

# Optics & Photonics in Sweden 2022 (OPS) 4 - 7 October 2022

Umeå, Umeå University



## GENERAL INFORMATION

The Optics & Photonics in Sweden conference (OPS 2022) will be held on 4-7 October 2022 in Umeå at Umeå University. The conference is organised by PhotonicSweden (PS). On 7 October the Laser Lab Sweden will have a workshop.

More information: [photonicsweden.org](http://photonicsweden.org)

### GENERAL CHAIR

- Ove Axner (Umeå University)

### PROGRAMME COMMITTEE

- Maria Abrahamsson, Chalmers
- Magnus Andersson, Umeå University
- Ove Axner, Umeå University
- Petra Bindig, PhotonicSweden
- Joakim Bood, LTH
- Ludvig Edman, Umeå University
- Kristinn Gylafson, KTH
- Kenneth Järrendahl, LiU
- Magnus Karlsson, Chalmers
- Valdas Pasiskevicius, KTH
- Mikael Sjödahl, LTU Luleå
- Thomas Wågberg, Umeå University
- Petra Hardke, Thorlabs
- Urban Konradsson-Botes, Optonyx, Kista
- Håkan Olsson, SLU, Umeå
- Ewa Orłowska, Hamatsu Norden AB
- Christofer Silfvenius, Energimyndigheten
- Maria Strand, Adopticum, Skellefteå
- Lisa Rähmisch, LU, Lund
- 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 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:



### 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.

### 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 can be sent to [petra@photonicsweden.org](mailto:petra@photonicsweden.org)  
**Deadline for abstracts: 15 September 2022**

### EXHIBITION & SPONSORING OPPORTUNITIES

Please contact Lennart BM Svensson if you are interested in our exhibition and sponsor opportunities:

[lennart@photonicsweden.org](mailto:lennart@photonicsweden.org)

### FURTHER INFORMATION

For further information please go to [photonicsweden.org](http://photonicsweden.org)

### CONFERENCE VENUE

**Umeå University**  
901 87 Umeå, Sweden

### JOB FAIR AT EXHIBITION

We will arrange a matchmaking between companies and job seekers at the conference Optics and Photonics in Sweden 2022 at Umeå University. It will take place on 5 and 6 October in the exhibition area. All exhibiting companies welcome students (graduates, undergraduates and Phd students) to discuss jobs, internships, etc. More information on the conference can be found at <https://photonicsweden.org/optics-photonics-in-sweden-2022/>

### 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-2022, which is sponsored by ThorLabs Sweden AB. <https://photonicsweden.org/wp-content/uploads/Apply-for-student-free-admission-to-Optics-Photonics-2022.pdf>



**REGISTRATION FOR PARTICIPANTS**

The registration deadline for online-registration is 20<sup>th</sup> of September.

Register here: <http://dinkurs.se/OPS2022Participants>

**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 and European participants must pay 25% VAT (Moms) \*. The option without VAT is only for VAT-registered companies outside Europe.

All fees includes one person conference fee and all lunches & coffee breaks and conference 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 always 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 authority. 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 20<sup>th</sup> of September.

Register here: <http://dinkurs.se/OPS2022Exhibitors>

**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 conference dinner.

Exhibition stand will be selected based on registration order. Map of exhibition floor will later be sent out to exhibitors.

Please contact Lennart BM Svensson  
[lennart@photonicsweden.org](mailto:lennart@photonicsweden.org) if you are interested in exhibiting at OPS-2022.

**Goods for the OPS-2022 conference delivers to:**

Goods Label and Shipping Address:

**OPS-2022/Ove Axner**  
**Servicegränd 12**  
**Umeå universitet**  
**907 36 Umeå**

Map: <https://goo.gl/maps/aEnwaBE3rY2wte6o8>

Delivery contact at Husservice/Universum:  
Mr. Jan-Erik Lingebrandt  
+46 (0)90 786 88 90  
+46 (0)70-350 51 72

### Hotel reservation

PhotonicSweden has **reserved 20 double rooms and 40 single rooms** at Hotel Björken, which is close to the venue.

- Special price for single room SEK 750 per room and night
- Special price for double room SEK 1150 per room and night
- The accommodation price includes breakfast.
- The parking cost is SEK 80 per day.
- Enter the code "PhotonicSweden 2022" when booking to get the special price.
- Rooms not booked 3 weeks before arrival are automatically canceled.

### Hotell Björken

**Visiting address:** Lasarettbacken 10

**Postal address:** Box 7986

907 19 Umeå, Sweden

**Phone:** +46 90 10 87 00

**E-mail:**

[hotell.bjorken.se@sodexo.com](mailto:hotell.bjorken.se@sodexo.com)

**Web:**

[www.hotellbjorken.se](http://www.hotellbjorken.se)

**Map:**

<https://goo.gl/maps/xLQdz8m8Z3yxUj3W9>

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### Clarion Hotel Umeå

Has just released its opening offer with room for 799 SEK/night

**Visiting address:** Storgatan 36

903 26 Umeå, Sweden

**Phone:** +46 771 666 700

**E-mail:** [cl.umea@choice.se](mailto:cl.umea@choice.se)

**Web:** <https://www.nordicchoicehotels.com/campaigns-and-offers/clarion-hotel-umea-opening-offer/>

**Map:**

<https://goo.gl/maps/4Yz55xjXSJ6Ghd8n7>

**VICTOR MALKA**

Weizmann Institute of  
Science, Rehovot, Israel

victor.malka@weizmann.ac.il

Victor Malka obtained his PhD thesis at Ecole Polytechnique in 1990. He worked on atomic physics, inertial fusion, laser plasma interaction, relativistic laser plasma interaction and on laser plasma accelerators, in which he makes several breakthrough contributions. He has published about 380 articles and has been invited in more than 200 international conferences. He got several prizes and grants including ERC and EIC ones. Since 2019 he is full time Professor at the Weizmann Institute of Science in Israel.

