



The Dutch event in photonics

10 September 2019

Aula Delft University

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In cooperation with our partners



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a Theoretical and Experimental Initiative

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Contact person: Steven Goetstouwers (info@admesy.com)

Stand #1



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Contact person: Lisa Lunkenheimer (news@edmundoptics.eu)

Stand #3



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Contact person: Edwin Weusthof (e.weusthof@avantes.com)

Stand #2



Laser2000

www.laser2000.nl

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Contact person: Pieter Kramer (pkramer@laser2000.nl)

Stand #4

Time schedule

9:15 – 9:45	Registration
9:45 – 10:15	Opening PhotonicsNL Dutch Optics Centre
10:00 – 10:30	Key note Paul van Dorpe
10:30 – 11:30	Conference session: <i>Agriculture & Food</i>
11:30 – 12:00	Break Exhibition Poster presentations
12:00 – 13:00	Conference session: <i>Quantum Technologies</i>
13:00 – 14.15	Break Lunch opening by Bas Vollebregt (city of Delft) Exhibition Women in Photonics Lunch
14:15 – 15:30	Conference session: <i>Integrated & Embedded Photonics</i> Session opening: Ewit Roos
15:30 – 16:00	Break Exhibition Poster Presentation
16:00 – 17:00	Conference Session: <i>Healthcare / Medical</i>
17:00 – 18:00	Final Poster winner Snacks & drinks Networking

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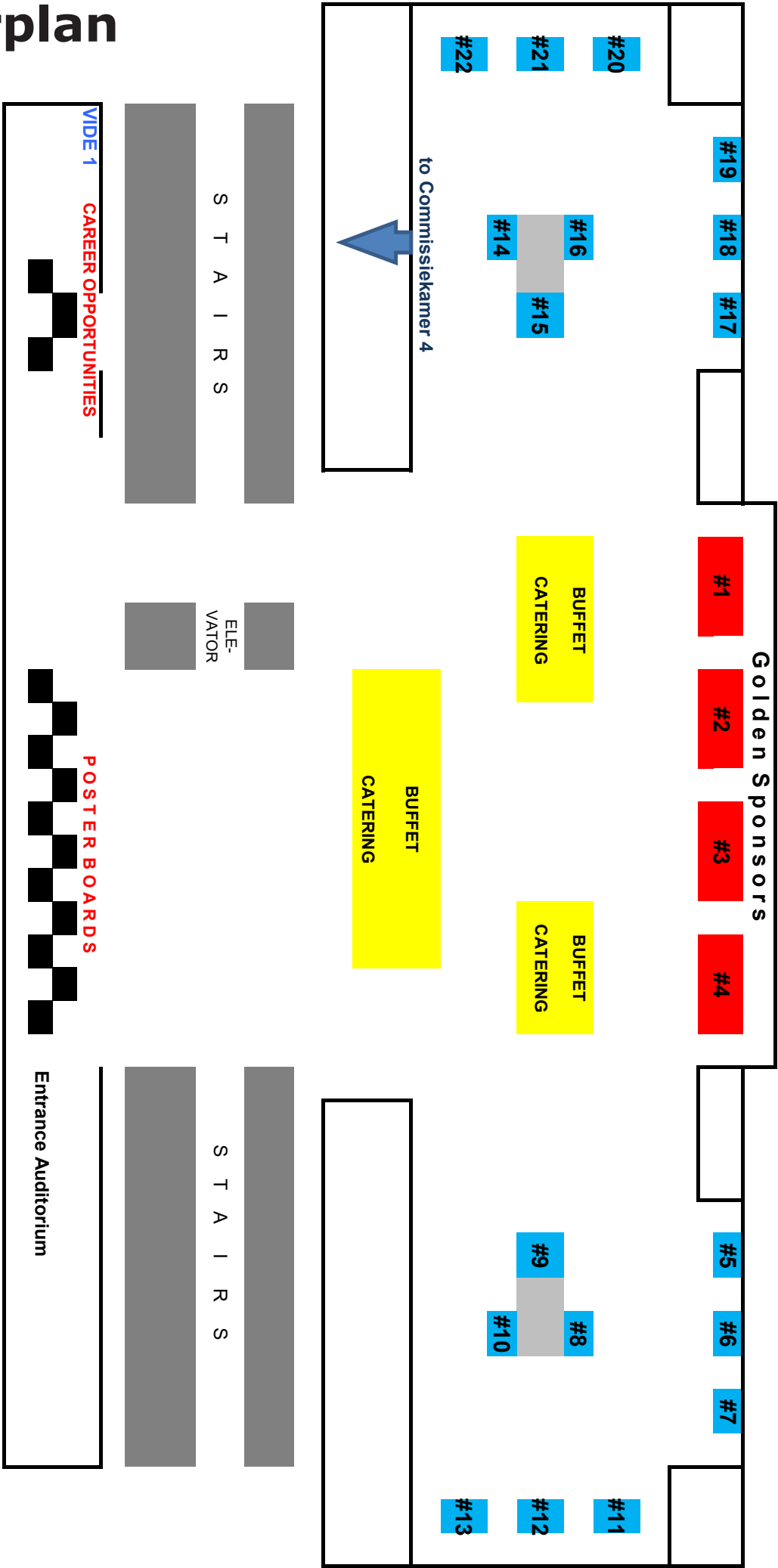
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processes

