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Lausanne

The Photonics
Career Hub

Careers in Photonics



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PhotonicSweden
The Swedish Technology Platform in Optics and Photonics

secpho collaborate
to innovate

SWISS+PHOTONICS

Dates.

17-18 November, 2022

Venue.

EPFL Forum Rolex and
BM5202
Lausanne

EPFL

Audience.

University students and early stage
researchers

Registration.



Register at

<https://carlahub.eu/events/vslp-lausanne/>
before 4 November 2022

Careers in Photonics

(CARLA Camp in Lausanne)
Programme Overview

Thursday, November 17, 2022

On-Site in the EPFL Forum Rolex Learning Center

08h30 Welcome at EPFL Forum Rolex Learning Center - Coffee/Tea

Morning session organized by the EPFL Doctoral Program in Photonics (EDPO)

09h00 Introduction by EDPO Director	Prof. Hatice Altug
09h15 Keynote Presentation	Prof. Brian T. Cunningham, University of Illinois (USA)
09h45 Keynote Presentations	Prof. Jürgen Popp, Friedrich Schiller Universität, Jena (DE)
10h15 Poster Exhibition - Coffee Break	
11h00 Keynote Presentation	Prof. Jennifer Dionne, Stanford University (USA)
11h30 Presentation by EDPO 8% Doctoral Program Thesis Distinction	Dr Laurie-Lou Senaud Dr Aleksandrs Leitis
11h50 Group Photo	

12h00 Lunch - Poster Exhibition (cont.)

13h30 Introduction CARLA project and Event	Dr. Pierre-Yves Fonjallaz, EPFL-Research Office and Delegate of Swissphotonics in Romandy
13h40 Experiencing Light!	Prof. Timo Mappes, Deutsches Optisches Museum, Thüringen (DE)

Photonics Is Everywhere Session

14h00 Introduction	Moderator Dr. Markus Rossi, ams-OSRAM
14h35 Photonics 4 Consumers (Digital and Society)	Dr. Claudia Hoessbacher, CEO Polariton
14h20 Photonics 4 Climate, Energy, Mobility	Prof. Frank Nüesch, Empa
14h05 Photonics 4 Health	Prof. Jürgen Popp, Friedrich Schiller Universität Jena (DE)
14h50 Photonics 4 Industry (Manufacturing)	Dr. Eléonore Hardy, CEA Leti (FR)
15h05 Photonics is Everywhere Panel (Q&A)	Photonics4 presenters

15h30 Coffee Break MS/BS students talk to PhD students or Post-Docs

Photonics Career Session

16h00 Introduction	Moderator Dr. Markus Rossi, ams-OSRAM
16h05 Story Telling	Panelists presented shortly
16h10 Academic Careers Panel	Profs. Hatice Altug, Jennifer Dionne and Brian Cunningham
16h40 Story Telling	Panelists presented shortly
16h45 Industry Panel	Dr. Alexandre Pauchard (CEO of CSEM) Dr. Isabella Jung Ewert (Dir. Engineering and Site Manager of Lumentum's R&D in Zurich) Prof. Brian Cunningham
17h15 EPFL Photonics Chapter EPC / Prizes	Best Poster, etc.

17h45 Light Dinner and Music Fifi's Spaceship, Funky-Jazz band from the Basel Jazz Campus

Friday November 18, 2022

Hybrid in the Room BM 5202

<https://epfl.zoom.us/j/69013324580>

08h30 Café - Croissant etc.

09h00 Welcome - Intro Dr. P-Y Fonjallaz

Photonics Associations (Networking)

09h10 Optica	Dr. Claus Roll
09h20 NTN Innovation Booster Photonics	Dr. Selina Casutt
09h30 Swissphotonics and other associations	Dr. Pierre-Yves Fonjallaz

Entrepreneurship Session

09h40 Introduction	Moderator Prof. Christophe Moser
09h45 Verve Venture	Emma Schepers, Verve Venture
09h55 Lyncée Tec	Dr. Yves Emery, CEO
10h05 Morphotonicx	Dr. Veronica Savu, CEO
10h15 Insolight	Dr. Laurent Coulot, CEO
10h25 Panel	

10h40 Coffee Break

Careers in Photonics and Beyond Session

11h10 Testimonial	Prof. Kirsten Moselund, EPFL/PSI
11h20 Testimonial	Martin Balimann, Product devpt. Manager at NIL Technology.
11h30 Work of the Future (Video)	Prof. Isabelle Chappuis, Ex. Dir. Swiss Center for Positive Futures, University of Lausanne
11h40 EPFL Alumni	Leïla Ojje, Head, EPFL
11h50 EPFL Career Center	Philippe Ory, Head of Center, EPFL
12h00 Final Career Panel	Animated by Philippe Ory

