90 companies.

Summary

Per have conducted several government missions. For example, he was Principal Secretary of the inquiry on innovation appointed by the Swedish Government (SOU Innovative processes). His research has been presented at conferences in USA, Hungary, Estonia, Latvia, Iceland, Italy, Russia, Dubai, Belgium, Finland, United Arab Emirates, the Neatherlands, Israel, Georgia, Denmark and the UK. Among the clients over the years are Saab, John Deere, Pearson Education, Väderstad, Kinnarps, The University Hospital in Linköping, Gothia Redskap, Sweden's Agricultural University, Volvo, Ericsson, Trondheim Municipality, Ministry of Trade, Industry, Eka Nobel, Saab, Nordea, Bofors Defense, Electrolux, KF, Länsförsäkringar, Norrköping symphony orchestra, Swedish Volkswagen, Statistics Sweden, County Administrative Board of Västra Götaland County, Holmen, Landshypotek, Swedbank, Berwaldhallen, Government Offices of Competence and Swedish Post.

TUESDAY, 17 OCTOBER 2023

14:00-21:00 Room: **Glasgatan**
Exhibition set-up

14:00-18:00 Room: **Sal A**
Nordic Photonics Forum Meeting

14:00-14:30 **Funding opportunities in Strategic Innovation Program (SIP) Smarter Electronics Systems,**
Anna Wibom, Program manager
Anna took over as the new program manager for Smarter Electronic Systems in January 2023. Since 2018, Anna has been responsible for total defence work at the Swedish Post and Telecom Agency. Private-public collaboration with actors in the electronic communications and postal sector, as well as cooperation with other authorities have been main parts of her work.

14:30-15:00 **Volvo Cars – Investing in Technology and Innovation**
Michael Schön, Technical Director at Volvo Cars Technology Fund
Michael is an aerospace engineer worked for 20 years within the space industry with development of earth observation satellites, scientific satellites, Mars Rover, Ariane 5 launcher etc. He joined Volvo Cars in 2017 as product manager with the development of Volvo Cars next generation high performance autonomous drive (AD) car core computer in collaboration with NVIDIA. He currently works as Technical Director at the Volvo Cars Technology fund, which targets strategic investments, related to e.g., in information technology, artificial intelligence, machine learning, safety, sustainability, electrification and mobility tech sectors.

15:00-15:20 **Coffee break**

15:20-16:00 **Photonics for all - how PhotonHub Europe can support innovation across photonics and non-photonics sectors**
Susan Brindley, Business Developer, Vrije Universiteit Brussel - Brussels Photonics
Susan is a member of the PhotonHub Europe Coordination Team, which is led by Professor Hugo Thienpont, Director of Brussels Photonics. This EU-funded initiative supports first-time users and early adopters in achieving the wider and faster uptake, integration, and deployment of photonics technologies in innovative products across a range of industry sectors. Based in Ireland, Susan has over 20 years' experience in developing and delivering programmes to support organisations in their commercial development, in sectors ranging from technology start-ups to design and craft businesses.

16:00-16:30 **AGRARSENSE - Sensors for sustainable agriculture and forestry**
Peter Assarsson, Project Coordinator, Komatsu Foreast AB
AGRARSENSE is an extensive 3-year project with a total of 52 partners from 15 European countries and an overall budget of 51 M€. The consortium covers the full value chain including sensors and components, packaging and hardware integration, software, algorithm, connectivity developments and system aspects, as well as testing, reliability, cyber security, and user safety elements.

16:30-17:00 **Sensing requirements for automotive automation (AD & ADAS)**
Jan-Erik Kallhammer, Director Visual Enhancement and Cognitive Systems RDE-Development Engineering, Veoneer
Ph.D. in Cognitive Systems, with focus on automotive active safety, and has 20+ years' experience with ADAS development, where he has focused on imaging sensors especially under challenging visibility (darkness & adverse weather). He is Chair of Photonics21 group for Climate, Mobility, and Energy.