Floorplan



Overview exhibitors

Stand #	Company
1	Admesy
2	Avantes
3	Edmund Optics
4	Laser 2000
5	MKS Instruments - Ophir Brand
6	Ocean Insight
7	Molenaar Optics
8	LioniX International
9	PHIX Photonics Assembly
10	Somni Solutions
11	perClass
12	Diamond Kimberlit
13	PI Benelux
14	Te Lintelo Systems
15	Promis electro-optics
16	PhotonDelta
17	TMC Physics BV
18	Global Electronics
19	Dutch Optics Centre
20	Philips Innovation Services
21	NTS Group
22	PhotonicsNL

Meet the exhibitors



Diamond Kimberlit

www.diamond-kimberlit.nl

Stand #12

Contact person: Eric de Leeuw (e.deleeuw@diamond-kimberlit.nl)

The extensive Diamond fiber-optic product offering includes a full range of optical connectors, serving many markets e.g. Space, Medical, industrial.



Dutch Optics Centre

www.dutchopticscentre.com

Stand #19

Contact person: Erik Ham (erik.ham@tno.nl)

Dutch Optics Centres supports Dutch hightech industry by joint innovation of next generation optical instruments.



Global Electronics bv

www.global-electronics.nl

Stand #18

Contact person: Jeroen Schuiling (jeroen@global-electronics.nl)

Global Electronics bv provides Electronics Manufacturing Services with a highly trained headcount in the field of high-end PCB's. Global Electronics bv supplies to a various group of customers operating in photonics, defense, medical devices and high tech industry including startup-initiatives.



LioniX International

www.lionix-international.com

Stand #8

Contact person: Arne Leinse (info@lionix-int.com)

LioniX International is a leading global provider of customized microsystem solutions in scalable production volumes, providing customized solutions.



MKS Instruments - Ophir Brand

www.ophiropt.com/photonics

Stand #5

Contact person: Sven Kern (Sven.Kern@eu.ophiropt.com)

Ophir is a brand within the MKS Instruments Light & Motion division. The Ophir product portfolio consists of laser and LED measurement products including laser power and energy meters, beam profilers, high-performance IR thermal imaging lenses and optics for CO2 and high-power fiber laser applications.



Molenaar Optics VOF

www.molenaar-optics.nl

Stand #7

Contact person: Robert Molenaar (info@molenaar-optics.nl)

Molenaar Optics is the supplier of optical- and opto-mechanical components from top-brands such as OptoSigma, Sill Optics and Pyser Optics.



NTS Optel

www.optel.nl

Stand #21

Contact person: Jeroen Sprankenis (jeroen.sprankenis@nts-group.nl)

NTS Optel, part of NTS-Group specializes in providing solutions that involve custom optical solutions. With 30 years of knowledge in comprising complicated catadioptrics, laser & white light interferometry, lighting systems, spectroscopy, advanced imaging, related image and signal processing, we are able to accelerate your product development and production processes.