12h30 Concluding Remarks Dr. P-Y Fonjallaz



Detailed Program

THURSDAY NOVEMBER 17, 2022

FORUM ROLEX LEARNING CENTER

Welcome - Coffee/Tea
08:30



Prof. Hatice Altug
Introduction by EDPO Director
09:00

Hatice Altug studied Physics at Bilkent University in Turkey. She received her PhD in Applied Physics from Stanford University in 2007. She was a professor at Boston University Electrical and Computer Engineering from 2007-2013. In 2013, Prof. Hatice Altug joined EPFL where she became full professor in 2020. She is the head of BioNanoPhotonic Systems laboratory and the director of EPFL's doctoral school in photonics. Her research focuses on nanophotonics and its application to biosensing, spectroscopy and imaging for life science research, disease diagnostics and point-of-care testing. Prof. Altug is the recipient of numerous awards including European Physical

Society Emmy Noether Distinction, Optical Society of America Adolph Lomb Medal, U.S. Presidential Early Career Award for Scientists and Engineers, IEEE Photonics Society Young Investigator Award and Koc University Science Medal. She received ERC Consolidator and Proof of Concept Grants, U.S. ONR Young Investigator Award, U.S. NSF CAREER Award, Massachusetts Life Science Center New Investigator Award. She is the elected fellow of Optical Society of America. In 2011, she has been named to Popular Science Magazine's "Brilliant 10" list.



Prof. Brian T. Cunningham
Keynote Presentation
09:15

Prof. Cunningham has been a faculty member in the department of Electrical and Computer Engineering and the department Bioengineering at the University of Illinois at Urbana-Champaign since 2004, following a 15-year career in Industry. Prof. Cunningham's technical focus is the utilization of photonics for

biosensing in applications that include life science research, diagnostics, environmental monitoring, and pharmaceutical screening. He has over 89 issued US patents and over 195 peer reviewed journal publications. He is a Fellow of NAS, IEEE, OSA, RSC, AAAS, and AIMBE.

Ultrasensitive Detection of Cancer and Pathogens using the Power of Nanophotonics

A frontier for biodetection is the challenging situation of detecting a specific molecule that is present at extremely low concentrations in a small sample volume, surrounded by large numbers of very similar molecules. In the same way, detection of a virus in a clinical sample becomes especially difficult as the number of virions drops to a just a few copies. Using photonic materials such as photonic crystals, designed to amplify the interaction between light and matter, it is possible to enhance optical absorption, fluorescence emission, and scattering by orders of magnitude. When combined with novel biochemistry methods and detection instruments, we can achieve digital-resolution counting of cancer-related biomolecules such as microRNA (miRNA) and circulating tumor DNA (ctDNA), as well as nanometer-scale biological objects such as pathogenic viruses and extracellular vesicles. The presentation will summarize the recent development of new forms of

microscopy that are performed upon nanophotonic surfaces for applications that include ultrasensitive detection of cancer biomarkers in complex media such as serum, plasma, and cell growth media. We are also using nanophotonics-based approaches capable of capturing and counting intact viruses, providing speed, simplicity, and sensitivity that exceeds current methods, such as PCR. We are combining the nanophotonics-powered biosensing technologies with novel biochemistry methods that provide simple, rapid, and ultrasensitive recognition of their target. Our efforts are aimed toward providing new paradigms for molecular and viral analysis that are fast, simple, and inexpensive enough to be performed frequently in many environments. We envision their use for point-of-care disease diagnosis, therapy effectiveness monitoring, and data-informed decision-making for personalized treatment.



Prof. Jürgen Popp
Keynote Presentation
 09:45

Jürgen Popp studied chemistry at the universities of Erlangen and Würzburg, Germany. After his PhD in Chemistry he joined Yale University for postdoctoral work. He subsequently returned to Würzburg University where he finished his habilitation in 2002. Since 2002 Juergen Popp holds a chair for Physical Chemistry at the Friedrich-Schiller University Jena, Germany. Since 2006 he is also the scientific director of the Leibniz Institute of Photonic Technology, Jena. Juergen Popp is a world leading expert in Biophotonic /optical health technology research covering the complete range from photonic basic research towards translation into clinically applicable methods. He has published more than 960 journal papers, has been named as an inventor on 12 patents and has given more than 200 invited talks on national and international conferences (among them more than 50 keynote/plenary lectures). In addition, he organized numerous conferences and workshops (e.g. the world largest conference on Raman spectroscopy ICORS in 2014). He is Editor-in-Chief of the Journal of Biophotonics.