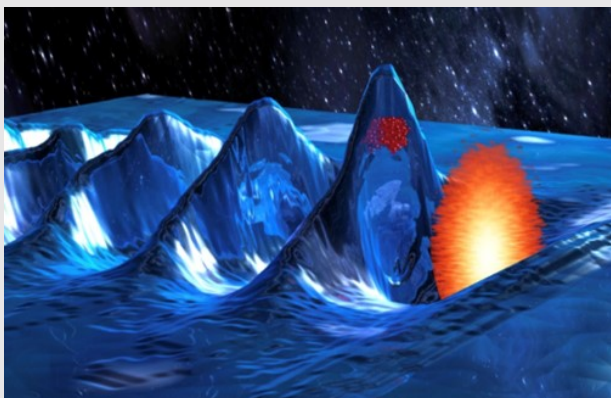
Laser Plasma Accelerators (LPA) rely on our ability to control finely the electrons motion with intense laser pulses [1]. Such manipulation allows to produce giant electric fields with values that can exceed by more than 3 orders of magnitude those used in current accelerator technology. Controlling the collective electrons motion permit to shape the longitudinal and radial components of these fields that can be optimised for delivering high quality electrons beam or energetic photons.

To illustrate the beauty of laser plasma accelerators I will explain some of these concepts that improve beam quality and show how one can use them to image relativistic plasma wave [3] or electron bunch.

Finally, I'll show the pertinence of the approach for many applications by considering the two most mature cases of relevance in security domain with non-destructive inspection compact gamma sources, and for radiotherapy with very high energy electrons delivered by compact LPAs [4].

Keywords: high power lasers, accelerators, X-ray beams, electron beams

- [1] V. Malka, *Europhysics Letters*, **115**, 54001 (2016)  
 [2] V. Malka *et al.*, *Science* **22**, **298** (2002)  
 [3] Y. Wan *et al.*, Accepted in *Nature Physics*.  
 [4] V. Malka *et al.*, *Nature Physics* **4**, 447 (2008)

**HOLGER Schlüter**

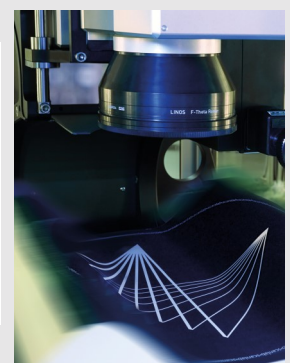
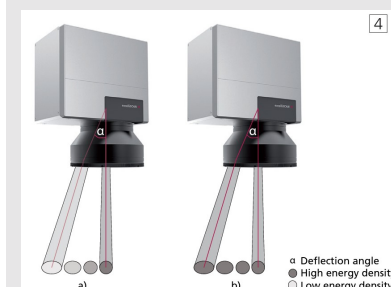
Business Development  
SCANLAB GmbH, Germany

h.schluter@scanlab.de

Holger Schlüter studied Physics in Aachen and made his Ph.D. at ILT Aachen in 1996. He joined TRUMPF and worked there in various leading positions in the United States. In 2008 he returned to Germany and worked as COO and CTO for Technolas Perfect Vision, a maker of surgical ophthalmic laser equipment. He joined SCANLAB in 2015 as the head of Business Development.

Many industrial laser applications are in production today. We present some of the most important applications as videos and investigate further which applications require galvanometer scanners. In the second part of the presentation some of the most important technologies involved in industrial galvanometer scanning are discussed. These include

- Setup of a galvanometer scan system
- Digital position detectors enable accuracy of  $\pm 4 \mu\text{m}$
- Innovative control algorithms increase throughput
- Spot distance control assures product quality and reduces scrap
- Image field corrections facilitate additional precision
- Trajectory planning and XL SCAN allow for processing with an accuracy of  $\pm 1.5 \mu\text{m}$
- High power ultra-short pulse (USP) lasers require new ideas
- Use case: Probe card manufacturing



TUESDAY 4 OCTOBER 2022

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

Room: **Caféhörnan**

14:00-18:00

Room: **Triple Helix, Universitetsledningshuset**

**Nordic Photonics Forum meeting**

14:00 - 14:10

**Introduction**

14:10 - 14:40

**Make equality measurable, Maria Strand and Kenth Johansson, Adopticum, Skellefteå**

At Adopticum we love to measure things, it's what we do, it's a part of our DNA. But today we won't be talking about measuring from an optical point of view, but rather how we work with and measure equality in highly technical project.

14:40 - 15:20

**European Chips Act (ECA): Why do we need an Initiative? Thorbjörn "Toby" Ebefors, Smarter Electronic Systems.**

The European Commission has released its primary response to this crisis through the European Chips Act, aiming to double the European share of global microchip production by 2030 and reduce supply dependencies. The presentation highlights why Europe needs an Initiative for a Chips Act. There are three pillars of the Chips Act: Chips for Europe Initiative, Security of Supply, and Monitoring and Crisis Response. The situation today, and what is missing in the EU is addressed, as well as the most important activities.

15:20 - 15:40

**Coffee Break**

15:40 - 16:25

**European Chips Act Continuation: Thorbjörn "Toby" Ebefors, Smarter Electronic Systems**

**Support for Swedish Small and Medium sized Enterprises (SME's), Business Sweden / TBD**

Does your company have fewer than 250 employees and a turnover below 50 million euro? If so, we can help you expand your business overseas. Our government funding allows us to offer a wide range of tailored services to support your international growth.

16:25 - 17:00

**Innovation Support offered by EU-project PhotonHub**

A fund of 7.4 million Euro is earmarked for eligible companies, to perform technical innovation projects within the PhotonHub framework. Experts, laboratory resources, prototyping and test facilities across Europe are available to the projects.

