



Symposium Brussels

Health CARLA:
Biotech and Medical Photonics

www.carlahub.eu

Dates.

29 April, 2026

Venue.

Vrije Universiteit Brussel & Online

VUB-Pleinlaan 2 - 1050 Brussel, Belgium

Rectorate Braem building 1st floor

Audience.

University students and early stage researchers.

Registration.



Register at
<https://carlahub.eu/events/360-carla-symposium-brussels-2026/>
before 27 April (in-person) & 29 April (online)

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Symposium

Brussels



Program

29 April 2026

13:30–14:00 **Registration and Refreshments**

14:00–14:10 **Opening Remarks**
Astghik Chalyan, VUB B-PHOT, Belgium

14:10–14:30 **From Photonics Innovation to Health Applications at B-PHOT**
Heidi Ottevaere, Professor at Vrije Universiteit Brussel, BE

14:30–15:00 **Photoporation: leveraging light and nanoparticles for gentle, high-throughput cell transfections**
Kevin Braeckmans, CEO & Co-Founder at Trince, Full Professor at Ghent University, BE

15:00–15:30 **The Power of Light in the Jungle of Medical Engineering: Finding Your Path**
Marta Skrastina, Leading Researcher in Biophotonics Laboratory, University of Latvia, LV

15:30–15:45 **Bridging Two Worlds**
Milvia Alata Tejedo, Postdoctoral researcher, LENS, KU Leuven, BE

15:45–16:00 **Refreshments and Networking break**

16:00–16:15 **Master Your Future in Photonics: Phortify**
Heidi Ottevaere, VUB Programme Director MSC in Photonics Engineering, BE

16:15–16:35 **From Light to Leverage – My Journey from Photonics to Supporting Innovation and Entrepreneurship**
Sara Van Overmeire, Advisor at VLAIO, BE

16:35–16:45 **Integrated Photonics in the Netherlands: The PhotonDelta Ecosystem, Healthcare Applications, and the Growing Job Market**
Suzanne van Grootel, Project Manager, PhotonJobs, The Netherlands

16:45–17:15 **Photonics for Health: From Integrated Platforms to Medical Applications**
Ahmad Khatoun, Scientist, TNO, PITC, NL

17:15–17:45 **VitalWear: Optical Fiber Sensing for non-invasive monitoring of human health, starting from early detection of Pressure Ulcers**
Konstantinos Voutyras, Co-founder & CTO, VitalWear B.V., NL

17:45–18:00 **Break**

18:00–18:20 **Bridging science and industry: PhotonHub in Health and AgroFood**
Wendy Meulebroeck, Professor in photonics, Vrije Universiteit Brussel – Brussels Photonics B-PHOT, BE

18:20–18:40 **How two electrical engineers accidentally started a photonics company**
Thomas Van den Dries, Postdoc researcher at VUB & Co-founder of Blazerz, BE

18:40–19:00 **Driving Innovation in Life Science with Optics**
Didier Beghuin, Business Line Officer Life Science at Lambda-X High Tech SRL, BE

19:00–19:20 **Compression of medical image data and advanced microscopy techniques**
Peter Schelkens, Vice Rector Innovation and Valorization at Vrije Universiteit Brussel, BE

19:20–19:30 **Initiatives: B-PHOT Student Chapter, BEAM, bePOM**

19:30–19:40 **Closing Remarks, Astghik Chalyan, VUB B-PHOT, BE**

19:40–21:00 **Job fair with Networking and Refreshments**



Heidi Ottevaere

Professor at Vrije Universiteit Brussel, BE
VUB Programme Director MSc in Photonics Engineering, BE

Talk 1: From Photonics Innovation to Health Applications at B-PHOT

Talk 2: Master Your Future in Photonics: Phortify

Bio

Heidi Ottevaere is a full professor at the Faculty of Engineering of the Vrije Universiteit Brussel (VUB), where she has been a leading figure in photonics since 2009. She currently chairs the Applied Physics and Photonics Department (TONA) and is responsible for the Instrumentation and Metrology platform at the Photonics Innovation Center. As head of the biophotonics research unit within Brussels Photonics (B-PHOT), she drives innovation at the intersection of light-based technologies, health, and environmental monitoring.