Innovative Biophotonic Sensors Concepts for Medical Applications

Leibniz Institute of Photonic Technology (IPHT), Albert-Einstein-Straße 9, 07745 Jena, Germany
 Friedrich Schiller University Jena, Institute of Physical Chemistry and Abbe Center of Photonics, Helmholtzweg 4, 07743 Jena, Germany
 InfectoGnostics Research Campus Jena, Centre for Applied Research, Philosophenweg 7, 07743 Jena, Germany

Many unmet medical needs require new detection methods offering molecular specificity, high sensitivity, short detection times and most importantly on-site usability in form of an automated point-of-use approach. Within the field of Biophotonics, Raman spectroscopy is particularly noteworthy since it offers all the features needed to rapidly characterize biomolecules and complex biological specimen without the need of complex sample preparations steps. The combination with chip-based sampling approaches and/or fiber-based probe designs together with modern artificial intelligence based spectroscopic data analysis

Furthermore, he is a leading partner in various national and international projects in cooperation with academic, clinical and industrial partners and has raised more than 50 Million-euro third party funding. He has been frequently asked as a contact person for media and politics. In 2012, he received an honorary doctoral degree from Babeş-Bolyai University in Cluj-Napoca, Romania. Professor Jürgen Popp is the recipient of the 2013 Robert Kellner Lecture Award and the prestigious 2016 Pittsburgh Spectroscopy Award. In 2016 he was elected to the American Institute for Medical and Biological Engineering (AIMBE) College of Fellows. 2018 Juergen Popp was awarded the renowned Ioannes Marcus Marci Medal of the Czechoslovak Spectroscopy Society, he won the third prize of the Berthold Leibinger Innovationspreis and received the Kaiser-Friedrich-Forschungspreis. In 2019 he was awarded the Ralf-Dahrendorf-Preis für den Europäischen Forschungsraum and in 2020 he became an OSA senior fellow. In 2021 he became a Fellow (FRSC) of the Royal Society of Chemistry.

routines allows for point- of-use Raman concepts covering the entire process chain from sampling to the result. Here, we introduce novel concepts of on-site / point-of-use Raman spectroscopic sensors concepts for a broad variety of biomedical applications: (I) bed-side Raman point-of-care sensors for microbial analysis (e.g., rapid detection of pathogens and their antibiotic resistance pattern together with host response) (II) cavity enhanced and fiber enhanced Raman sensors for drug monitoring; (III) linear and non-linear Raman fiber probes for intraoperative histopathological tissue screening.

Acknowledgements

Financial support of the EU, the "Thüringer Ministerium für Wirtschaft, Wissenschaft und Digitale Gesellschaft", the "Thüringer Aufbaubank", the Federal Ministry of Education and Research, Germany (BMBF), the German Science Foundation, the Fonds der Chemischen Industrie and the Carl-Zeiss Foundation are greatly acknowledged.

Poster Exhibition - Coffee Break

10:15



Prof. Jennifer Dionne
Keynote Presentation
 11:00

Jennifer Dionne is the Senior Associate Vice Provost of Research Platforms/Shared Facilities and an Associate Professor of Materials Science and Engineering and of Radiology (by courtesy) at Stanford. Jen received her Ph.D. in Applied Physics at the California Institute of Technology, advised by Harry Atwater, and B.S. degrees in Physics and Systems & Electrical Engineering from Washington University in St. Louis. Prior to joining Stanford, she served as a postdoctoral researcher in Chemistry at Berkeley, advised by Paul Alivisatos. Jen's research develops nanophotonic methods to observe and control chemical and

Lighting up the oceans: Emerging nanophotonic platforms for real-time ocean observation

The oceans are the largest biological habitat in the known universe and are among the least charted. Covering over two and a half times the area of Mars, the oceans host diverse microorganisms that cycle nearly all chemical elements and are responsible for half of the global photosynthetic activity. Yet, studying the marine microbiome remains an outstanding challenge. Very few marine microbes have been successfully cultured under laboratory conditions, and culture-free methods like genomics and mass spectrometry are incompatible with the real time measurements necessary to study how physicochemical drivers impact microbial nutrient cycling. Here, we present our efforts to simultaneously and rapidly measure multiple 'omic' signatures from the ocean. First, we combine Raman spectroscopy and deep learning to accurately classify bacteria by both species and antibiotic resistance in a single step. With a convolutional neural network (CNN), we achieve

biological processes as they unfold with nanometer scale resolution, emphasizing critical challenges in global health and sustainability. Her work has been recognized with the Alan T. Waterman Award (2019), an NIH Director's New Innovator Award (2019), a Moore Inventor Fellowship (2017), the Materials Research Society Young Investigator Award (2017), Adolph Lomb Medal (2016), Sloan Foundation Fellowship (2015), and the Presidential Early Career Award for Scientists and Engineers (2014), and was featured on Oprah's list of "50 Things that will make you say 'Wow!'"

