



NETLAS NEWSLETTER 12-2022

NETLAS COORDINATOR Prof. Adrian Podoleanu

"As the 2022 year draws to a close, we can review it with some satisfaction. 2022 was a year full of events for the NETLAS community. Numerous secondments have taken place and numerous other training events, such as the two network meetings at the Technical University of Denmark in March and at the Technical University of Darmstadt in October, as well as rich attendance to the International Commission of Optics in Dresden conference in September. Several other conferences have been attended, as related in previous newsletters and in the current one here.

Secondments meant reciprocal visits with transfer of kits over the borders testing the resilience of travelling researchers to the unexpected. Before the scientific and technological value of secondments we should praise the collaboration spirit and the enrichment brought about to the NETLAS community by the cultural exchanges triggered by the visits.

More papers have been published and the NETLAS community will have an important presence at the Photonics West conference next year. Deliverables and Milestones are continuously reported on the portal.

We all move towards more NETLAS applications in the year to come, giving final shape to the promises we made at the start of NETLAS.

In conclusion, we all deserve a relaxing respite.

Hence I am wishing you Happy Holidays, a Prosperous New Year and I hope you will enjoy the peace of the Season".

Adrian Podoleanu

We look forward to meeting again in 2023 and welcoming all those reading our Newsletters to our events in the next two years.

Last newsletter of 2022



Danish National Optics Congress
November 30th-December 1st 2022
Aarhus, Denmark

This year the [Danish Optical Society](#) (DOPS), [Laserlab](#) and [Center for Anvendt Fotonik](#) (CAF) have joined forces to deliver a unique two-day experience in [Aarhus](#), Denmark for everyone working with optics and photonics. The following NETLAS PhD Students took part at this event: [Sacha Grelet](#) recruited by NKT Photonics Denmark, at present doing his secondment at University of Kent, [Esteban Andres Proano Grijalva](#) recruited by Technical University of Denmark (DTU), [Alejandro Martinez Jimenez](#) recruited by University of Kent, at present doing his secondment at KNT Photonics Denmark, and [Masoud Payandeh](#) recruited by Technical University of Denmark (DTU).

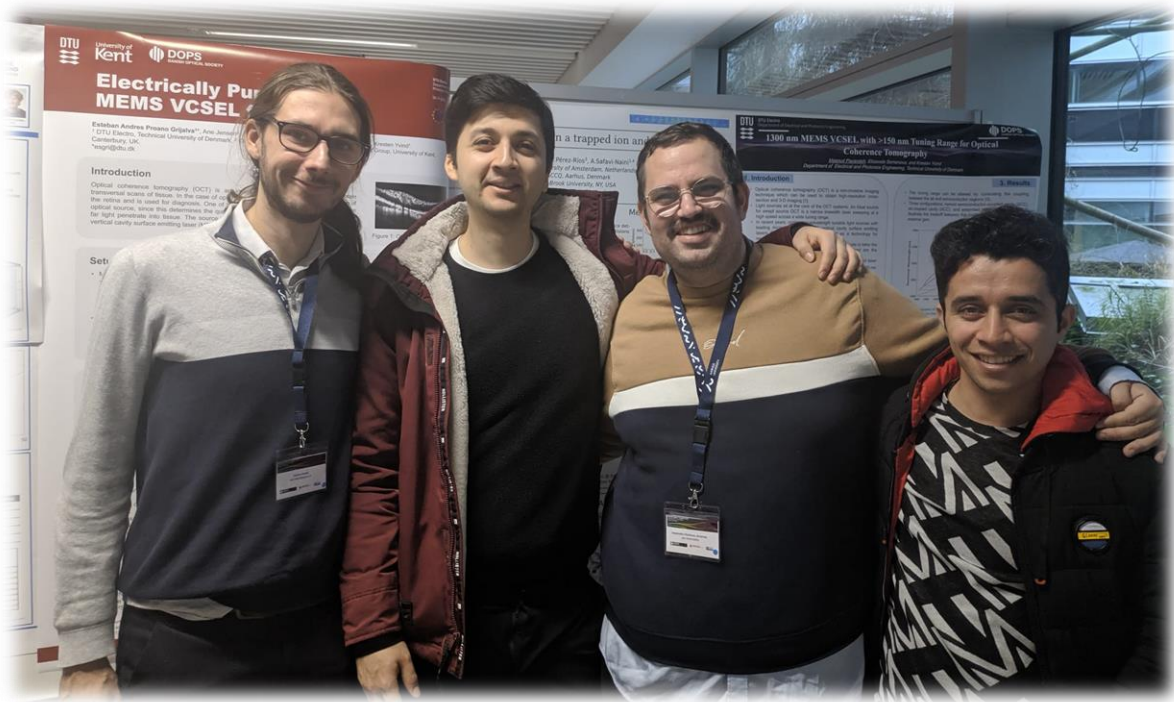


Photo by Alejandro Martinez Jimenez
From left to right: Sacha Grelet, Esteban Andres Proano Grijalva, Alejandro Martinez Jimenez and Masoud Payandeh