17:00-18:00 **European Photonics Clusters - new projects and collaborations**

- ***Photonics in Latvia - Investment and Development Agency of Latvia (LIAA)***
  Toms Sudrabs, LIAA Representative office in Sweden (Latvia Embassy in Stockholm)
- ***Photonics Finland***
  Jyrki Saarinen, Professor, Head of the Department of Physics and Mathematics. Head of the Institute of Photonics. Vice Director (impact) – PREIN Flagship. Photonics applications and commercialization.
- ***LITEK - Laser & Engineering technologies cluster activities in Lithuanian laser community***
  Oleksandr Derevianchenko, Area Sales Manager, EKSPLA, Lithuania
- ***Photonics Integrated Circuits (PIC's) in Coherent Optical Communication System***
  Xi Chen, PhD, Principal Opto Engineer, Infinera AB, Sweden

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

CONFERENCE SCHEDULE

WEDNESDAY, 18 OCTOBER 2023

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

10:00-10:15 — **Room: Sal A**
Opening Remarks
Åsa Claesson, PhotonicSweden and RISE; Mattias Hammar, KTH

10:15-11:00 — Room: **Sal A**
Keynote Talk — *Session Chair: Lennart BM Svensson*
Peter Seitz alias Professor Photon, Co-founder/chairman of epyMetrics AG. Senior Technologist Europe, Hamamatsu Photonics. Vice President SATW.

11:00-12:20 — Room: **Sal A**
Exhibitor presentations — *Session Chair: Lennart BM Svensson*

12:20-14:00 — Room: **Glasgatan**
Lunch & Poster Session & Exhibition — **Restaurant Provence**

14:00-14:45 — Room : **Sal A**
Keynote Talk — *Session Chair: Carl Sundström*
Håkan Lans One of the greatest Swedish inventors of the 1900s whose most famous inventions are color graphics for computers and a positioning system for aviation and shipping, which today is an international standard.

14:45-15:15 — Room : **Sal A**
Keynote Talk — *Session Chair: Mohamed Bourennane*
The Nobel Prize in Physics 2023 - Experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter *Laszlo Veisz, Professor, Department of Physics, Umeå University*

15:15-15:30 — Room: **Glasgatan**
Coffee break

Room: **Sal A**

15:30-16:50
Session A1 | Photonics for Security
Session Chair: Laszlo Veisz

15:30-15:50
Using a perovskite light emitting diode to build secure quantum random number generators
Guilherme B Xavier, Linköping University

15:50-16:10
Pathway to a National Quantum Communication Infrastructure in Sweden
Vaishali Adya, Royal Institute of Technology (KTH)

16:10-16:30
The influence of the atmosphere on optical communications and laser sensors
Lars Sjökvist, Swedish Defence Agengy (FOI)

16:30-16:50
Conducting polymer-cellulose devices for tunable infrared and THz optics.
Chaoyang Kuang, Linköping University

Room: **Sal B**

15:30-16:50
Session B1 | Photonics for Sustainability
Session Chair: Sergiy Valyukh

15:30-15:50
3D X-ray tomography for Giga Battery Factory
Mats Sjöstedt, Business Development Manager, Excillum AB

15:50-16:10
Stereovision technology for automatic supply chain measuremet for for logistics and forest industries
Stefan Grufman, CTO, CIND AB

16:10-16:30
Tire tread wear analysis with stereovision for automotive tires
Carl Holmander, CEO,Wheelscanning Sweden AB

16:30-16:50
Time-Resolved Absorption Spectroscopy for Education
Leo Pöttinger, Team Leader Photonics Academy, ThorlabsGmbH

16:50-19:00 **Poster Session & Exhibition** — Room: **Glasgatan**

19:00-22:30 **Conference dinner** — Location: **Restaurant Provence, Electrum**

08:15 Room: **Glasgatan**
Welcome coffee

09:00-09:30 Room: **Sal A**
Keynote Talk *Session Chair: Lennart BM Svensson*
Why photonics is vital for innovation in agriculture
Per Frankelius, Associate Professor at Linköping University and Chief Initiative Officer Innovation at Agtech 2030

09:30-11:00 Room: **Sal A**
PhotonicSweden Awards and Poster Prize
Session Chairs: Mikael Sjödahl, Luleå University, and Peter Strömberg, Acoem AB

