Optics & Photonics in Sweden 2024

PhotonicSweden
The Swedish Technology Platform in Optics and Photonics

CHALMERS UNIVERSITY OF TECHNOLOGY

ANNE L'HUILLIER
Professor at Lund University

OPS-2024 Keynote Talk
Nobel laureate in physics 2023
"The route to attosecond light pulses"
Professor Anne L'Huillier is a Swedish/French researcher and leads an attosecond physics group which studies the movements of electrons in real time, which is used to understand the chemical reactions on the atomic level.

During the first part of her career, she worked at the Commissariat à l'Energie Atomique, in Saclay, France, first as a PhD student until 1986, then as a permanent researcher until 1995. She was postdoc at Chalmers Institute of Technology, Gothenburg. Sweden in 1986, and at the University of Southern California, Los Angeles, USA in 1988.

In 1995, she moved to Lund University, Sweden and became full professor in 1997. Her research, both theoretical and experimental, is centered around high-order harmonic generation in gases and its applications, in particular in attosecond science. She was awarded the Nobel Prize in Physics 2023 together with Pierre Agostini and Ferenc Krausz for "for experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter".

FRANCESCO POLETTI
Professor at University of Southampton

OPS-2024 Keynote Talk
"Hollow core fibres: when less is more"
Prof Francesco Poletti is one of the pioneers of hollow core fibre technology. He leads the Hollow Core Fibre (HCF) group at the ORC, University of Southampton, as well as the research activities on HCFs for optical data communications at Microsoft Azure Fiber. He has co-authored more than 500 peer-reviewed publications and over 20 patents in the area of fiber optics, amongst which seminal works introducing the nested antiresonant nodeless HCF concept (NANF) and using it to demonstrate lower loss than fundamentally possible with silica fibres in the near-infrared.

He held research fellowships from the Royal Society and the ERC. His pioneering work on HCFs led to the creation of the ORC startup Lumenisity, which in 2022 was acquired by Microsoft Azure, where he is currently Partner Researcher.

While there are still substantial challenges to be solved, it is hard to believe that hollow core fibres will not find an application in the optical communication networks of the future. In this talk we will review state-of-the-art, opportunities and challenges of the hollow core fibre technology.

PER NORDLUND
Lead Optical Designer at Victor Hasselblad AB

OPS-2024 Keynote Talk
Victor Hasselblad AB is a Swedish manufacturer of medium format cameras and photographic equipments based in Gothenburg, Sweden. The company originally became known for its classic analog medium-format cameras that used a waist-level viewfinder. In 1948, Victor Hasselblad travelled to New York and presented at a press conference the very first Hasselblad camera for civilian use. It was the world's first single lens mirror reflex camera in the medium format (6×6 cm) with interchangeable lenses, film magazines and viewfinders. In 1957, the Hasselblad 500C entered the market. This was a model of exceptional quality. It was also the camera that astronaut Wally Schirra, on his own initiative, introduced to NASA and took in the Mercury capsule Sigma 7 in 1962. NASA would later use a modified Hasselblad 500C on five space missions, before the Hasselblad company noticed.

Per Nordlund is Lead Optical Designer at Hasselblad, and will present the history of Hasselblad lenses, and development process today in modern optics.

ÖDGÄRD ANDERSSON
Chief Executive Officer at Zenseact

OPS-2024 Keynote Talk
"The quickest path to road safety is through high-performing AI. As cars become robots, we create software to make sure they behave".
Zenseact Ab (a Volvo Cars AB company) is an applied automotive AI company developing world-leading safety software for AD and ADAS. Our technology encompasses every aspect of automation, from sensor fusion, computer vision, and object detection to positioning and actuation, using a combination of rule-based code and deep learning algorithms. Our ultimate vision is to help make car accidents a thing of the past – to create a day when all roads are safe, and lives are no longer lost to preventable accidents.

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