Masoud Payandeh (DTU):

“Thanks to #DOPS dops.dk, Laserlab.dk, FORCE Technology, Aarhus University, and many more for putting this fantastic two days event together. With almost 200 participants, many interesting talks, posters, and debates, it truly was inspiring. I had a poster presentation entitled “ 1300 nm MEMS VCSEL with >150 nm Tuning Range for Optical Coherence Tomography ” in this conference.

Abstract: In MEMS VCSEL light sources, the tuning range can be altered by controlling the coupling between the air and semiconductor regions. In this work, three configurations, named semiconductor-coupled cavity (SCC), air-coupled cavity (ACC), and extended cavity (EC) were used to illustrate the trade-off between the tuning range and the threshold material gain. We compared the simulation results of the three configurations and showed that the tuning range of the SCC, EC, and ACC structures are 116, 141, and 186 nm, respectively”.



@Photos by Masoud Payandeh (DTU)



[Alejandro Martinez Jimenez](#)

“The DOPS conference held this year in Aarhus was a great opportunity to come in contact with the thriving Danish photonics community. We could see the main trends going on in the community, with quantum and combs as the winners of this competition. Apart from the excellent talks by international speakers, we also had panel discussions with the funding agencies, discussions quite interesting to understand how the politics and science merge on the funding sector. All NETLAS PhD students presented posters during the conference which describe the big effort we are doing for the next generation of swept sources”.

Titles of our posters were:

Masoud Payandeh, *“1300 nm MEMS-VCSEL with >150 nm tuning range for Optical Coherence Tomography”*

Esteban Proano, *“Electrically pumped MEMS-VCSEL at 1060 nm”*

Sacha Grelet, *“MHz Optical Coherence Tomography using supercontinuum generation and time stretch”*

Alejandro Martínez Jiménez, *“Broadband mode-locked laser at 1030 nm for Optical Coherence Tomography”*.

[Esteban Andres Proano Grijalva](#)

“The National Optics Congress 2022 in Århus was good opportunity to get to know more about the companies in Denmark that work in the field of photonics. This is important to me as I intend to find a job in the industry. The experience of presenting my project was also valuable to help me improve my communication skills and in making better posters”.



[@Sacha Grelet](#): Photo from a Nvidia talk about the importance of photonics for AI training supercomputers (top left), the art museum where we had dinner (top right) and the Christmas lights in Aarhus



SECONDMENTS

Netlas PhD Student

[Rene Riha](#)

Recruited by: University of Kent, UK

[Applied Optics Group \(AOG\)](#)



Secondment: 11st October - 9th December 2022

[Superlum](#), Ireland

Duration: two months

PhD Project: Multiple bands swept source using a fast scanner and multiple emitters

“During my secondment at Superlum, I received training in organisation of research in an industrial company combining manufacturing with research. I experienced the process of testing emitters and optical component, failure root cause investigation and last but not least the process of electronics and driver assembly. These helped me to understand the background behind the optical amplifiers production, which I use for my own research in swept sources at Kent.

The colleagues at Superlum were very welcoming and always helpful and I had a chance to spend several leisure activities with them of which the Christmas party was a climax”.



Photos @ [PhD Student Rene Riha](#)



AOG Journal Club

9th December 2022, 4 pm UK time

On 9th December 2022 NETLAS PhD Student [Alejandro Martinez Jimenez](#) had the chance to organize and moderate the AOG journal club, where he invited **Dr Luis Alberto Rodriguez Morales** to present his research about ***“Nonlinear polarization rotation in all strict polarization control”***. A few print screens from his presentation will follow.

In this talk, Luis gave a summary of passive mode-locked laser using nonlinear polarization rotation (NPR). Luis is a postdoctoral researcher working in the Center for Research in Optics Ac (Centro de Investigaciones en Óptica A.C.), [CIO](#), Mexico, a leading institution in optics. He has been working mainly with Erbium as a gain medium and investigated experimentally and theoretically the complex dynamics of pulse formation. In the first part of his presentation, Luis reviewed the basics of NPR and clarify the main characteristics that influence this polarization property. In the second part, he showed several experimental setups in which strict polarization control is done by using elements such as bi-twisted fibres, variable waveplate retarders, etc. To finalize, he showed different cavities with stable trains of pulses as a result of strict polarization control.