Ocean Insight

www.oceaninsight.com

Stand #6

Contact person: Evelien Huijs (evelien.huijs@oceaninsight.com)

Ocean Insight reflects our evolution from one of many suppliers of spectroscopy products to a singular provider of Applied Spectral Knowledge.

Our purpose is to help customers define pressing challenges and deliver answers that promote a safer, cleaner, healthier future.

As Ocean Insight, we bring application-specific expertise, services, and solutions to define and solve important challenges across multiple industries and disciplines.



perClassBV

www.perclass.com

Stand #11

Contact person: Pavel Paclik (pavel.paclik@perclass.com)

perClass® software enables anyone to build practical machine learning solutions.



Philips Innovation Services

www.innovationservices.philips.com

Stand #20

Contact person: Robin de Bruijn (robin.de.bruijn@philips.com)

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PHIX Photonics Assembly

www.phix.com

Stand #9

Contact person: Jeroen Duis (j.duis@phix.com)

Packaging foundry for photonic ICs, supplying PIC based components and modules in scalable production volumes.



PhotonDelta

www.photondelta.eu

Stand #16

Contact person: Karin Appeldoorn (karin@photondelta.eu)

PhotonDelta is a growing ecosystem in Europe, which covers a network of companies, knowledge institutes and governments that intensively co-operates for the last 25 years in the research, design, development and manufacturing of integrated photonics technologies and components. Our goal is to further establish and grow the integrated photonics ecosystem by 2026.



PhotonicsNL

www.photonicsnl.org

Stand #22

Contact person: Ron van der Kolk (ron.vanderkolk@photonicsnl.org)

PhotonicsNL is the national association and national technology platform (NTP) for Photonics in the Netherlands. The main objective is to support Dutch stakeholders in the field of photonics by actively stimulating cooperation between industry, universities and R&D institutes aiming for fundamental and applied research, technology development and education in photonics. PhotonicsNL is the main point of contact for international programs and other European Photonics platforms.



PI Benelux BV

www.physikinstrumente.nl

Stand #13

Contact person: Jeroen van de Velde (J.velde@pi.ws)

PI is a worldwide leading supplier of solutions in the fields of motion and positioning. PI stands for technical excellence and continuous advance in precision positioning – driven by the passion for technology and its use in customer applications.



Promis electro-optics

www.gotopeo.com

Stand #17

Contact person: Steven van de Cruijs (svdc@gotopeo.com)

PEO (electro optics | radiation | technology | security) is a technically specialized trading company focused on the detection of radiation, light, position and color. PEO contributes to the safety and development of our society by providing innovative and high-quality solutions in the medical, industrial and safety sector.



Somnisolutions

www.somnisolutions.com

Stand #10

Contact person: Remco Nieuwland (info@somnisolutions.com)

The Somni team has developed various Fiber Bragg Grating (FBG) based sensors tailored to the specific applications of our customer.



Te Lintelo Systems

www.tlsbv.nl

Stand #14

Contact person: Roland Kuijvenhoven (roland@tlsbv.nl)

Photonics is our passion, therefore for more than 34 years TLS represents prominent suppliers from all over the world with well-educated engineers, experience and knowledge.



TMC Physics BV

www.tmc-employeneurship.com

Stand #15

Contact person: Jan-Jaap Koning (Jan.jaap.koning@tmc.nl)

We are an international high-tech company, comprised of employees with more than 30 nationalities who provide services to customers all over the world. We excel in research, development and engineering.