species identification and antibiotic susceptibility accuracies similar to leading mass spectrometry techniques. Next, we describe resonant nanophotonic surfaces that enable detection of genes, proteins, and metabolites with femtomolar sensitivity. These metasurfaces produce a large amplification of the electromagnetic field intensity, increasing the response to minute refractive index changes from target binding; simultaneously, the light is beam-steered to particular detector pixels. By combining metasurface design with acoustic bioprinting for functionalization, we produce develop chips that detect gene fragments, proteins, and small molecule toxins on the same platform. We discuss integration of these sensors with autonomous underwater robots from Monterey Bay Aquarium Research Institute (MBARI) for real-time phytoplankton and phycotoxin detection.

Presentation by EDPO 8% Doctoral Program Thesis Distinction

11:30

Dr Laurie-Lou Senaud

Dr Aleksandrs Leitis

Group Photo

11:50

Lunch – Poster Exhibition (cont.)

12:00

CARLA EU project and Event



Dr Pierre-Yves Fonjallaz

Introduction

13:30

Pierre-Yves Fonjallaz obtained his PhD in Physics at EPFL in 1995 with a thesis on the photosensitivity of single-mode fibres and the characterisation of fibre Bragg gratings. He then spent 23 years in Sweden working at the Royal Institute of Technology (KTH) and for the Research Institute of Sweden (RISE) in different positions as specialist, group manager (fibre components) and coordinator (he was director of the

Kista Photonics Research Center regrouping researchers in photonics from RISE and KTH). He founded and then led the national platform PhotonicSweden from 2011 to 2018. He moved back to Lausanne in 2018 and He is presently working with EU-funded collaborative projects at the Research Office of EPFL and for Swissphotonics.



Prof. Timo Mappes

13:40

Timo Mappes is professor for the history of Physics with a mayor in Science Communication and the founding director of Deutsches Optisches Museum (D.O.M.). In 2018 he joined FSU after having run global R&D for the spectacle lens business of ZEISS. There, in addition to numerous technical innovations and heading global IP-portfolio, he introduced edutainment as a compelling format of science communication at the point of sales.

In parallel to latest technology, Prof. Mappes' private passion for more than 25 years are antique optical instruments. This passion is now his profession - in Jena he is creating a new type of museum by merging science center elements with historic artefacts of optics, combining it with the showcase of the latest research results in optics and photonics.

PROFESSIONAL CAREER SINCE FINAL DEGREE

- 2018 - to date Founding Director Deutsches Optisches Museum (D.O.M.)
- 2018 - to date Professor (W3), FSU Jena
- 2015 - 2018 Senior Vice President Innovation, Carl Zeiss Vision International GmbH, Member of the extended Board of Management. Responsible for Technology & Innovation and IT, including the IP portfolio for the lens business, Locations: Aalen (DE), Tübingen (DE), Guangzhou (CN), Lonsdale (AU), Mátészalka (HU), Tijuana (MX). About 200 FTE.
- 2012 - 2015 Director Microscopic Imaging, Carl Zeiss AG Corporate Research and Technology. Screening & scouting and developing demonstrator systems up to technology readiness level 6 (TRL6).
- 2010 - 2012 Co-Founder and shareholder Visolas GmbH
- 2011 Professeur invité, Université de Franche-Comté - FEMTO-ST, Besançon, FR
- 2010 Visiting Professor, Technical University of Denmark (DTU), DK
- 2007 - 2012 Independent Junior Research Group, Karlsruhe Institute of Technology
- 2006 - 2007 Postdoc, Karlsruhe Institute of Technology

Experiencing light

Fascinating for light, having the general audience grasping the basic laws and recent applications of optics and photonics – this is the task of Deutsches Optisches Museum (D.O.M.). Right now, D.O.M. is built at Jena, Germany as a large edutainment site. While the 3.000 m² exhibition of the museum will open in 2026, this talk will provide an insight on how a novel kind of museum is created.

At D.O.M., people will experience the laws of optics and photonics in about 80 interactive working

stations. In contrast to most established “science centers”, the explanations of the effects will be offered as well. In addition, visitors will have the chance to apply selected unique historic optical instruments. On top of this, young researchers will acquire the competence and get a platform to showcase their recent research in optics and photonics to the general audience – comparable to temporary elevator pitches.

Photonics Is Everywhere Session



Dr. Markus Rossi

14:00

Diploma in Physics from ETHZ-Swiss Federal Institute of Technology Zurich, Switzerland (1989).

1990 – 1995: PhD thesis in micro-optics at PSI Zurich and Univ. of Neuchâtel (now EPFL)

Dr. sc. nat. from the University of Neuchâtel, Switzerland (1995).