Journal Club - NPR talk

13:40

Request control

Pop out

People

Chat

Reactions

More

Camera

Mic

Share

Leave

More actions

All-fiber laser pulsed cavities by NPR technique

Dr. Luis Alberto Rodríguez Morales
Postdoctoral position
Centro de investigaciones en óptica A. C.
beto7500@hotmail.com
lrodriguez@cio.mx

CIO
CENTRO DE INVESTIGACIONES
EN ÓPTICA, A.C.

CONACYT
Consejo Nacional de Ciencia y Tecnología

INAOE

09/12/22

Centro de investigaciones en óptica; beto7500@hotmail.com

Ricardo Flores
2022 Año de Magon
PRESENCIA DE LA REPRODUCCION MEXICANA

Luis Rodríguez Morales

AP

+3

Adrian Podolea...



Journal Club - NPR talk

29:50

Request control Pop out People Chat Reactions More Camera Mic Share Leave

Basic configuration of a ring cavity (NPR)

$$T = \frac{1}{2} + A_- A_+ \cos(2(\psi + r - \alpha))$$

$$r = NPR = -\frac{\gamma P A_c L}{3}$$

09/12/22

Luis Rodríguez Morales

Emission

Emission at 23° ellipticity and 15° azimuth a) spectra, b) autocorrelation

a) Train of pulses, b) Temporal profile

01:03:01

Request control Pop out People Chat Reactions More Camera Mic Share Leave

Journal Club - NPR talk

12:38

People Chat Reactions More Camera Mic Share Leave

Alejandro Martínez Jiménez Luis Rodríguez Morales Adrian Podoleanu

maniekluft (Guest) George Dobre Manuel Marques

Lucy Abbott Adrian Fernández Uceda Philipp Tatar-Mathes (TAU) (External)

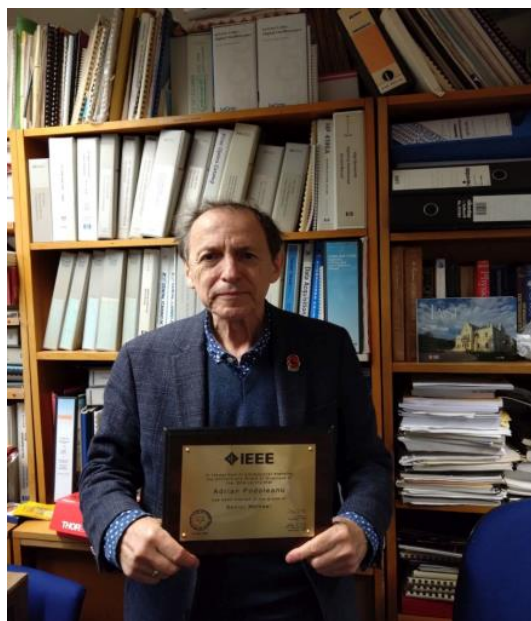
RD Rasmus DE (NIKT) (Guest)

SG Sacha Grellet (Guest)

A few print screens from Dr Luis Alberto Rodriguez Morales's presentation



**CONGRATULATIONS to NETLAS PI
Prof. Adrian Podoleanu for becoming a senior
member of IEEE**



On 17th November 2022 AOG received the great news about Prof. Adrian Podoleanu becoming a senior member of IEEE!





Dr Manuel Marques: same place, different role: adjusting to lecturer life!

Over the summer, I was fortunate enough to be offered a position as a lecturer in our School of Physics and Astronomy, in a teaching & research contract, which I started in September 2022. I have been at Kent for over 10 years; firstly as a visiting MSc student, then as a Ph.D. student under the supervision of Prof. Adrian Podoleanu, and several projects later as a post-doctoral researcher. Continuing my career at Kent as a lecturer means I will be able to **contribute towards training the next generations of students (including those from NETLAS, as part of the Kent supervisory team)**, supporting their development and providing research experiences – just as our other academics did for me.

I am quickly realising that the “carefree” days spent in the lab (getting instruments to work and gathering data) are rapidly disappearing in the rear-view mirror, and my new role (as far as the lab and research are concerned) is moving towards one of grasping the “Big Picture”. This means that one of my new goals will be to start applying for the ever-crucial funding that allows us to develop these important and innovative new research areas. Outside the lab, I am adjusting to the teaching life; planning workshops, lectures, lab sessions, and supporting our undergraduate students in the best way I can. Next term, I’ll be joining in with the “back to school” feeling as I take part in the University’s trainer teaching programme – I’m looking forward to it, and can’t wait to apply the insights I learn to improving the experience I can provide to my students.