**The PhotonHUB Offer - Why and how to apply for PhotonHUB funding? Lennart BM Svensson, PhotonicSweden**

**PhotonHUB-Webinars & courses offered by RISE-Fiberlab, Åsa Claesson, RISE**



17:00 - 18:00

**Photonics Clusters**

Photonics Finland and a unique operating environment for photonics companies to grow and develop at the new Photonics Center Ltd in Joensuu, *Juha Purmonen Photonics Finland*

Danish Photonics Club, *Henrik Mertz, FORCE Technology, Denmark*

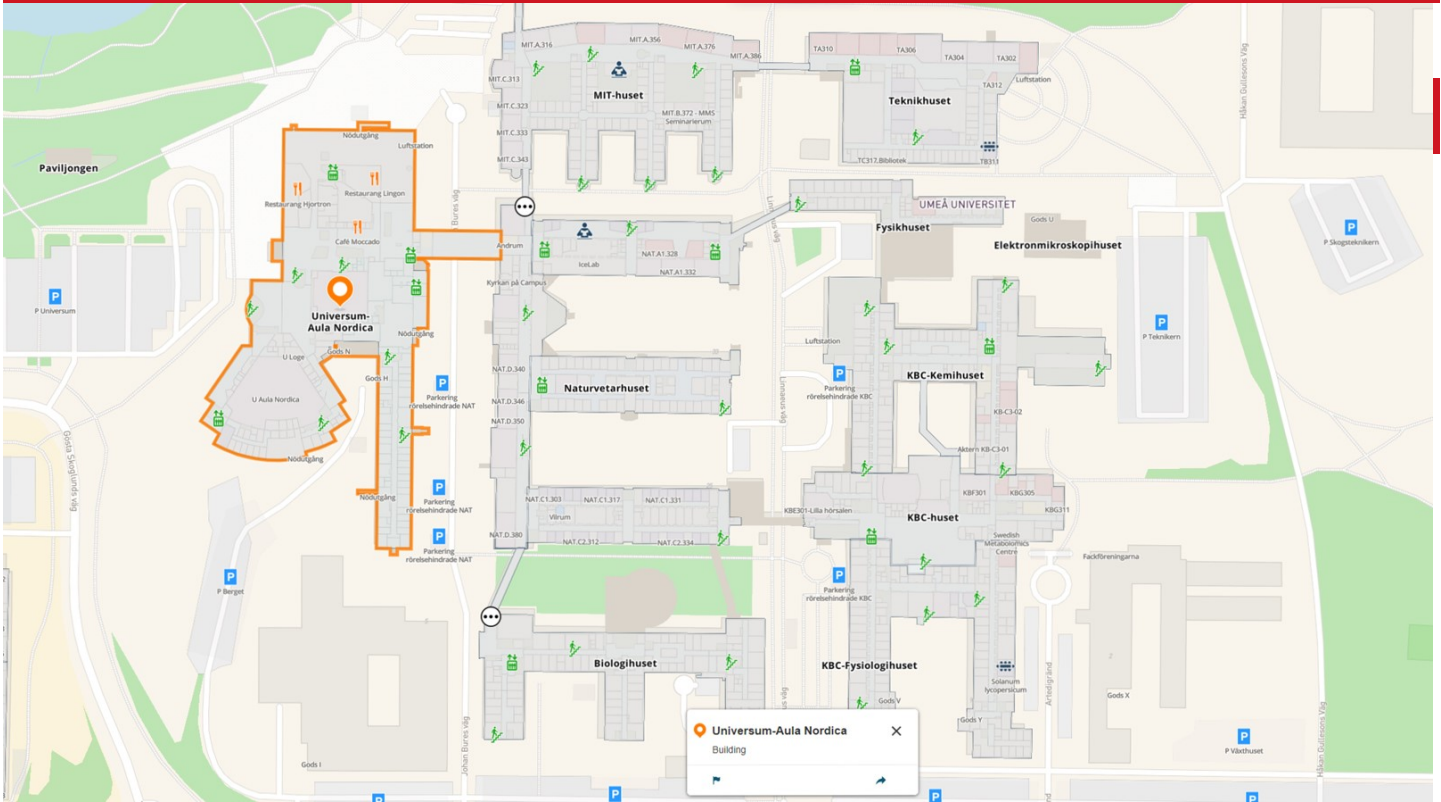
Baltics Photonics

Photonics in Latvia and NOP-2023 Northern Optics and Photonics in Riga, *Valters Jakobsons, LIAA, Latvia Embassy in Stockholm*

18:00-19:00

Room: **Triple Helix, Universitetsledningshuset**

**Networking with drinks and fingerfood**



**Exhibition in Universum Aula Nordica.**



**Lecture rooms in the KBC-house.**

There will be a walking distance between the lecture rooms and the exhibition and poster area.

The exhibition area is outside the entrance to the restaurant Lingon, where many university people will pass through during lunch hours.

<https://link.mazemap.com/VEajgXaf>



## CONFERENCE SCHEDULE

### WEDNESDAY, 5 OCTOBER 2022

09:00-10:00 Room: **KB.E3.03 Kempe Salen in the KBC huset**  
On-site registration and welcome coffee

10:00-10:15 Room: **KB.E3.03 Kempe Salen in the KBC huset**

#### Opening Remarks

*Åsa Claesson, PhotonicSweden; Ove Axner, Umeå University*

10:15-11:00 Session Chair: Ove Axner

#### Keynote Talk

Manipulating Relativistic Electrons with Intense Laser Pulses  
*Victor Malka, Weizmann Institute of Science, Rehovot, Israel*

11:00-12:20 Room: **KB.E3.03 Kempe Salen in the KBC huset**

#### Exhibitor Presentations

Exhibitor Pitch Talks

Session Chair

*Lennart BM Svensson*

12:20-14:00 Room: **Restaurant Lingon, Brashörnan, Caféhörnan**

#### Lunch & Poster Session & Exhibition

Room: **KB.E3.03 Kempe Salen**

Room: **KB.E3.01 Lilla hörsalen in KBC huset**

14:00-15:00

#### Session A1 | Photonics for Life Sciences

Session Chair: *Sergiy Valyukh*

14:00-15:00

#### Session B1 | Photonics application-funding

Session Chair: *Urban Konradsson Botes*

14:00-14:20

Functional fibers for opto-fluidic applications  
*Fredrik Laurell, Royal Institute of Technology (KTH)*

14:00-14:20

Photonics resources at RISE: Innovation projects and opportunities for funding  
*Åsa Claesson, Senior Researcher, RISE Fiberlab, Hudiksvall*