1995 – 1996: optical engineer at Rochester Photonics Corporation, USA,

1996: CSEM Zurich, leader of "replicated micro-optics group"

July 2000: creation of start-up Heptagon Oy.

2000 - 2017: CTO / CIO at Heptagon

2017: acquisition of HPTG by ams AG, Senior Vice President Innovation, Optical Sensor Solutions (OSS) division of ams AG

2020: Innovation Office Head (part of CTO office)

2004 - 2017: expert of CTI (now Innosuisse) in field «micro and nanotechnologies»

member of SATW (Swiss Academy of Technical Sciences)

Photonics Is Everywhere Session

14:00

**Dr. Claudia Hoessbacher****Photonics 4**

14:05

**Prof. Frank Nüesch****Photonics 4**

14:20

**Prof. Jürgen Popp****Photonics 4**

14:35

**Dr. Eléonore Hardy****Photonics 4**

14:50

Claudia has always been fascinated by light. After her B.Sc degree in Electrical Engineering at KIT, Germany, the Master program in "Optics and Photonics" stimulated her interest in the interaction of light with smallest structures. Following this interest, she researched integrated photonics, plasmonics and electro-optics during her PhD at ETH Zurich. In 2019, she was awarded the ETH Pioneer Fellowship to transfer her research project into innovative products and co-founded Polariton Technologies to accelerate information transport and reduce its power consumption.

Frank Nüesch graduated in physics at the Swiss Federal Institute of Technology in Zurich (ETHZ) in 1989. He earned his PhD in 1995 in the field of photoinduced heterogeneous electron transfer processes in dye sensitized solar cells at the laboratory of Prof. Michael Grätzel at the Swiss Federal Institute of Technology in Lausanne (EPFL). In 2004 he was appointed Head of the Functional Polymers laboratory at the Swiss Federal Laboratories for Materials Science and Technology (Empa) where he pursued research and development

Energy, Climate, Mobility

Without entering the semantic debate about photonics versus optics, photonics has penetrated our lives in such an overreaching way that we may wonder whether it will eventually impose itself on electronics. The yearly 50 % increase of end-user's data-transmission speed, also called Nielsen's law of internet bandwidth, attests this steady progress. This will at least help to mitigate the huge electricity demand manifested by our interconnected world. Whether this growing appetite for energy can be reduced by future photonic integrated circuits is still an open question. Today, photonics is crucial for renewable energy conversion, e.g. in light-

See his bio on page one**Health**

In this presentation, I will provide a short overview of the cornucopia of the different health-related applications of photonics. Photonics can play a major role at all stages of the continuum of care, starting at prevention and prediction in the pre-acute phase, as well as to monitoring, diagnostics and treatment in the acute phase and in the post-acute stages of an illness.

Eleonore Hardy joined CEA-Leti in 2018 as a business developer in silicon photonics. She holds a Master's degree in Engineering and followed a MS in Management & Innovation. Eleonore has been working in the optics and photonics industry since 2005 and previously worked for Philips in the Netherlands and for Varioptic (a BU of Corning) in China. During her career, Eleonore has been successful in creating long-term value in lasers in France, China and India for Quantel (Lumibird), and spectrometers in Europe and Asia for Resolution Spectra Systems. Eleonore is dedicated to developing new business opportunities in silicon photonics, especially in communications, sensing and high-performance computing.

Corporate description :
Leti, a technology research institute at CEA Tech, is a

Consumers (Digital and Society)

Photonics is everywhere! Photonics is the foundation of many technologies, playing an important role in our everyday lives and can even be found in consumer products: flat-panel displays in mobile phones and large-format TVs are driven by OLED technology. Photonics sensors are included in smart watches to monitor health. Artificial, virtual and mixed reality (AR/VR/MR) are entering gaming and entertainment. Light is also the basis of the technology that enables to connect over the internet, shaping our digital society.

of organic solar cells, organic light-emitting diodes and electromechanical elastomer actuators. More recently, coating processes of functional two-dimensional inks have caught his interest. Since 2011 he is adjunct professor at EPFL teaching organic semiconductors, modern photovoltaics and recently also optical properties of materials. Since 2016 he has been an invited distinguished Professor at the International Centre for Quantum and Molecular Structures ICQMS, University of Shanghai, China.

management, outcoupling as well as up- and down-conversion to optimize photovoltaic devices. Lighting and visualization of information via a display interface integrate with every part of our lives and therefore place high demands on efficient photonic technologies. Regarding future mobility, transportation by autonomous vehicles will require photonic scanning beam systems that are safe and reliable. Importantly, sophisticated photonic instruments are very efficient for diagnostics, inspection and monitoring of all kinds, last but not least for examining the condition of humanity's home planet.