She graduated as an electrotechnical engineer with a specialization in photonics in 1997 and earned her PhD in Applied Sciences in 2003, both from VUB. Her research spans biophotonics, interferometry, holography, imaging, and the development of compact optical detection systems. She has coordinated numerous research and industrial projects, contributing to advances in optical sensing for medical diagnostics, water quality monitoring, and lab-on-chip technologies.

With more than 160 scientific journal publications, multiple patents, and supervision of numerous PhD researchers, she is recognized for her ability to translate fundamental photonics research into impactful real-world applications. Passionate about mentoring, she is also committed to inspiring the next generation of photonics engineers.

Prof. Dr Ir. Heidi Ottevaere is Project Coordinator of Phortify — Photonics Education Network for Next-Gen Innovation and Digital Skills Excellence for Industry and Society. PHORTIFY aims to create significant added value on top of the existing capabilities for digital skills training in photonics by establishing a well-integrated photonics education and training network on the European scale. PHORTIFY is made up of a critical mass of Europe's top higher education institutes, research organisations and industrial companies (from start-ups and SMEs to large-scale companies) in the world of photonics.

Vrije Universiteit Brussel

Brussels Photonics (B-PHOT) is a leading research group at the Vrije Universiteit Brussel (VUB) specializing in the science and engineering of light-based technologies. Its work spans the full photonics innovation chain—from fundamental optical physics to advanced prototyping and real-world applications. B-PHOT conducts research in areas such as optical fiber sensing, imaging, biophotonics, micro-optics, and photonic systems for industry and society.

The group combines academic excellence with strong industrial collaboration, supporting companies through design, characterization, and fabrication of photonic components and systems. B-PHOT also plays a key role in education and training, coordinating international photonics programs and fostering the next generation of photonics engineers.

With its state-of-the-art Photonics Innovation Center, B-PHOT is recognized as a major European hub for photonics research, innovation, and technology transfer.



Kevin Braeckmans

CEO & Co-Founder @Trince, Full Professor Ghent University, BE

Talk: Photoporation: leveraging light and nanoparticles for gentle, high-throughput cell transfections

Bio

Kevin Braeckmans studied physics before completing a PhD in pharmaceutical sciences at Ghent University, Belgium. Early in his career, he developed a strong interest in biophotonics technologies for drug delivery and diagnostics. In 2008, he joined the faculty at Ghent University as professor and founded the Bio-Photonics Research Group. He received an ERC Consolidator Grant in 2015 and became full professor in 2018.

His research focuses on understanding biological barriers to nanomedicines using advanced microscopy, and on combining light with nanoparticles to enable light-triggered drug delivery and related therapeutic applications. He is co-author of more than 250 scientific publications, a Clarivate Highly Cited Researcher (2022–2024), and co-inventor on 20 patent applications. In 2018, he founded the Ghent Light Microscopy (GLiM) Core Facility to support life sciences research through access to state-of-the-art imaging technologies.

In 2021, he co-founded Trince, a spin-off company bringing photoporation to the market as a next-generation intracellular delivery platform. Initially serving as part-time CSO, he became CEO in 2026, leading the company's growth and international expansion.

Trince

Trince is a Ghent University spin-off founded in December 2021, built on more than a decade of academic research into photoporation, which is an innovative method for delivering functional molecules into living cells using pulsed laser light and photothermal nanoparticles. The company addresses key bottlenecks in intracellular delivery for applications in drug discovery, high-throughput screening, cell therapy, and cell-based research. Its flagship technology, the LumiPore™ platform, enables gentle, efficient, and highly scalable delivery of a broad range of payloads into both adherent and suspension cells, while maintaining high cell viability and compatibility with automated workflows.

Trince's photoporation approach offers a safer and more effective alternative to traditional intracellular delivery methods such as electroporation, as it creates temporary pores in the cell membrane with minimal cellular damage. This allows improved genetic modification of immune cells and stem cells, positioning the technology as a promising tool in drug discovery, as well as cell and gene therapy, including cancer immunotherapy.

The company gained international recognition by winning the 2024 Nature Spinoff Prize, highlighting both the groundbreaking scientific foundations and its strong commercialization strategy. Its technology has already been adopted by major pharmaceutical companies, and recent multimillion-euro funding rounds support global expansion and further product development.



Marta Skrastina

Leading Researcher at Biophotonics Laboratory, University of Latvia, LV

Talk: The Power of Light in the Jungle of Medical Engineering: Finding Your Path

Bio

Marta Skrastina, PhD is a medical engineer specializing in photonics and its applications in healthcare. Her work focuses on how light-based technologies and image processing can be used to improve skin diagnostics and overall patient care.