Conference Program

Enabling Photonics

10.sep.19	Photonics Conference
Aula TU Delft	
	Enabling Photonics
09:15	Registration
Opening	Welcome
09:45 - 10:00	PhotonicsNL
	Dutch Optics Centre
	Key note
10.00 - 10.30	Pol van Dorpe
	IMEC
	Photonics: innovative technology to enable new applications
	Agriculture & Food
	Session chair: Gerrit Polder
10.30 - 10.50	Johannes Hohlbein
	Wageningen University & Research
	Applications of fluorescence super-resolution microscopy in food research
10.50 - 11.10	Qing Pan
	Radboud University
	Towards broadband mid-infrared trace gas sensing using a supercontinuum source
11.10 - 11.30	Marco Snickers
	Ocean Optics
	Opportunity and challenges of photonics in the food market
11.30 - 12.00 Break	Exhibition
	Poster Presentations
	Quantum Technologies
	Session chair: Bart Snijders
12.00 - 12.20	Said Rodriguez
	Amolf
	Noise-assisted sensing
12.20 - 12.40	Jelmer Renema
	Quix
	Quantum information processing with photonic chips
12.40 - 13.00	Anna Tchebotareva
	Qutech/TNO

13.00 - 14.15 Lunch	Exhibition
Lunch Opening	Bas Vollebregt (<i>City of Delft</i>)
Women in Photonics Lunch	Session chair: Silvania Pereira
	Sylvia Pont
	Delft University
	Ecological optics: light, material and appearance in natural environments
	Integrated & Embedded Photonics
	Session Opening
14.15 - 14.30	Ewit Roos
	PhotonDelta
	PhotonDelta the Gateway to Integrated Photonics
	Session chair: Erwin Bente
14.30 - 14.50	Imran Avci
	VU
	Photonics integrated circuits and their biomedical applications
14.50 - 15.10	Bart de Boer
	Delta Diagnostics
	Integrated Photonic Biosensors for Life Science and Diagnostics
15.10 - 15.30	Mike Wale
	Eindhoven University
	Indium Phosphide Integrated Photonics: From Research to Manufacturing
15.30 - 16.00 Break	Exhibition
	Poster Presentations
	Healthcare / Medical
	Session chair: Ruud Verdaasdonk
16.00 - 16.20	Theo Ruers
	Netherlands Cancer Institute (NKI)
	The use of optical imaging in cancer surgery
16.20 - 16.40	Richelle Hoveling
	Quest Medical Imaging
	Making the invisible visible with fluorescence image-guided surgery
16.40 - 17.00	Paul van Zuijlen
	Brandwondencentrum
	Photons & Burn surgery

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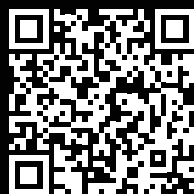


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Speakers of the conference

Keynote
10:00 – 10:30



Pol van Dorpe
IMEC

Title: Photonics: innovative technology to enable new applications

Abstract: Optics and photonics has revolutionized several fields, in data communication, microscopy and sensing. Integrated photonics leverages the advances in large scale integrated electronic circuits to achieve large densities of photonic functionality on a single chip. These advances pave the way for further improvements and, also in completely novel device concepts. In this talk I will review the advancements in the field and shed some light on the applications that are and will be enabled.

Biography: Pol Van Dorpe (PhD, KULeuven, 2006) was a postdoctoral fellow of the FWO-Flanders (2006-2012), based in Imec, and worked on plasmonics for biosensors and energy harvesting. Since 2012 he is a principal scientist in the life sciences department of Imec where he leads a team working on biophotonics and is a part-time associate professor at the KULeuven. His main research focus is enabling novel applications in the life sciences field using integrated photonic concepts. He published >140 papers in peer reviewed journals and obtained >5000 citations.

Session: Agriculture & Food

10:30 – 11:30

Session chair: Gerrit Polder



Johannes Hohlbein, Dr. rer. nat.
Wageningen University & Research

10:30 – 10:50

Title: Applications of fluorescence super-resolution microscopy in food research

Abstract: Whereas the biomedical field has been quickly adopting techniques that allow overcoming the diffraction barrier of optical fluorescence microscopy, applications in food-related research are just emerging. We will report on our progress in two areas: Live cell imaging in Lactococcus Lactis and super-resolution imaging of oil/water interfaces in food emulsions.

Biography: After obtaining a Ph.D. in Physics (2008, MLU Halle-Wittenberg), Johannes Hohlbein worked as a postdoc in Oxford before joining the Laboratory of Biophysics at Wageningen University & Research as an assistant professor in 2012. His lab uses of single-molecule spectroscopy and super-resolution microscopy to study DNA-protein interactions and food materials.