14:20-14:40

Characterization of individual pathogens using optical tweezers based methods  
*Magnus Andersson, Umeå University*

14:20-14:40

Examples of photonics development projects funded by SES and upcoming opportunities  
*Thorbjörn Ebefors, Ph.D, Acting Program Manager, Smarter Electronic Systems (SES) (only 5/10)*

14:40-15:00

Plasmonically-powered trapping and rotation of gold nanorods  
*Hana Jungová, Chalmers University of Technology*

14:40-15:00

Examples of regional innovation funded projects through optical measurement technology and how to assist in new projects  
*Åsa Almström, Project Manager, The Adopticum Foundation, Skellefteå*



WEDNESDAY, 5 OCTOBER 2022

15:00 - 15:20

**Break**

Room: **KB.E3.03 Kempe Salen**

15:20-16:20

**Session A2 | Laser Driven Light and Particle Sources**

*Session Chair: Fredrik Laurell*

Room: **KB.E3.01 Lilla hörsalen in KBC huset**

15:20-16:20

**Session B2 | 3D-analysis / Spectroscopy**

*Session Chair: Elena Vasileva*

15:20-15:40

Generation of attosecond light and relativistic electron pulses with ultra-intense lasers

*Laszlo Veisz, Umeå University*

15:20-15:40

3D camera tracker for fast and easy physical performance analysis,

*Jonas Sjöberg, Ph.D., Founder of Photon Sports AB, Umeå*

15:40-16:00

Applications of Laser Plasma Accelerators

*Olle Lundh, Lund University*

15:40-16:00

Laser Based Spectroscopy – Novel Solutions for Faster, Smarter Workflows ,

*Robert Wills, Molecular Spectroscopy Product Specialist, Agilent Technologies LDA UK Ltd (only 5/10)*

16:00-16:20

Physics at ultra-high intensities

*Mattias Marklund, University of Gothenburg*

16:00-16:20

Filters for space applications

*Staffan Greek, Ph.D. R&D Manager, Spectrogon AB, Stockholm*

16:20-17:30

**Break**

17:30-19:00

**Poster Session & Exhibition & Beverage**

Room: **Brashörnan, Caféhörnan**

19:00-22:00

**Conference dinner**

Location: **Restaurant Lingon**

THURSDAY, 6 OCTOBER 2022

08:45-09:30  
Welcome coffee

Room: **KB.E3.03 Kempe Salen**

09:30-10:30  
**Session A3 | Spectroscopy / Spectrometry / Imaging**  
Session Chair: *Valdas Pasiskevicius*

09:30-09:50  
Precision spectroscopy using optical frequency combs – toward better understanding of exoplanetary spectra  
*Aleksandra Foltynowicz, Umeå University*

09:50-10:10  
Kilometer-range panoramic photon-counting 3D lidar  
*Markus Henriksson, FOI*

10:10-10:30  
FRAME: Snapshot imaging using coded light  
*Karolina Dorozynska, Lund University*

10:30-10:40  
Break

10:40-12:00  
**Session A4 | Advanced Photonic Materials**  
Session Chair: *Laszlo Veisz*

10:40-11:00  
High-speed mid-infrared photothermal heterodyne imaging in a wide field of view  
*Florian Schmidt, Umeå University*

11:00-11:20  
Towards sustainable and efficient light-emitting electrochemical cells  
*Ludvig Edman, Umeå University*

11:20-11:40  
3D printed glass  
*Michael Fokine, Royal Institute of Technology*

11:40-12:00  
Redox-tunable optical nanoantennas based on conductive polymer nanostructures.  
*Shangzhi Chen, Linköping University*

Room: **KB.E3.01 Lilla hörsalen in KBC huset**

09:30-10:30  
**Session B3 | Lasers / Hyperspectral Imaging**  
Session Chair: *Staffan Greek*

09:30-09:50  
High Performance Lasers enable Cutting Edge Research  
*Elena Vasileva, Ph.D. Product Manager, Cobolt/HÜBNER Photonics, Stockholm*

09:50-10:10  
Lasers for Raman Spectroscopy Applications  
*Mickael Winters, Area Sales Manager Scientific Research & Instrumentation, Coherent, Gothenburg (only 6/10)*

10:10-10:30  
Automatic parasite detection in fish using Hyperspectral Imaging  
*Andreas Vidman, Prediktera AB (only 6/10)*

10:40-12:00  
**Session B4 | LIDAR applications / Forestry**  
Session Chair: *Mikael Sjö Dahl*

10:40-11:00  
Flasheye-Lidar used same as cameras: real-time 3d lidar monitoring for security and industrial applications,  
*Ida Rhenström, COO and Johan Söderberg, Lead Developer, Flasheye AB, Luleå*

11:00-11:20  
National Mapping of Swedish Forests using Airborne Lidar,  
*Mats Nilsson, Associate Professor, Department of Forest Resource Management, SLU, Umeå*

11:20-11:40  
Stem quality estimated from ground based laser scanning,  
*Kenneth Olofsson, Associate Professor, Department of Forest Resource Management, SLU, Umeå*

11:40-12:00  
Processing of remote sensing data, including ground based scanning and drone images at the Ljungberg lab,  
*Jonas Bohlin, Section Manager, Department of Forest Resource Management, SLU, Umeå*

THURSDAY, 6 OCTOBER 2022

12:00-13:45 **Lunch break & Poster session & Exhibition** Room: **Restaurant Lingon and Glasövergången to Naturvetarhuset, Caféhörnan**

13:45-14:30 **Keynote Talk** Room: **KB.E3.03 Kempe Salen**  
*Laser Applications and Scanner Technologies for Industrial Solutions*  
 Holger Schlueter, SCANLAB GmbH, Germany

14:30-15:00 **PhotonicSweden Awards and Poster Prize**  
 Mikael Sjö Dahl, Luleå University, Peter Strömberg, Acoem AB, Laszlo Veisz, Umeå University