She earned her PhD from the University of Latvia and holds a degree in Medical Engineering from Riga Technical University. Her international research experience includes positions at the University of Florence in Italy and Houston Methodist Hospital in the USA.

Her work in skin screening focuses on developing tools that help medical professionals differentiate between benign and malignant lesions, including melanoma and basal cell carcinoma. Beyond her research, Marta is an active member of the young scientist community, and she is passionate about how cutting-edge technologies can make healthcare smarter and more accessible.

Biophotonics Laboratory, University of Latvia

Main directions of scientific work in Biophotonics Laboratory include development of optical methods and devices for medical and technological applications:

- elaboration of optical methods and devices for diagnostics of skin pathologies;
- measurements of photon time-of-flight and tissue fluorescence lifetimes using picosecond lasers;
- studies of microorganism dynamics using the laser speckle method;
- determination and mapping of blood flow parameters by contact and remote photoplethysmography methods;
- development of biphotonic methods and devices for veterinary applications.



Milvia Alata Tejedo

Postdoctoral researcher at KU Leuven, BE

Talk: Bridging Two Worlds

Bio

Milvia Alata is a Peruvian postdoctoral researcher working on the development of multiphoton imaging techniques (second and third harmonic generation) at the Laboratory of Enteric Neuroscience (LENS) at KU Leuven. She is currently involved in the European FAIRCHARM project, which aims to provide two complementary imaging solutions—SWIM and SLIDE—designed to transform the ability to capture biological processes in real time, as well as the cellular and extracellular structures involved in disease onset and progression.

Milvia is an OPTICA Ambassador 2025, and she has been involved with student chapters since she was a postgraduate student in Mexico. Her outreach efforts focus on bringing science closer to Latin American communities, particularly through the development of educational initiatives for children and young students. She has also been actively engaged with organizations such as SPIE and IEEE, and has served as an IEEE Outreach Ambassador since 2022.

KU Leuven

Katholieke Universiteit Leuven is one of the oldest universities in Europe (founded in 1425) and is widely recognized as a leading institution for research and higher education, especially in fields like science, engineering, medicine, and technology.



Sara Van Overmeire

Advisor at VLAIO, BE

Talk: From Light to Leverage – My Journey from Photonics to Supporting Innovation and Entrepreneurship

Bio

Sara Van Overmeire is currently an Advisor at VLAIO (Flanders Innovation and Entrepreneurship), the government agency that implements the economic and innovation policy in Flanders, Belgium.

Sara graduated as an electrotechnical engineer with a major in photonics in 2005 and obtained her PhD in engineering in 2010, both from the Vrije Universiteit Brussel (VUB). Between 2010 and 2012, she worked at BEST Sorting (now TOMRA) on optical systems for food sorting. In 2012, she joined VLAIO, where she performs due diligence on research and innovation projects of companies and research organisations in photonics, microelectronics and advanced materials. Since 2023, Sara has also been working on healthcare innovation and innovation ecosystems, with a focus on the operational support and follow-up of Biovia, the Flemish healthtech spearhead cluster.

VLAIO

Flanders Innovation & Entrepreneurship – VLAIO for short – is the point of contact of the Flemish Government for all entrepreneurs in Flanders, Belgium. We stimulate and support innovation and entrepreneurship and contribute to a positive business climate that strengthens sustainable economic growth and job creation. We do this in collaboration with many partners in a strong network.



Suzanne van Grootel

Project Manager at PhotonJobs, The Netherlands

Talk: Integrated Photonics in the Netherlands: The PhotonDelta Ecosystem, Healthcare Applications, and the Growing Job Market

Bio

Suzanne van Grootel is a Project Manager at PhotonDelta, where she leads human capital initiatives to attract, engage, and retain talent for the Dutch photonic chip industry. With over four years of experience in integrated photonics and a background in marketing, she works on PhotonDelta National Growth Fund-funded projects that bridge industry needs and talent. She represents PhotonJobs, PhotonDelta's talent and career hub.

PhotonJobs

PhotonDelta is a non-profit organisation with the mission to support and accelerate the growth and maturity of the integrated photonics industry in the Netherlands and Europe. Through its ecosystem approach, PhotonDelta connects industry, academia, and government. PhotonJobs is PhotonDelta's talent and career hub, dedicated to linking talent with opportunities in the Dutch photonic chip industry.