Perhaps the biggest change (one that was sudden rather than gradual) was moving into my own office – after years of being based at our Photonics Centre with the rest of the post-doctoral researchers and students, it does feel somewhat strange to be in a different building altogether. It has very much underscored the leap I’m taking into the unknown with this momentous change in my career, but with the support of my colleagues and friends I am looking forward to taking on the challenge!



I wasted no time in decorating my new office door with some of the OCT images I have acquired in the past!

@ [Dr. Manuel Marques](#), lecturer in Physics and Astronomy, AOG



SUPERLUM

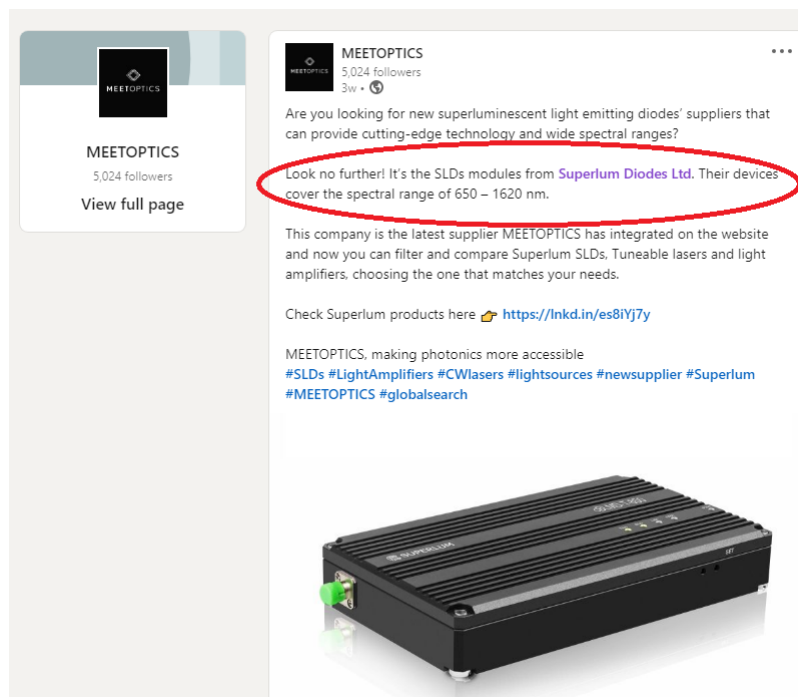
NETLAS Beneficiary

We are thrilled to share some very exciting news:

NETLAS Beneficiary SUPERLUM is now a member of the growing MEETOPTICS family!

MEETOPTICS is a platform with a customizable search engine designed especially for researchers and optical engineers, making it easy and fast to find, filter and compare optical components from suppliers around the world. SUPERLUM is extremely glad to join MEETOPTICS and play their part in making Photonics more accessible.

Check out SUPERLUM's products at MEETOPTICS now!



Print screen taken from MEETOPTICS's LinkedIn post

PUBLICATIONS

40 MHz swept-source optical coherence tomography at 1060 nm using a time-stretch and supercontinuum spectral broadening dynamics

S. Grelet, A. M. Jiménez, R. D. Engelholm, **P. B. Montague** and **A. Podoleanu,**

IEEE Photonics Journal, December 2022
[doi: 10.1109/JPHOT.2022.3226820](https://doi.org/10.1109/JPHOT.2022.3226820)

We present an akinetically swept light source based on a spectrally broadened mode-locked laser in all normal dispersion optical fiber followed by a linear dispersive time stretch and a regenerative amplification stage. Developed for ultrafast swept-source optical coherence tomography (SS-OCT), the source enables the demonstration of A-scan rate at 40 MHz with a 12 μm axial resolution. Through A-scans captured from a fast-moving object, we demonstrate that high-speed OCT is possible at 1 μm wavelength in an architecture which is not intrinsically bandwidth limited. The source therefore shows a promising route to achieving high axial resolution in high-speed swept-source OCT.