Qing Pan, PhD
Radboud University

10:50 – 11:10

Title: Towards broadband mid-infrared trace gas sensing using a supercontinuum source

Abstract: Recent advancement of mid-infrared supercontinuum (SC) light sources has open up new possibilities in laser-based trace gas sensing, supporting the detection of multiple gas species in parallel. In this contribution, I will present our most recent development of a fully integrated SC-based trace gas sensor featuring sub-ppm sensitivity. Field application involving simultaneous detection of up to seven species for quality control of stored fruits will be demonstrated. A novel upconversion-based detection method will also be briefly covered, highlighting the advantages of SC sources for future trace gas sensing research.

Biography: Qing Pan obtained his PhD in 2016 from the University of Twente, where he studied time-resolved molecular photodynamics using femtosecond supercontinuum pulses. Afterwards he joined the trace gas research group at Radboud University in Nijmegen. His research currently focuses on the development of mid-infrared supercontinuum-based trace gas sensors.



Marco Snickers
Ocean Optics

11:10 – 11:30

Title: Opportunities and challenges of photonics in the food and agriculture

Abstract: Maintaining food safety and integrity across vast and occasionally vulnerable systems is an ongoing challenge complicated by factors including pressure to increase food production to meet population growth; the threat posed by harmful microorganisms and pesticides; and the potentially dangerous consequences of food fraud. But there's good news: Issues regarding food safety and integrity have inspired a new generation of testing and screening methods with optical sensing technologies like portable spectroscopy at their core. As this presentation explores, a combination of spectroscopy tools and the software algorithms that analyze the spectral data those tools produce can help to provide faster, simpler to use and more easily deployed screening and analysis tools throughout the food chain.

Biography: Marco Snickers is a sales, marketing and business development professional with more than 20 years of experience in the photonics industry. He joined the applied spectral solutions provider Ocean Insights in 2005 and was commercial director for Ocean's sales and marketing team in Europe, headed the US based PIXELTEQ multispectral imaging spin-off as the VP of sales and marketing and now he collaborates in his new role with leading food producers on custom solutions for quality control, sorting and food safety screening.



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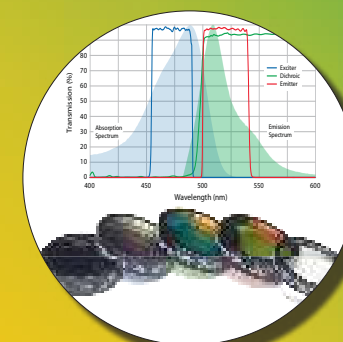
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Session: Quantum Technologies

12:00 – 13:00

Session chair: Bart Snijders



Said Rodriguez, PhD

Amolf

12:00 – 12:20

Title: Noise-assisted sensing

Abstract: The coupling of a sensor to its environment leads to dissipation which, according to the fluctuation-dissipation theorem, makes the output of the sensor noisy. This minimum amount of noise places a lower bound on the magnitude of the perturbation that a linear sensor can detect within a certain time. In this talk, I will discuss how noise can be turned into an advantage for sensing when using a nonlinear photonic resonator. I will show how the speed of such a sensor increases with the noise strength, while its sensitivity is optimum for a finite value of the noise strength.

Biography: Said Rodriguez leads the Interacting Photons group at the Center for Nanophotonics in AMOLF. Said got his PhD (Cum Laude) at TU/Eindhoven, having worked in the former AMOLF/Philips group J. Gómez Rivas. Next he worked at Center for Nanosciences and Nanotechnology (France) as a Marie-Curie fellow with J. Bloch and A. Amo. Said's research interests include nanophotonics, nonlinear & quantum optics, and stochastic systems.



Jelmer Renema, PhD

Quix

12:20 – 12:40

Title: Quantum information processing with photonic chips

Abstract: In this talk, Jelmer Renema will present their work on quantum information processing with photons, using the triplex silicon nitride waveguide platform. He will discuss some of the underlying technological challenges as well the commercial opportunities which they see arising in the next few years.