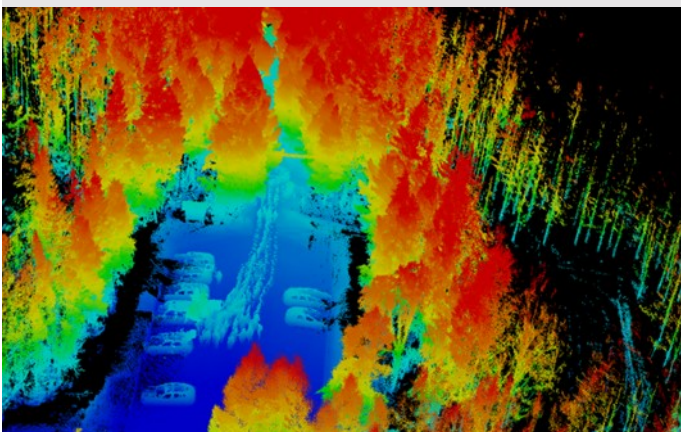
15:00-15:30 **Coffee Break**

15:30-17:30 **Lab visits**

**The Ljungberg laboratory at SLU (The Swedish University of Agricultural Sciences)**

The Ljungberg laboratory is a training laboratory for 3D remote analysis of forests where the latest technology is available in terms of platforms and sensors.

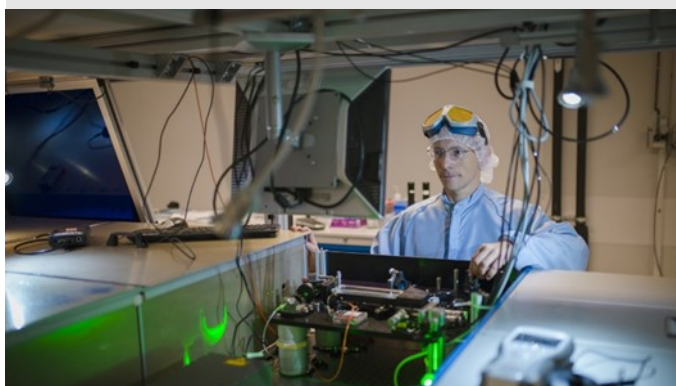
In the Remote sensing and forest inventory course at SLU we always has a demo of different sensors and platforms available for the students in the Ljungberg laboratory like for example processing remote sensing data, including ground scanning, drone images, etc



**The Department of Physics belongs to the Faculty of Science and Technology at Umeå University.**

At present about 100 people work at the new Department of Physics, professors, lecturers, researchers, guest professors, postdocs, doctoral students, and technical and administrative staff.

We carry out research and research education in various fields, for example in optical physics, nonlinear physics, plasma physics, general relativity, condensed matter physics and nanotechnology, photonics, biological physics, complex networks, space physics and physics education.



FRIDAY, 7 OCTOBER 2022

*Laserlab  
Sweden*



8.30 – 14.45

Room: Triple Helix, Universitetsledningshuset.

**Laserlab Sweden Day- A presentation of the ongoing activities within Laserlab Sweden - A hot field with lots of job opportunities - CARLA Camp**

Laserlab Sweden is a Swedish network of Laser Research Infrastructures. It is organized in five nodes, comprising Lund Laser Centre, Laserlab Umeå, Laserlab Göteborg, Laserlab Uppsala, and Laserlab Stockholm. Further information can be found at <https://laserlab-sweden.se/> .

**8.30 – 8.40 Introduction to Laserlab Sweden**

Dag Hanstorp

**8.40 – 9.40 Presentation of the Gothenburg node**

Node presenter (15 min): Dag Hanstorp

Invited speaker (25+5 min): Hélène Coudert-Alteirac, "Attohallen: commissioning of a new attosecond facility"

PhD student speaker (12+3 min): Javier Marmolejo, "A water droplet as a toy atom"

**9:40 -10:00 Coffee break**

**10:00 - 11:00 Presentation of the Lund node**

Node presenter (15 min): Claes-Göran Wahlström

Invited speaker (25+5 min): Anne-Lise Viotti, "Ultrafast sources at high repetition rates"

PhD student speaker (12+3 min): Weihua Lin, "Light-induced electronic dynamics in 2D perovskites"

**11:00 - 12:00 Presentation of the Umeå node**

Node presenter (15 min): Laszlo Veisz

Invited speaker (25+5 min): Vinicius Silva de Oliveira, "Double resonance spectroscopy of methane using an optical frequency comb"

PhD student speaker (12+3 min): Aitor De Andres, "Spatio-spectral characterization of few-cycle laser pulses"

**12:00 - 13:00 Lunch**

**13:00 - 14:30 Presentation of the Stockholm/Uppsala nodes**

Stockholm node presenter (10 min): Valdas Pasiskevicius

Invited speaker (25+5 min): Clarissa Harvey, "Advanced fiber fabrication"

PhD student speaker (12+3 min): Christoffer Krook, "Self-compression of pulses by impulse polariton scattering"

Uppsala node presenter (5 min): Ronny Knut

Invited speaker (25+5 min): Ronny Knut, "Ultrafast dynamics in magnetic materials"

**14.30 – 14.45 Wrapping up**



**Photonic Quantum Random Number Generation with Guaranteed Privacy**

*Joakim Argillander, Linköping University*

**Cascaded Mode-locking of Nd:YVO<sub>4</sub> Laser through Intra-Cavity Sum-Frequency Generation**

*Martin Brunzell, The Royal Institute of Technology (KTH)*

**Development of a new laser facility for material science research**

*Ruslan Chulkov, Uppsala University*

**Raman frequency conversion of spectrally tunable laser radiation on coherently driven molecular vibrations in high-pressure hydrogen**

*Ruslan Chulkov, Uppsala University*

**Attohallen: Commissioning of a new attosecond science facility**

*Helene Coudert-Alteirac, University of Gothenburg*

**Double-resonance spectroscopy of methane in the  $3\nu_3 \leftarrow \nu_3$  region using a frequency comb probe**

*Vinicius de Oliveira, Umeå University*

**GAS MODULATION REFRACTOMETRY – A TECHNIQUE FOR PRECISE AND ACCURATE PRESSURE ASSESSMENTS**

*Clayton Forssen, Umeå University*

**Optical frequency comb Fourier transform spectrometer for high-accuracy line position retrieval in the 8  $\mu\text{m}$  range**