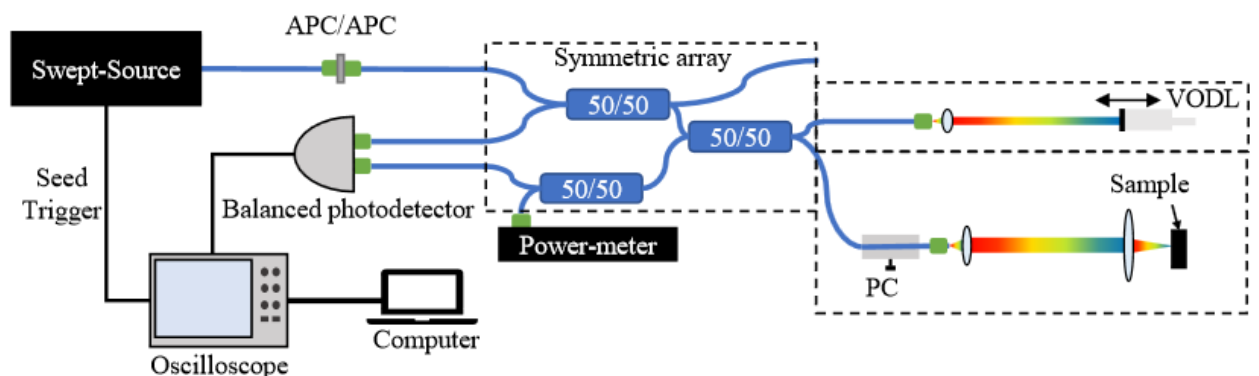


Fig. 4. Experimental set-up of the OCT system. APC, angled polished physical contact fiber connectors; PC, polarization controller; VODL, variable optical delay line

Machine Vision System Utilizing Black Silicon CMOS Camera for Through-Silicon Alignment

Aleksandr A. Vlasov; Alp E. Aydin; Topi Uusitalo; **Jukka Viheriälä; Mircea Guina**

[IEEE Transactions on Components, Packaging and Manufacturing Technology](#) (Early Access)

28 November 2022

DOI: [10.1109/TCPMT.2022.3225051](https://doi.org/10.1109/TCPMT.2022.3225051)

Current development trends concerning miniaturizing of electronics and photonics systems are aiming at assembly and 3D co-integration of a broad range of technologies including MEMS, microfluidics, wafer level optics, and silicon photonics. To this end, on-chip integration using silicon-photonics platform offers a wide range of possibilities addressing passive optics functionality, active optoelectronic devices, and compatibility with CMOS fabrication. On the other hand, the hybrid technology enabling volume manufacturing of such system-on-chip components it is still in an early development stage. Here, a new type of machine vision system enabling precision stacking and bonding processes of III-V components on silicon photonics chips is introduced. In particular, we focus on the ability to see through substrates with high resolution, which is crucial for the alignment of the markers used for assembly of integrated components on silicon wafer.

[Read More](#)

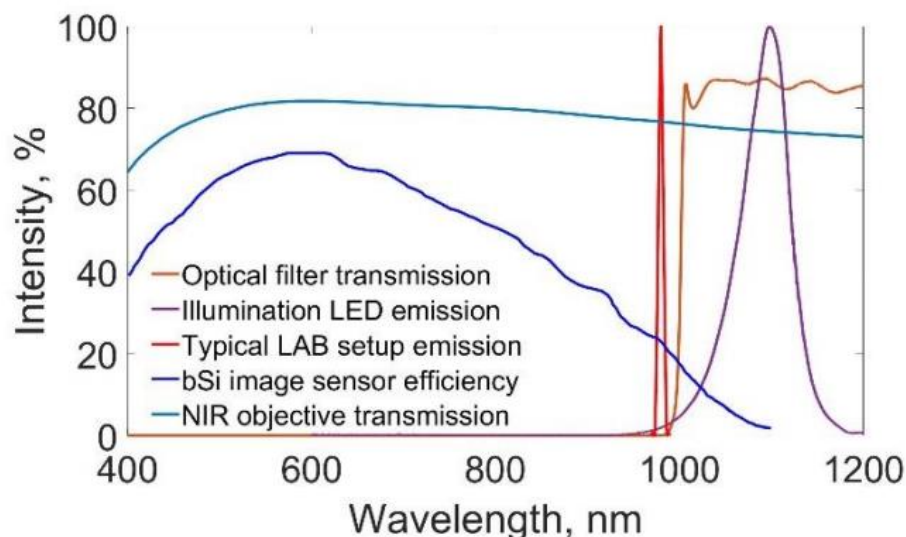


Fig. 3. Wavelength response diagrams: components of the IR microscope proposed design