Biography: Dr. Jelmer Renema is a founder and the CTO of QuiX BV and a Veni researcher at the University of Twente. He obtained his PhD in the group of Dirk Bouwmeester and Martin van Exter in Leiden, and went on to join the group of Ian Walmsley as a Junior Research Fellow. challenges of photonics in the food and agriculture.



Anna Tchebotareva, PhD

Qutech / TNO

12:40 – 13:00

Title: Quantum Photonics: Compact, stable and scalable devices for quantum technology

Abstract: The past decade was marked by tremendous progress in the field of quantum science and technology. This involves generation, distribution, storage, and processing of quantum information. Photons are frequently used as qubits, as they can carry quantum information over long distances while having little interaction with the environment. Further advancements of photon-based quantum technologies require increasingly complex quantum-optical setups that are bulky in size, difficult to operate, and have poor stability and scalability. On-chip photonic devices could offer intrinsic stability, better scalability, and compactness. In this talk I will review some of today's efforts on research and development in the emerging field of quantum photonics.

Biography: Dr. Anna Tchebotareva received her PhD in Experimental Physics from Université de Montréal (2003). She worked as a postdoc in the groups of Albert Polman (AMOLF) and Michel Orrit (Leiden University). She received a NWO-VENI award in 2005. In 2011 Anna joined TNO-Optics department, where she currently works as a Senior Scientist.



Women in Photonics Lunch

13:00 – 14:15

Session chair: Silvania Pereira



Sylvia Pont

TU Delft

13:00 – 14:15 | Commissiekamer 4

Title: Ecological optics: light, material and appearance in natural environments

Abstract: How can we communicate the looks and feel of materials and shapes? Ecological (real-world) optics concerns the study of the optics of natural materials (f.i. concrete, oranges, or textiles), light in natural scenes (f.i. the classroom, the Mekelpark or a shop), and their interactions – resulting in certain “appearances”. This is concerned with complicated and a wide range of optical phenomena. We combine such optical studies in “the wild” with psychophysical experiments to understand how we perceive natural materials and light. Integrating optical and perceptual knowledge with design methods allows doing scientifically informed design of lighting plans, tools, products and material communication.





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Session: Integrated & Embedded Photonics

14:15 – 15:30

Session chair: Erwin Bente

Session opening



Ewit Roos

PhotonDelta

14:15 – 14:30

Title: PhotonDelta the Gateway to Integrated Photonics

Abstract: Ewit Roos, CEO of PhotonDelta, will speak about PhotonDelta and will provide you the latest insights from our ecosystem.

Biography: Since January 2019 Ewit Roos is CEO of PhotonDelta Foundation. His main responsibility is realization of the goals in the National Plan Integrated Photonics, stimulate new activities and maintain intensive contact with companies and relevant industry for expanding the ecosystem. He was already managing director of PhotonDelta since 2016. Before this position he was as of 2011 managing director of BrightMove. Aside from his CEO role, Roos advises both national and regional governments and public bodies on early stage funding topics and is involved in several funding companies and initiatives. Roos started his career in with Waste Management Inc. where he became responsible for corporate affairs and business development in The Netherlands. After 6 years of corporate work, he started a new IT recycling activity in the Waste Management group.

Session



Asst. Prof. Imran Avci

VU University Amsterdam

14:30 – 14:50

Title: Photonics integrated circuits and their biomedical applications

Abstract: A photonic integrated circuit (PIC) is a complex integrated circuit, which incorporates many optical devices to form a single photonic circuit. PIC is analogous to an electronic integrated circuit where you use photons instead of electrons as the information carriers. PIC devices are compact, energy-efficient, fast, and cost-effective. It is expected that this new technology will cause a revolution similar to that of electronic chips had forty years ago. For this reason, PIC is becoming increasingly common many different areas. Today, I will talk about their biomedical applications.

Biography: B. Imran Akca received her PhD at the University of Twente, in 2012. Between 2013-2015 she was a postdoc at Harvard Medical School. As of September 2017, she is an assistant professor at the VU University, Department of Physics and Astronomy. Her research combines integrated optics with different imaging and sensing modalities.