Room: **Sal A**	Room: **Sal B**
11:00-12:20 **Session A2 | Photonics for Sustainability** *Session Chair: Enkeleda Balliu*	11:00-12:20 **Session B2 | Photonics for Security** *Session Chair: Jan-Erik Källhammer*
11:00-11:20 Optical mapping of greenhouse gases *Magnus Gålfalk, Linkäping University*	11:00-11:20 An overview of photonics applications in heavy vehicles *Christofer Silfvenius, Test Leader, Environmental Verification Testing, Scania Group*
11:20-11:40 Novel concepts for differential absorption LIDAR *Max Widarsson, CEO, SLF—Svenska LaserFabriken*	11:20-11:40 How to develop a LiDAR for the automotive industry *Ruben Freytag, Engineering Lead and Product Expert, Magna International*
11:40-12:00 Sensors for water quality *Kristina Fogel, RISE*	11:40-12:00 Challenges and solutions of precise optical assemblies - for applications in ADAS, LiDAR and smartphones manufacturing *Jukka Alasirnio, Managing Director ,TRIOPTICS Scandinavia*
12:00-12:20 Monolithic 3D Integration of Metamaterials for Infrared Photodetectors *Mattias Borg, Lund University (LTH)*	12:00-12:20 Airborne Bathymetric LiDAR-Overview of technology and applications around the globe *Anders Ekelund, Vice President, Hexagon-Leica Geosystem*

12:20-13:30 Room: **Restaurant Provence, Electrum**
Lunch break & Poster session & Exhibition

THURSDAY, 19 OCTOBER 2023

Room: **Sal A**	Room: **Sal B**
13:30-14:30 **Session A3 | Photonics Applications** *Session Chair: Mattias Borg*	13:30-14:30 **Session B3| Photonics Applications** *Session Chair: Ruben Freytag*
13:30-13:50 Surface-emitting lasers at the end of the rainbow *Åsa Haglund, Chalmers Technical University*	13:30-13:50 Sensors for sustainable agriculture and forestry *Peter Assarsson, General Manager Research, Komatsu Forest AB*
13:50-14:10 Advancements of Anti-Stokes pumping in Yb-doped silica fibers *Enkeleda Balliu, Stanford University*	13:50-14:10 MEMS - Micro Electro Mechanical Systems) enable next generation devices and applications in a wide range of market areas. *Robert Kvist, Area Sales Manager, Silex Microsystem AB*
14:10-14:30 *Tenfold increase of energy efficiency of backlighting in liquid crystal displays.* *Sergiy Valyukh, Linköping University*	14:10-14:30 Laser-Ultrasound-Based Grain Size Gauge for the Hot Strip Mill. *Mikael Malmström, Specialist Material Analysis and Process Monitoring, SWERIM AB*
14:30-15:00 **Coffee break**	**Glasgatan**

15:00 - 17:30
Lab/Company visits

Lab Tour at RISE - Explore Fiber Optics and Photonics
Interested in the practical applications of fiber optics as sensors? We invite you to join us for a lab tour at the RISE Fiberoptics and Photonics Lab, situated on floor 6 here in Electrum. Our lab tour offers an opportunity to gain a deeper understanding of fiber sensors and their role in enabling new products and industrial applications. During the visit, our experts will conduct demonstrations and minor experiments to illustrate the principles behind fiber sensors. We look forward to sharing our knowledge and expertise with you!

Lab Tour at Electrum Laboratory - 1300 m2 cleanroom
Electrum Laboratory is used by leading research groups and has a strategic role as production incubator for high tech spin-off companies in, e.g., photonics, semiconductors, and micromechanics. We will show our 1300 m2 cleanroom with complete and highly qualitative process lines for device fabrication in nano and microtechnology, and tell about the technologies, research and innovation ecosystem at KTH and RISE.

Lab Tour at SWERIM
Testbed Joining: *Experimental simulation and testing of several welding and joining technologies, including laser welding lab.*
Process monitoring lab: *In this lab we develop new measuring technologies for online monitoring in industrial environment. This involved for example laser ultrasonic and laser induced breakdown spectroscopy as well as camera applications.*
Metallography and microanalysis: *Metallography and microanalysis \| Swerim and Large scale facilities \| Swerim*

Self-powered and highly efficient ion-diffused MAPbBr3 single crystal-based UV-Vis photodiode
Abida, Perveen, Southeast University, Nanjing

Secure Quantum Randomness Using Perovskite LEDs
Argillander, Joakim, Linköping University

Imaging the invisible – The role of high-performance infrared cameras in environmental sustainability
Bendrot, Linnea, IRnova

Fabrication of a Flexible X-Ray Detector using Silica Capillary Fibres Filled with Scintillating Liquid
Gibbon, Timothy, RISE

Optical properties of Au/Ge/HfO2 stack of thin films for possible applications in waveguides with absorbing sidewalls
Karitans, Varis, University of Latvia

Self-compression of NIR pulses in single-domain KTP
Krook, Chrisoffer, KTH Royal Institute of Technology

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