Ahmad Khatoun

Scientist at TNO, PITC, NL

Talk: Photonics for Health: From Integrated Platforms to Medical Applications

Bio

Ahmad Khatoun is a biomedical engineer specializing in neurotechnology, wearable sensing, and integrated photonics. He obtained his Bachelor's degree in Biomedical Engineering in Lebanon and later completed a Master's degree in Biomedical Engineering at KU Leuven. He then pursued a PhD followed by a postdoctoral fellowship at the Department of Neuroscience at KU Leuven, where his research focused on the development of novel brain stimulation techniques.

In 2022, he joined TNO in Eindhoven, working on the development of wearable technologies for monitoring vital signs, contributing to advancements in continuous and non-invasive health monitoring systems. In June 2025, he joined the Photonic Integration Technology Center (PITC) at TNO.

TNO

The Netherlands Organisation for Applied Scientific Research (TNO) is a leading applied research organization in the Netherlands that focuses on translating scientific knowledge into practical technological innovations. Within TNO, the Holst Centre operates as an open-innovation R&D center where industry and academia collaborate on next-generation technologies.

Within this environment, the PITC group focuses on integrated photonics, developing and integrating photonic components and systems for applications such as healthcare, high-speed communication, sensing, and advanced optical technologies. The group works on photonic integration and advanced packaging to enable compact, high-performance photonic systems.



Konstantinos Voutyras

Co-founder & CTO, VitalWear B.V., NL

Talk: VitalWear: Optical Fiber Sensing for non-invasive monitoring of human health, starting from early detection of Pressure Ulcers

Bio

Konstantinos has studied Applied Physics and specialized in Optics and Photonics in Greece and the Netherlands. After having spent approximately 8 years in working for the photonics and semiconductors industry, he co-founded VitalWear in 2024 where he holds the CTO position. He is driven by a passion for applying photonics-based technologies to solve real-world challenges in healthcare.

VitalWear B.V.

VitalWear develops innovative sensor surfaces and clothing by embedding optical fiber sensing technology into textiles, enabling non-invasive medical monitoring. Its first focus is the prevention of pressure ulcers, which commonly affect immobilized patients or those with reduced skin sensitivity. Pressure ulcers impact approximately 2.5 million patients annually in the United States and contribute to around 60,000 deaths each year. Prevention and care are highly labor-intensive, requiring frequent patient repositioning—currently the standard practice—placing a significant burden on nursing staff. As a result, pressure ulcers drive substantial healthcare costs, exceeding \$26 billion annually in the U.S. alone. By providing continuous, real-time monitoring through smart textiles, VitalWear aims to improve patient outcomes, reduce caregiver workload, and lower healthcare costs.



Wendy Meulebroeck

Professor in photonics at Vrije Universiteit Brussel – Brussels Photonics B-PHOT, BE

Talk: Bridging science and industry: PhotonHub in Health and AgroFood

Bio

Wendy Meulebroeck (16-06-1975) is a professor in photonics at the Faculty of Engineering of the Vrije Universiteit Brussel (VUB). She graduated as an Electrotechnical Engineer with majors in Photonics in 1998 and received her PhD in Applied Sciences from VUB in January 2004. She coordinates and works on multiple photonics-related projects in three main research fields: (1) biophotonics for improved health care, (2) food safety and (3) archaeometry.

Vrije Universiteit Brussel – Brussels Photonics B-PHOT

The Brussel Photonics group is a self-supporting research and innovation institute of the Faculty of Engineering of Vrije Universiteit Brussel with 35 years of experience in photonics education, research and innovation.

B-PHOT is an international and gender-balanced community hosting 70 experts from 20 countries. Our continuous mission is to advance photonics, the key digital technology that uses the unique properties of light to innovate. As such, we contribute to the Sustainable Development Goals of the United Nations.

We are recognized by the Flemish Government as "Photonics Spearhead for Industrial Research and Innovation" because of our track record for transferring photonics expertise and innovation breakthroughs to companies.

B-PHOT is also uniquely involved as coordinator of the EC-funded pan-European initiatives PhotonHub Europe and PhotonHub PHACTORY that support both SMEs and researchers with photonics innovation.