*Adrian Hjältén, Umeå University*

**Implementing the Multi-plane Gerchberg-Saxton Algorithm in Digital Signal Processors**

*Varis Karitans, University of Latvia*

**Slow light laser stabilization**

*Marcus Lindén, Lund University*

**Towards 3D printed lasers**

*Pawel Maniewski, The Royal Institute of Technology (KTH)*

**Optical spectrophotometry for material appearance modelling in 2.5D and 3D printing**

*Alina Pranovich, Linköping University*

**Coherent Control of Molecular Rotation with Single-shot fs/ns Coherent anti-Stokes Raman Spectroscopy**

*Meena Raveesh, Lunds University*

**Protocells and Surface-adhered Biomembrane Networks**

*Ruslan Ryskulov, Chalmers University of Technology*

**Quantitative in situ detection and imaging of gas-phase K, KOH and KCl in biomass combustion**

*Emil Thorin, Umeå University*

**Non-polarizing spatial light modulation on liquid crystals for Li-Fi under normal lighting conditions**

*Sergiy Valyukh, Linköping University*

**Simultaneous quantitative measurement of KOH, KCl and K atom with spatial resolution**

*Weng Wubin, Lunds University*

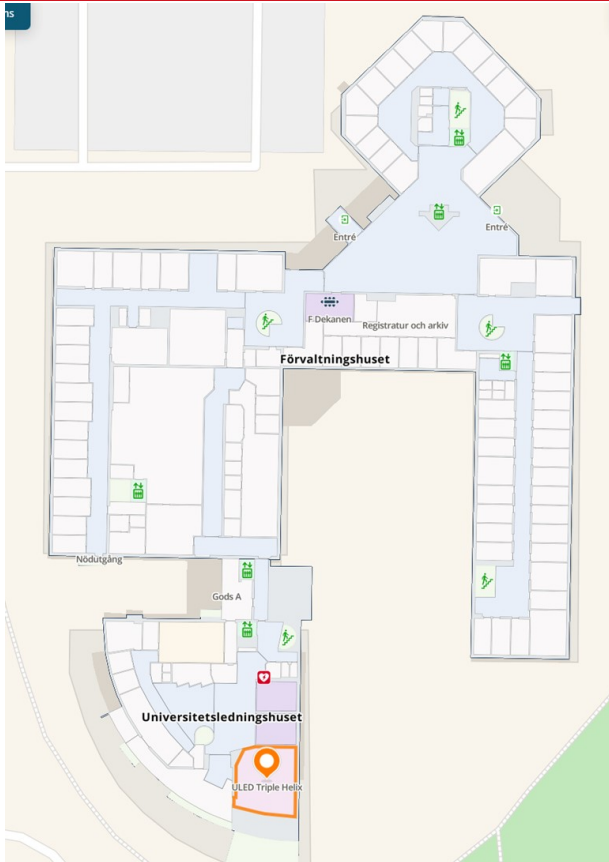
**Neutron Optics: Using Magnetic Reference Layers in Neutron Reflectometry Studies to Effectively Explore Organic Matter**

*Ivan Yakymenko, Linköping University*

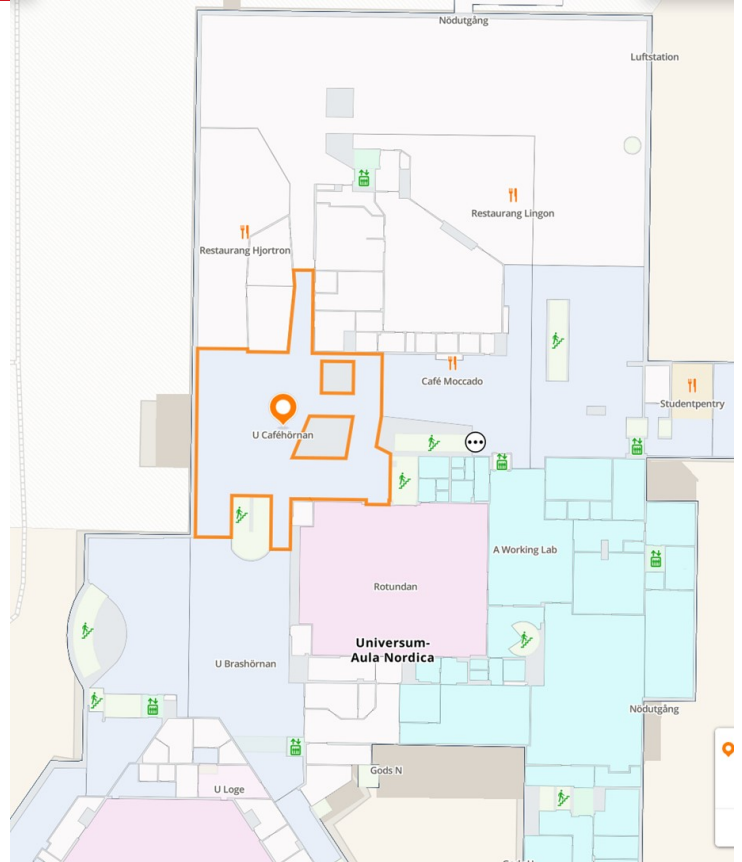
**Measuring the Pulse Duration and the Time-Dependent Polarisation State of Ultrashort Laser Pulses with the D-Scan Technique**