Based on some concrete examples like cancer histopathology and treatment, liquid biopsy and regenerative medicine I will illustrate the potential and importance that photonic-based methods have for future health-related applications including those to improve wellbeing.

global leader in miniaturization technologies enabling smart, energy-efficient and secure solutions for industry. Founded in 1967, Leti pioneers micro- & nanotechnologies, tailoring differentiating applicative solutions for global companies, SMEs and startups. Leti tackles critical challenges in healthcare, energy and digital migration. From sensors to data processing and computing solutions, Leti's multidisciplinary teams deliver solid expertise, leveraging world-class pre-industrialization facilities. With a staff of more than 1,900, a portfolio of 2,700 patents, 91,500 sq. ft. of cleanroom space and a clear IP policy, the institute is based in Grenoble, France, and has offices in Silicon Valley and Tokyo. Leti has launched 60 startups and is a member of the Carnot Institutes network. Follow us on www.leti-cea.com and [@CEA_Leti](https://twitter.com/CEA_Leti).

Coffee Break
15:30

MS/BS students talk to PhD students or Post-Docs

Photonics Career Session



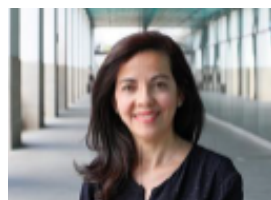
Dr. Markus Rossi
Introduction
16:00

See his bio on page -3-

Story Telling
16:05

The panelists will be presented shortly

Academic Careers Panel
16:10



Prof. Hatice Altug
See her bio on page -1-



Prof. Jennifer Dionne
See her bio on page -2-



Prof. Brian T. Cunningham
See his bio on page -2-

Story Telling
16:40

The panelists will be presented shortly

Industry Panel
16:45



Dr. Alexandre Pauchard

Alexandre Pauchard is CEO at CSEM since January 2021. Before that he worked as CTO at BOBST, the world's leading suppliers of equipment and services for the packaging industry. Prior to joining Bobst in 2011 he held various management positions, acting as CTO at Synova SA, VP of Engineering at ID Quantique and Director of Engineering at Nova Crystals in Silicon Valley. During 6 years he also consulted Intel's Photonics Technology Lab in Santa

Clara. Alexandre Pauchard graduated in Physics from ETH Zurich and received a Ph.D. in Microengineering from EPFL. He has published over 80 peer-reviewed journal and conference papers, has been awarded 13 patents and was the recipient of the "INDUSTRY 4.0 - THE SHAPERS 2019" Award and of the "Digital Shapers 2021" Award.



Dr. Isabella Jung Ewert

Isabella Jung Ewert is the Director Engineering and Site Manager of Lumentum's R&D site in Zurich. Since 2021 she is leading this center of excellence with about 50 engineers focused on the development and new product introduction of pulsed laser systems. Isabella Jung Ewert joined Lumentum 2016 as lead program manager and since then has successfully managed all ultrafast laser programs in Zurich as well as has supervised program management in other Lumentum sites. With over 18 years in the telecom industry, Isabella Jung Ewert has an extensive

background in product development and operations. She started as R&D project leader at JDSU, where she successfully developed and qualified the first submarine pump lasers followed by a transition to a PLM position for 980nm pump diodes. She broadened her skill set as Materials Director for all European fabs at Oclaro and, prior to joining Lumentum in 2016, she managed the production and capacity planning at II-VI Switzerland. Isabella Jung Ewert holds a PhD in ultrafast laser physics from the ETH Switzerland.



Prof. Brian T. Cunningham

Prof. Brian T. Cunningham
See his bio on page -2-

Prizes: Best Poster Award
17:15

Light Dinner, Music, Art...
17:45

Fifi's Spaceship, Funky-Jazz band from the Basel Jazz Campus



Coffee/Tea Croissants

08:30

Welcome - Intro

09:00

Photonics Associations (Networking)

09:10



Dr. Claus Roll
Optica (Europe)

09:10

Claus Roll, is the Director, Europe for Optica (formerly OSA), which he joined at the beginning of 2020. His tasks comprise developing, building and sustaining relationships and connections with Optica members and customers in northern Europe. First European based initiatives have been started following these discussions.

Prior to working for Optica, was working during the 20 years for several STM publishers, managing mainly

About Optica (formerly OSA), the global member society in optics and photonics

Optica (formerly OSA), is the society dedicated to promoting the generation, application, archiving and dissemination of knowledge in the field. Founded in 1916, it is the leading organization for scientists, engineers, business professionals, students and others interested in the science of light. Optica's renowned publications, meetings, online resources

journals in the bio-medical domain, but also in physics. This activity brought him deep insights to all aspects of the scientific publishing, including research assessment and evaluation in various countries and scientific domains.