Thomas Van den Dries

Postdoc researcher at VUB & Co-founder of Blazerz, BE

Talk: How two electrical engineers accidentally started a photonics company

Bio

Thomas Van den Dries received the M.Sc. degree in Electrical Engineering from the Vrije Universiteit Brussel (VUB), Brussels, Belgium in 2018 with highest honors. During his master's thesis, he developed a large interest in image sensors and CMOS chip design.

In 2023, he obtained the Ph.D. degree in micro- and nano-electronics at the department of Electronics and Informatics (ETRO.RDI) of the VUB with highest honors and felicitations from the jury. As a postdoctoral researcher, his research focuses on the development of sub-nanosecond time-gated image sensors (current-assisted photonic samplers) for use in real-time fluorescence lifetime guided imaging applications.

In 2024, he co-founded Blazerz, a Brussels-based startup with a mission to offer powerful pulsed illumination systems for time-domain imaging applications.

Blazerz

Blazerz is a Brussels-based startup with a mission to offer powerful pulsed illumination systems for time-domain imaging applications. The company was founded in 2024 and recently launched its Spotlight laser system, a pulsed 775 nm laser system with an average power of 2W, optimised for fluorescence lifetime imaging applications.



Didier Beghuin

Business Line Officer Life Science at Lambda-X High Tech SRL, BE

Talk: Driving Innovation in Life Science with Optics

Bio

Didier Beghuin (BLO) is heading the Life Science and Industry activities for Lambda-X Verhaert High-Tech. He has been involved in optical development since 2000. He developed metrology instrumentation for the ophthalmic industry, sighting systems for defense, and a series of custom microscopes for the biomedical sector. Being involved in space activities, he also led optical imaging or metrology developments for Earth observation or microgravity science. He is now mainly developing products for Biotechnologies, Diagnostics, Medtech, and food-related applications.

Lambda-X High Tech SRL

Lambda-X specializes in accelerating the transition from optical theory to commercial products. As a CDMO partner, we provide comprehensive support across the entire product lifecycle, including design, prototyping, manufacturing, and certification.

Our team leverages deep technical expertise and established methodologies to support innovation in three primary sectors: Space and Security, Life Sciences, and Industry

By integrating our specialized "toolbox" of knowledge into your workflow, we ensure your systems meet the highest standards of precision and reliability.



Peter Schelkens

Vice Rector Innovation and Valorization at Vrije Universiteit Brussel, BE

Talk: How two electrical engineers accidentally started a photonics company

Bio

Peter Schelkens earned his industrial engineering degree from IHAM Mechelen, followed by an MSc in electrotechnical engineering in applied physics, a postgraduate degree in biomedical engineering techniques, and a PhD in applied sciences from Vrije Universiteit Brussel (VUB).

At VUB, he held a Senior Research Fellowship (2019–2024) within the ETRO Department, served as Vice Dean of the Faculty of Engineering, and chaired the Ethical Committee on Dual Use, Military Use and Misuse. He currently serves as Vice Rector of Innovation and Valorization. He also sits on the boards of imec, the Flemish Institute for Biotechnology, Green Energy Park, and the Entertainment Association Flanders.

His research spans multidimensional signal processing and computational photonics, with applications in biomedical imaging, cultural heritage, and industrial inspection. He received a 2013 ERC Consolidator Grant ("INTERFERE") on digital holography, which led to the JPEG Pleno Holography standard and the spin-off Swave Photonics.

Active in standardization, he chairs the JPEG Plenoptic Coding and Quality Subgroup and convenes ISO/IEC JTC 1/SC 29/AG 4. He has published over 360 papers, co-edited two Wiley books, and holds memberships in IEEE, EURASIP, SPIE, and OPTICA. He has chaired major conferences, including ICIP 2011 and QoMEX.

Vrije Universiteit Brussel

The Vrije Universiteit Brussel (VUB) is a Dutch-speaking university located in Brussels, Belgium, founded in 1970 when it split from the Université Libre de Bruxelles established in 1834. Guided by the principle of vrij onderzoek (free inquiry), VUB upholds independent, critical thinking free from dogma or ideological constraint. The university hosts around 24,000 students across faculties including Engineering, Sciences, Medicine, Law, Economics, and Humanities, with a strong international profile and English-taught programs. Its main campuses, Etterbeek and Jette, combine cutting-edge research with academic education.