*Daniel Dias Rivas, Lund University*

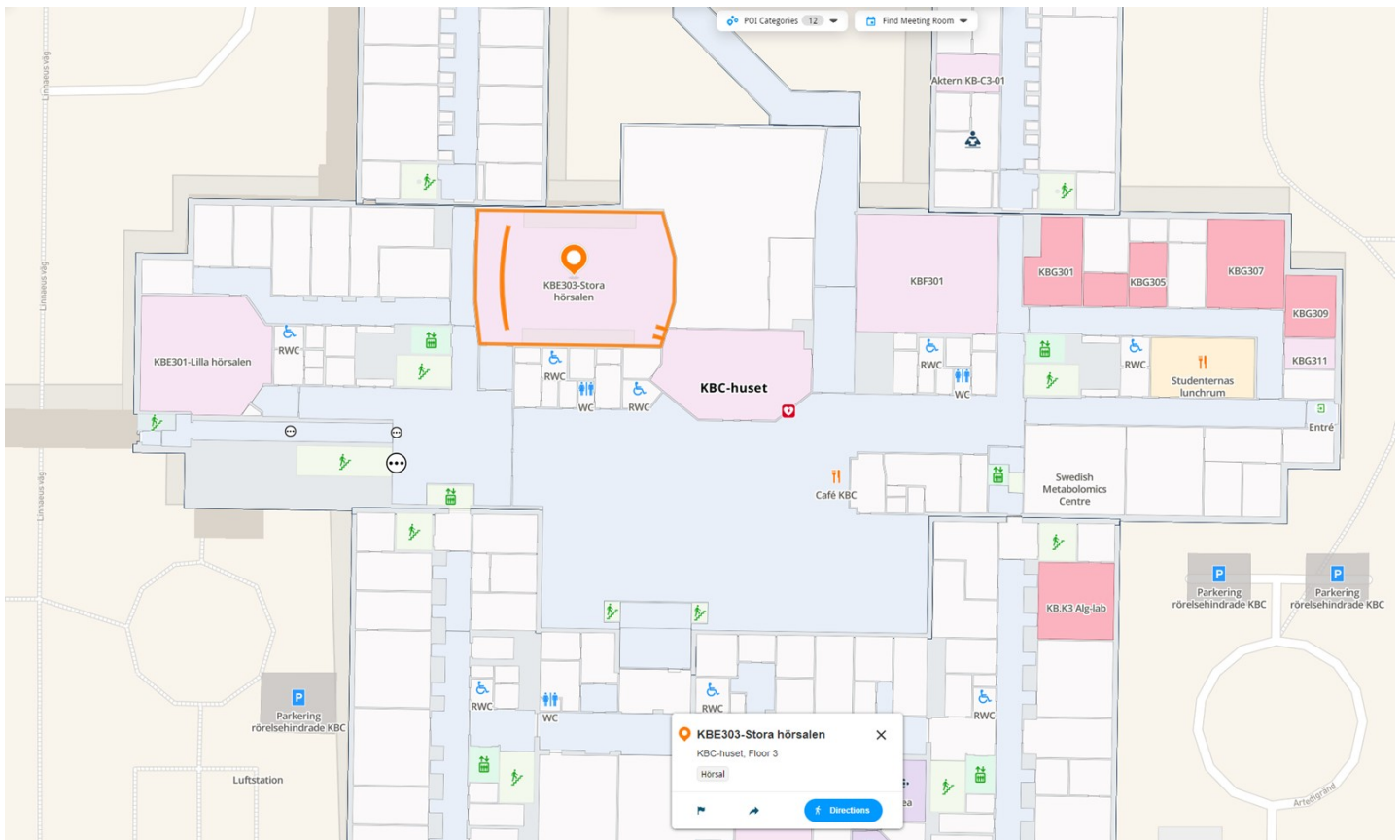
## NOTES



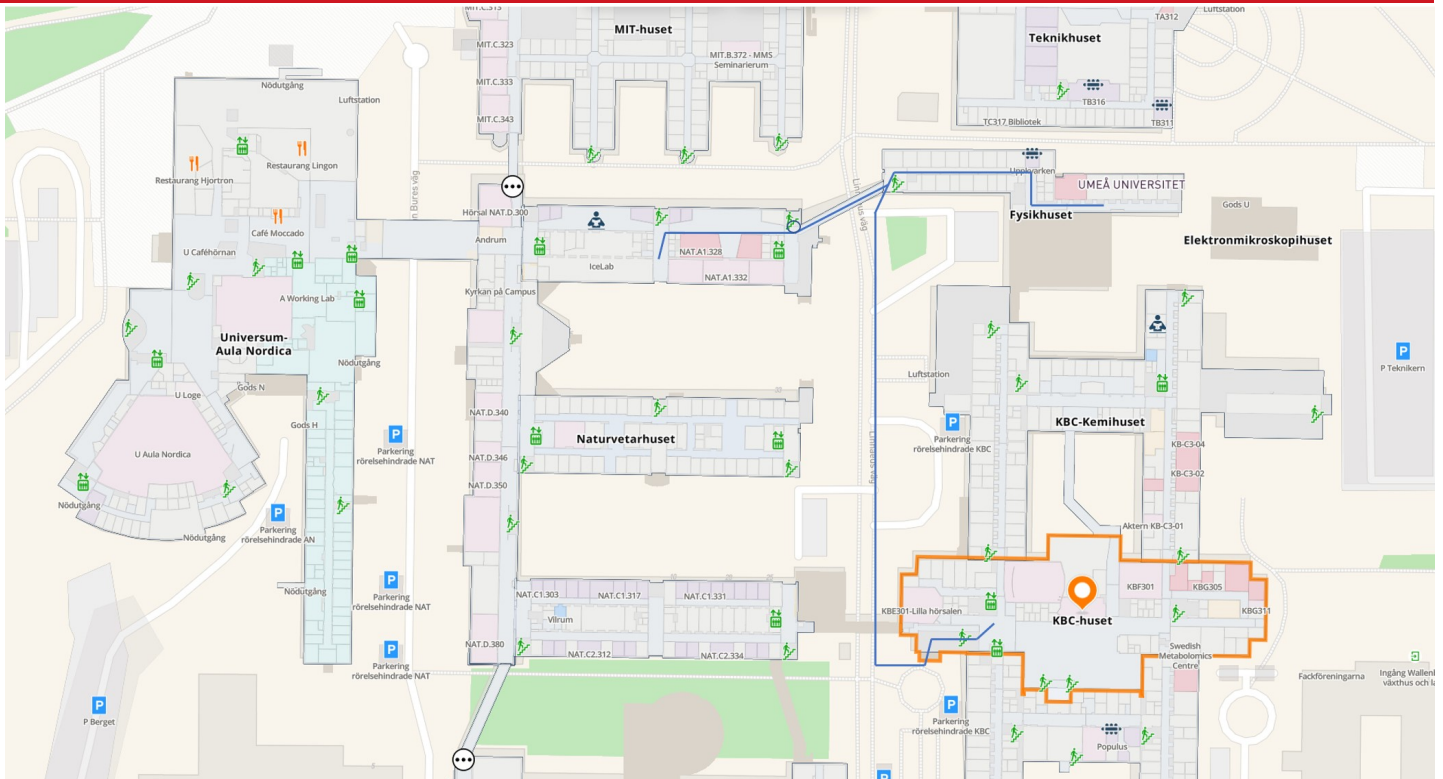
The **Nordic Photonics Forum** and **Laserlab Sweden** at ULED Triple Helix.