Before joining the positions in scientific publishing, Claus obtained a PhD degree in molecular biophysics, working on structure determination of DNA helices by NMR and molecular dynamics.

and in-person activities fuel discoveries, shape real-life applications and accelerate scientific, technical and educational achievement. The different activities are presented with a focus on benefits and services for students and early career professionals. <https://www.optica.org/en-us/home/>



Dr. Selina Casutt
NTN Innovation Booster Photonics

09:10

Selina Casutt is the head of Swissmem Department NTN. Selina has more than 10 years of experience in the photonics industry. She has a background in physics and holds a PhD in ultrafast laser physics (both ETH Zürich). She used to work as a project manager and team leader in R&D, responsible for the product development of optical systems, mainly for

Innovation Booster Photonics - boost your ideas and find strong, rewarding innovations

The NTN Innovation Booster Photonics, powered by Innosuisse, with the leading house Swissmem, aims to boost more radical innovation ideas and helping them getting off the ground. It brings together key players from research, business and society on an innovation topic and stimulates the development and

endoscopic applications. She knows how to manage customer relationships for technical aspects and customizations and to provide appropriate innovative solutions. Selina supports the NTN Innovation Booster Photonics with her broad network and proven experience within the photonics community, both industry and science.

testing of new ideas in interdisciplinary teams. In this presentation, we will discuss the criteria, benefits and concrete examples of Innovation Booster Photonics projects in addition to the general objectives and activities of the Innovation Booster Photonics. <https://www.ntnphotonics.ch/>

See his bio on page -3-

Other Photonics Associations

A flyer of other Photonics associations in Switzerland and Europe will be presented:

a) Swissphotonics (<https://www.swissphotonics.net>), the association of the Swiss Photonics with over 240 members, academic groups, companies and private, is very active in organising events and is a key to fruitful exchanges between industry and academia and positioning the Swiss Photonics abroad.

b) European Partnership in Photonics, driven by Photonics21 (<https://www.photonics21.org/>), is the

Public-Private Partnership between the European Commission (EC) and the European Photonics industry. It defines most the calls from the EC for EU projects in the field.

c) The European Photonics Industry Consortium (EPIC, <https://epic-assoc.com/>): With over 800 company members, EPIC is the world leading industry association promoting industrial development in the field of photonics in Europe.



Dr. Pierre-Yves Fonjallaz
Swissphotonics & other organizations

09:30

Entrepreneurship Session with Panel

09:40



Prof. Christophe Moser,
Moderator

Prof. Moser is Full Professor of Microengineering. He was the co-founder and CEO of Ondax Inc (presently Coherent) for ten years prior to joining EPFL in 2010. Prof. Moser has a Ph.D. in Electrical Engineering from the California Institute of Technology, a minor in finance and a bachelor degree in Physics from EPFL. He is the co-inventor of over 50 patents. He is the founder or initiator of several EPFL startups such as Insolight, Readily3D, Comosyt Light Labs (acquired by Intel), Lumendo, EarlySight and Modendo.

Entrepreneurship Session with Panel



Emma Schepers
Verve Venture
09:45

Background in Theoretical Physics with a focus on Quantum. Now working at Verve Ventures, investing in exciting early-stage technology companies. I have a special interest in anything deeptech-related as well as models that redefine healthcare. Currently doing a deep-dive into the Future of Computing as well as discovering the Benelux startup ecosystem!

<https://www.verve.vc/>



Dr. Yves Emery, CEO
Lyncée Tech
09:55

Yves Emery, graduated in Physics at the Swiss Federal Institute of Technology of Lausanne (EPFL), holds a PhD in Physics from the Group of Applied Physics (GAP) of the University of Geneva, and a Business Administration Postgraduate certificate of the University of Lausanne (HEC-UNIL). He completed his postdoctoral studies at Texas A&M University. His main fields of research are optics and lasers applied to medical, environment sensing, metrology, and microscopy. He is the author or co-author of about 100 articles published in peer reviewed journals and of several patents. After five

years as Director of R&D and production in two start-ups active in the medical device field, he joined in 2002 the group of founders of Lyncée as CEO of Lyncée Tec SA, bringing his experience and network to valorize DHM® technology. His work has been honored by several industrial prizes, including the De Vigier Prize. Lyncée is now present in more than 40 countries with unique material sciences and bioimaging applications for both research and quality control.