Student Theses -Optical Coherence Tomography News

Advances in Optical Coherence Tomography for Retinal Oximetry and Angiography



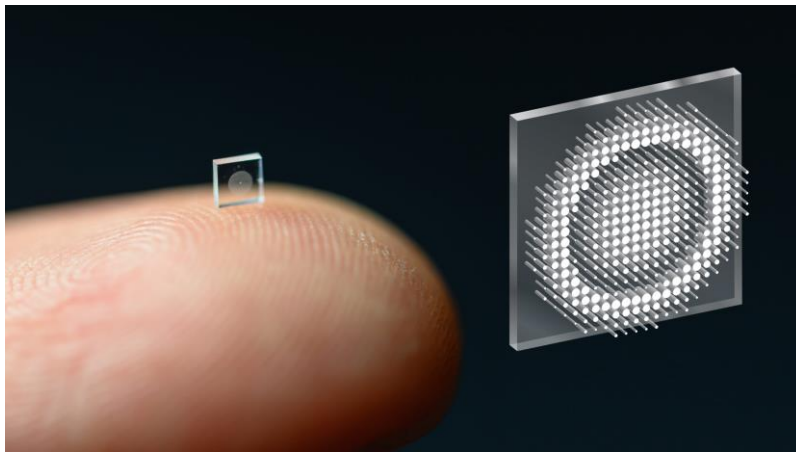
By Brian Soetikno
EVANSTON, ILLINOIS

Optical coherence tomography (OCT) is a high-resolution, non-contact, three-dimensional imaging technique, which has revolutionized the diagnosis and treatment of retinal diseases. Visible-light OCT (vis-OCT) extends OCT by enabling retinal oximetry – the measurement of oxygen saturation of hemoglobin from within individual retinal blood vessels. Three advances in the vis-OCT technique are presented: an improved vis-OCT oximetry method based on circumpapillary scan and graph-search segmentation; the calibration, simulation, and correction of spectroscopic sensitivity rolloff for vis-OCT oximetry; and the measurement of the inner retinal oxygen metabolism in the 50/10 oxygen-induced retinopathy model, an animal model for human retinopathy of prematurity. Optical coherence tomography angiography (OCTA) is another functional extension of OCT, which provides three-dimensional, non-invasive, capillary-level mapping of vascular perfusion. Two studies of OCTA in animal models are described: the monitoring of retinal vascular occlusions produced by imaging-guided laser photocoagulation; and the monitoring of laser-induced choroidal neovascularization, a model of wet age-related macular degeneration. Whether by providing insight into disease mechanisms or by directly imaging functional biomarkers in the human retina, vis-OCT oximetry and OCTA will be instrumental in preventing blindness for those suffering from vision-threatening disease.

[Read full dissertation](#)

Researchers shrink camera to the size of a salt grain

Researchers at [Princeton University](#) and the [University of Washington](#) have developed an ultracompact camera the size of a coarse grain of salt. The system relies on a technology called a metasurface, which is studded with 1.6 million cylindrical posts and can be produced much like a computer chip.



@Image courtesy of the researchers at Princeton University

Micro-sized cameras have great potential to spot problems in the human body and enable sensing for super-small robots, but past approaches captured fuzzy, distorted images with limited fields of view.

Now, researchers at Princeton University and the University of Washington have overcome these obstacles with an **ultracompact camera** the **size of a coarse grain of salt**. The new system can produce crisp, full-color images on par with a conventional compound camera lens 500,000 times larger in volume, the researchers reported in a [paper](#) published Nov. 29 in Nature Communications. Read More [here](#) and [here](#).

Optical-resolution photoacoustic microscopy with a needle-shaped beam

Rui Cao, Jingjing Zhao, Lei Li, Lin Du, Yide Zhang, Yilin Luo, Laiming Jiang, Samuel Davis, Qifa Zhou, Adam de la Zerda & Lihong V. Wang

Nature Photonics (1st December 2022)

<https://doi.org/10.1038/s41566-022-01112-w>

Optical-resolution photoacoustic microscopy can visualize wavelength-dependent optical absorption at the cellular level. However, this technique suffers from a limited depth of field due to the tight focus of the optical excitation beam, making it challenging to acquire high-resolution images of samples with uneven surfaces or high-quality volumetric images without z scanning. To overcome this limitation, we propose needle-shaped beam photoacoustic microscopy, which can extend the depth of field to around a 28-fold Rayleigh length via customized diffractive optical elements. These diffractive optical elements generate a needle-shaped beam with a well-maintained beam diameter, a uniform axial intensity distribution and negligible sidelobes. The advantage of using needle-shaped beam photoacoustic microscopy is demonstrated via both histology-like imaging of fresh slide-free organs using a 266 nm laser and in vivo mouse-brain vasculature imaging using a 532 nm laser.