**Exhibition** area at Caféhörnan outside Restaurant Lingon and Aula Nordica.

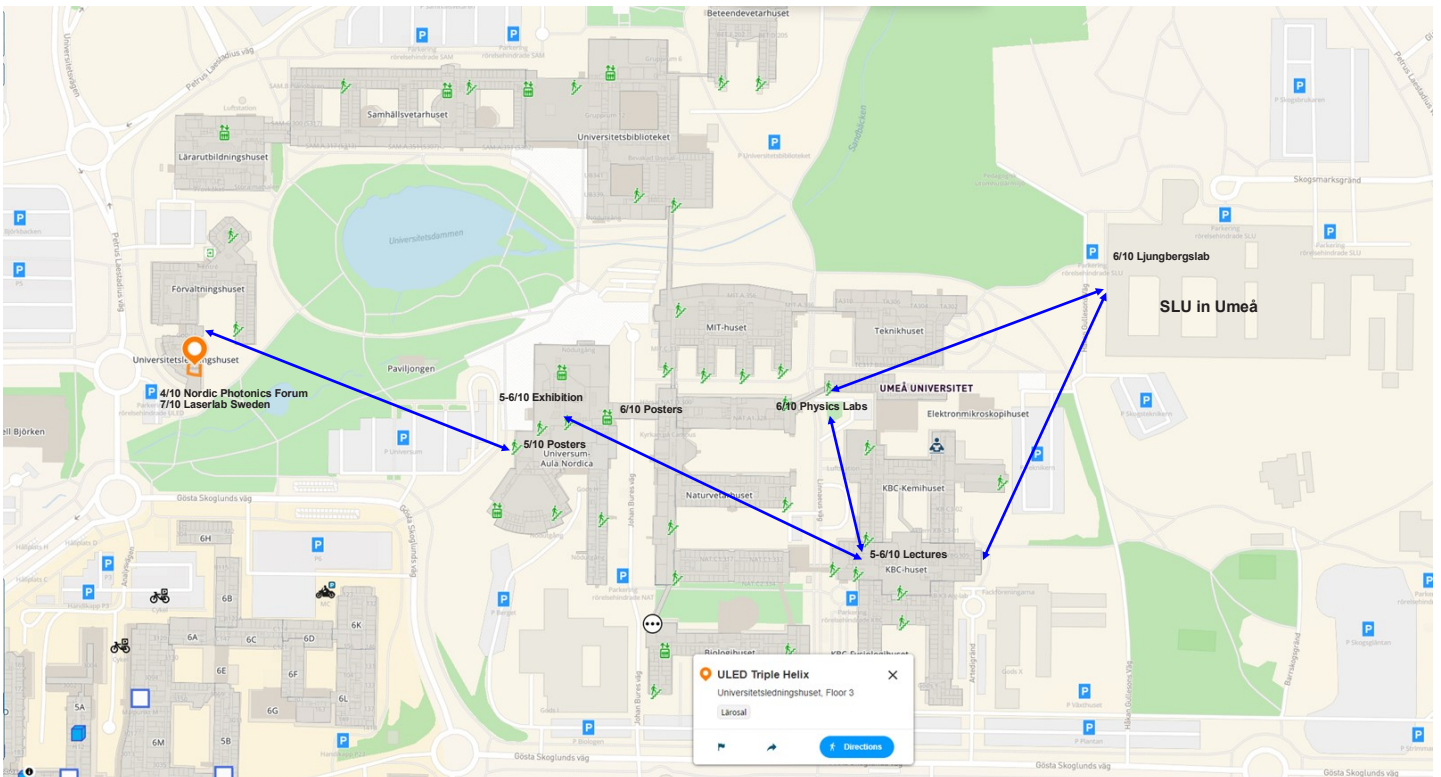


**Keynote speeches and Academic Sessions:** Lecture room KBE303-Stora hörnsalen  
**Industrial Sessions:** Lecture room KBE301-Lilla hörnsalen



**Lecture rooms in the KBC-house.**

There will be a walking distance between the lecture rooms and the exhibition and poster area.  
 The exhibition area is outside the entrance to the restaurant Lington,  
 The blue line shows the outdoor way to the Lab-visits at Physics. You will be guided.  
 There will also be a walking distance outside to SLU's Ljungbergslab.



**Room Triple Helix**  
 4/10 Nordic Photonics Forum  
 7/10 Laserlab Sweden

**Caféhörnan outside restaurant**  
 5-6/10 Exhibition

**Brashörnan**      **Glasövergången**  
 5/10 Posters      6/10 Posters

**Lecture rooms in the KBC-house**  
 5-6/10 Academic & Industrial Sessions

**Lab visits**  
 6/10 Physics Labs at UmU  
 6/10 Ljungbergslab at SLU

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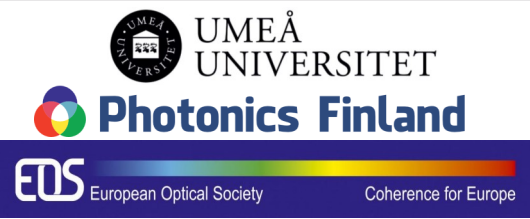
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