<https://www.lynceetec.com/>

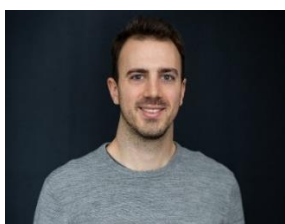


Dr. Veronica Savu, CEO
Morphotonix
10:05

Veronica Savu has a PhD in Physics from Yale University, is an INNOSUISSE business coach and the CEO and co-founder of the high-tech start-up Morphotonix, which is saving consumables and energy via an inkless printing patented process. She is passionate about bringing new technologies to the market for a more sustainable future.

Follow your passion - from academic research to building a business (Morphotonix)

<http://www.morphotonix.com/>



Dr. Laurent Coulot, CEO
Insolight
10:15

Laurent is co-founder and CEO of Insolight, a Swiss startup founded in 2015 developing a new agrivoltaic solution, providing at the same time an adjustable shading for crops on top of solar electricity production. After raising a Series A round last year (€4.7 Mio) for starting the modules' production, Laurent's main focus is now to establish strategic partnerships with solar developers and utility companies interested in agrivoltaics. Prior to founding Insolight, Laurent worked in biomedical (Biocartis), consumer electronics (Logitech) and automotive (Melexis)

industries that have given him exposure to multiple industries and business models. Laurent holds a Master of Science in Micro and Nanosystems from EPFL (2012).

Insolight

<https://insolight.ch/>

Panel

10:25

Coffee Break

10:40

FRIDAY NOVEMBER 18, 2022

HYBRID IN THE ROOM BM 5202

<https://epfl.zoom.us/j/69013324580>**Careers in Photonics and Beyond**

11:10



Prof. Kirsten Moselund,
EPFL/PSI Testimonial
11:10

Kirsten Moselund received the M.Sc. Degree in Engineering from the Technical University of Denmark (DTU) in 2003 and the Ph.D. Degree in Microelectronics from EPFL in 2008. In 2008, she joined IBM Research Europe - Zurich, where she took on a number of different positions before returning to academia. Since 2022 she is full professor of electrical and microengineering in the Faculty of STI at EPFL. She is also head of the new Laboratory of Nano and Quantum Technologies (LNQ) at Paul Scherrer Institut. LNQ focuses on the development of nanotechnology capability as well as different technologies for quantum computing.

<https://www.linkedin.com/in/kirsten-moselund-11693b2/>



Martin Balimann, Product devpt.
Manager at NIL Technology Testimonial
11:20

Martin Balimann graduated from EPFL with a MSc in Microengineering (focus in Applied Photonics) in 2014 and subsequently pursued a career in wafer level optics. First at Heptagon/ams in Switzerland and Singapore, where he contributed as technical product lead to the development and mass production of 3D sensors for major phone manufacturers. End of 2019 he joint NILT and in a team of initially 4 people, built up from scratch the NILT Switzerland office with a cleanroom hosting a nano-imprint prototyping line for DOEs and Metalenses. The engineering team grew to >20 employees as of now, with further plans for growth.

<https://www.linkedin.com/in/martin-balimann-86886378/>



Prof. Isabelle Chappuis Ex. Dir.
Swiss Center for Positive Futures,
University of Lausanne
11:30

In a nutshell, I am an economist by training, an executive education expert, an aspiring futurist, a board member and an author.

Passionate about the Future of Work, the Future of Skills and the many challenges and opportunities lying ahead - shifting demographic patterns, accelerating technological change, sustainability & environmental issues, « glocalisation », explosion of data, etc. - I like to look at the bright side of things and trust that FORESIGHT and EDUCATION can help shape a better world.

Work of the Future (video)

« 2020 has seen the world turned upside down. We suddenly realized that the future is not a linear projection of the present. The world of work is changing. EPFL has given you the most amazing tools and skills to shape your future and it is now time for you to create your own path in this - unscripted and accelerating - world. »

<https://www.linkedin.com/in/isabellechappuis/>



Leila Ojeh, Head
EPFL Alumni
11:40

Leila is the Director of Alumni Relations at EPFL managing a thriving global community of over 40'000 engineers and architects.

She joined the Higher Education sector after a 15+ years career in Marketing, Business Development and Innovation in Cosmetics (L'Oréal), Food / Ingredients (Firmenich) and Digital Printing (Dover).

Leila is an EPFL Alumna having graduated in Chemical engineering in 1994 and did an MBA at INSEAD in 2001.

<https://www.epflalumni.ch/>



Philippe Ory, Head of Center
EPFL Career Center
11:50

An EPFL engineer (EL 86) and holder of an Executive Master in Logistics Systems Management (IML 94), Philippe has held various management positions in several large IT companies, including Hewlett-Packard, IBM, Quantum and CNET Networks. He also participated in the creation of two companies.

<https://www.epfl.ch/about/recruiting/fr/centre-de-carriere/>

Final Career Panel

12:00

Animated by Philippe Ory

Concluding Remarks

12:30