[Read More](#)

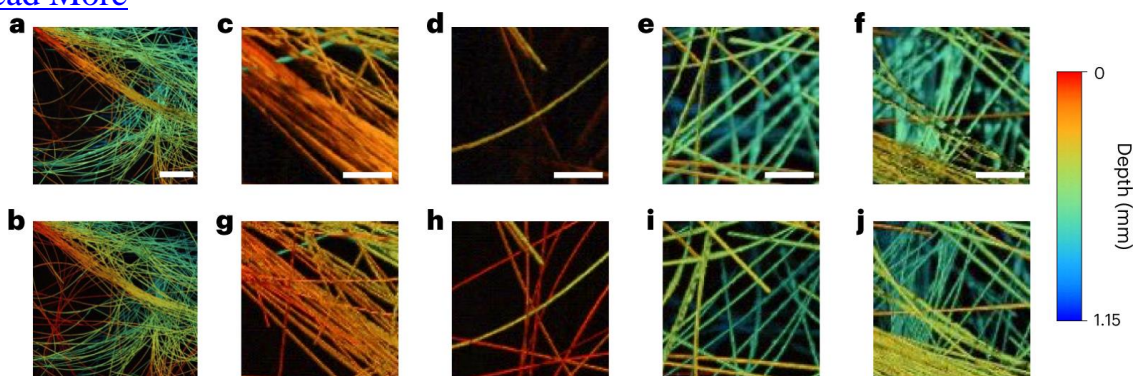


Fig. 4: Depth-resolved imaging of carbon fibres for VIS-GB-PAM and for VIS-NB-PAM with the $1,000 \times 2.3 \mu\text{m}$ NB: a,b, Images of $\sim 6 \mu\text{m}$ carbon fibres randomly distributed in an agarose block, obtained using VIS-GB-PAM (a) and VIS-NB-PAM (b). Scale bar, 1 mm. c–j, Comparison of close-up VIS-GB-PAM images (c–f) with close-up VIS-NB-PAM images (g–j), respectively, demonstrates the improved DOF. Scale bars, $250 \mu\text{m}$. The colour scale applies to all panels.



Summer SCHOOLS

Applications are open for the 2023 Siegman School

The Siegman International School is a week-long program that exposes students to in-depth learning of lasers and their applications from internationally recognized academic and industry leaders in the field.

The Siegman International School on Lasers covers all aspects of lasers and photonics. Each summer up to 100 graduate students are invited to participate in a week-long program to learn from pioneering laser researchers and experts from leading laser companies, highly regarded professors and fellow students. Attendees are asked to present their own research, which provides valuable experience in building exposure for their work all while building lifelong colleagues and friends.



Apply now at <http://ow.ly/Nako50LGkRR>



CONFERENCES



NETLAS Associated Partner OCTLIGHT

On Thursday, the 24th of November 2022, CEO [Thor Ansbæk](#) gave a talk and insight on OCTLIGHT's **VCSEL Swept Source laser module** at The Danish Society of Engineers ([IDA](#)), in Copenhagen, Denmark



The laser module is used for interferometric measurements, e.g. Optical Coherence Tomography and Frequency-Modulated Continuous-Wave (FMCW) [#LIDAR](#) for fast eye diagnostics, autonomous systems, and industrial quality control. The [#VCSEL](#) is being developed and manufactured at [DTU Nanolab](#) Foundry.