Bart de Boer
Delta Diagnostics

14:50 – 15:10

Title: Integrated Photonic Biosensors for Life Science and Diagnostics

Abstract: Delta diagnostics develops photonic biosensors for life-science and diagnostics applications. In this talk the company Delta Diagnostics will be introduced. The advantages of photonic integrated circuits for specific biosensing applications will be addressed, as well as the development plans and current status and performance of the technology.

Biography: Bart de Boer is founder and CTO of Delta Diagnostics, a spin-off of TNO that develops integrated photonic biosensors for life-science and diagnostics applications. Bart has been active in research on biosensors since 2003, initially as a scientist at Philips Research later as Systems Engineer and Project Manager at TNO.



Prof. Mike Wale
Eindhoven University

15:10 – 15:30

Title: Indium Phosphide Integrated Photonics: From Research to Manufacturing

Abstract: The Netherlands has long been in the forefront of research on InP integrated photonics worldwide and over the last decade it has played a leading role in making this technology accessible to researchers and users in a wide range of application fields. Major initiatives are presently underway to bring this technology to the next level of maturity through the development of manufacturing pilot lines. These initiatives will be pivotal in providing companies of all kinds with access to mature, high performance circuit technology. The talk will review current activities and show how the capabilities presently being built will offer major new opportunities for industry.

Biography: Wale is Professor of Photonic Integration – Industrial Aspects at Eindhoven University of Technology and Professor of Integrated Photonics at University College London. He has more than 35 years of industrial experience in integrated optics, most recently as Director Active Products Research at Oclaro (now Lumentum), based at Caswell, UK.



Session: Healthcare / Medical

16:00 – 17:00

Session chair: Ruud Verdaasdonk



Theo Ruers
The Netherlands Cancer Institute (NKI)

16:00 – 16:20

Title: The use of optical imaging in cancer surgery

Abstract: Surgery is the only cure for many cancer types. In up to 20% of patients, however, surgery is inadequate because tumor tissue is left behind. In these cases the surgeon's ability to recognize tumor tissue by visual or tactile feedback during surgery falls short. To improve the precision of cancer surgery, there is an unmet need for an intra-operative tool to identify the tissue at the resection margin. Optical imaging methods may provide such a tool, as optical properties of healthy tissue differ from tumor tissue. The role of optical technologies, such as DRS and hyperspectral imaging will be discussed.

Biography: Theo Ruers is head of the division Surgical Oncology at the Netherlands Cancer Institute NKI-AVL. His clinical expertise is focused on liver and colorectal surgery. He supervises multiple international studies based on the next generation of clinical research. In particular, focused on the development and introduction of new image-guided methods.



Richelle Hoveling, MSc
Quest Medical Imaging

16:20 – 16:40

Title: Making the invisible visible with fluorescence image-guided surgery

Abstract: An overview of the current and future applications of fluorescence image-guided surgery will be given based on case examples.

Biography: Richelle is research scientist at Quest Medical Imaging, part of the Quest Group and developer of the Quest Spectrum Platform. Richelle has been active in the field of medical and forensic biophysics since 2012 and is currently involved in several internal research projects and clinical trials.



Prof. dr. Paul van Zijlen
Red Cross Hospital Beverwijk

16:40 – 17:00

Title: Photons & Burn surgery

Abstract: Nowadays people even survive extensive burns and their wounds can be closed with skin transplantation techniques. However, the quality of the healing process is still poor. Innovations in photonics are important for improving burn operation and the outcome thereof. Examples of this are the laser-doppler imaging technique that ensures a better diagnosis of the depth of the wound and techniques like multiphoton microscopy and OCT that are being used to better visualize and understand the most crucial part for the quality of human skin, the collagen network. The importance of development in the field of photonics for burn care safety is discussed in the presentation.

Biography: Paul van Zijlen is plastic surgeon and medical director of the Burns Centre in Beverwijk. He is endowed professor in burn care and involved in research projects on photonics and burn care.

Thank you for your visit today.

**We look forward meeting you at the
DutchPhotonicsEvent of 2020!**