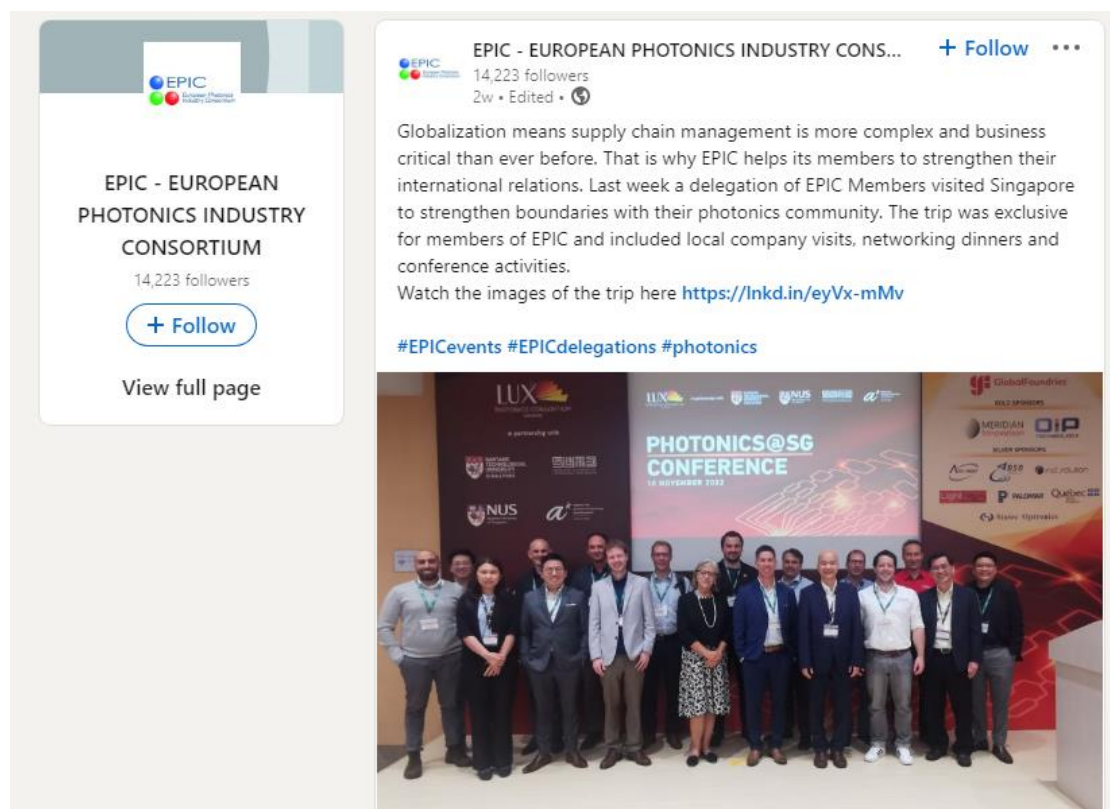
SUPERLUM

CONFERENCES

[NETLAS Beneficiary](#)

We are delighted to report that NETLAS Beneficiary SUPERLUM Diodes Ltd. took part of the [EPIC - EUROPEAN PHOTONICS INDUSTRY CONSORTIUM](#), [LUX Photonics Consortium](#) to help the industry at-large tackle challenges in accessing the global supply chain.

Globalization means supply chain management is more complex and business critical than ever before. That is why EPIC helps its members to strengthen their international relations. A delegation of EPIC Members visited Singapore to strengthen boundaries with their photonics community. The trip was exclusive for [members of EPIC](#) and included local company visits, networking dinners and conference activities. Watch the images of their trip here <https://lnkd.in/eyVx-mMv>



Print screen taken from [EPIC's LinkedIn post](#)



SUPERLUM

CONFERENCES

NETLAS Beneficiary

Superlum is pleased to be exhibiting at the industry leading SPIEPhotonicsWest, from **January 28 to February 2, 2023**. With how much the world has changed, it's been a while since Superlum last visited this San Francisco trade show.

Superlum is **very excited to meet you in person:**
make sure to drop by Superlum booth 8441 at BIOS and 4613 at PW.

You are also very welcome to arrange a meeting with Superlum in advance by sending a message to sales@superlum.ie



Print screen taken from [Superlum LinkedIn post](#)



CONFERENCES

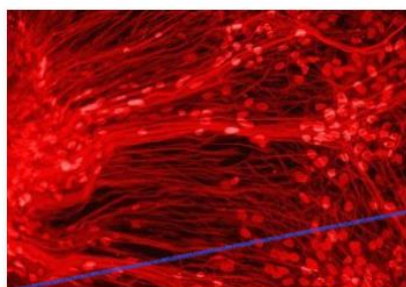
NETLAS Beneficiary NKT Photonics, Denmark EVENTS attended in December and to come in January



December 3, 2022 | Kharagpur, India

National Laser Symposium (NLS-31)

Dynotech Instruments Pvt Ltd and Advanced Photonics will show our supercontinuum lasers and industrial fiber lasers.



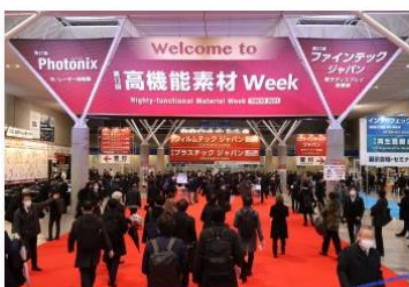
December 6, 2022 | Birmingham, UK

SPIE Photonex

Meet us in booth 104 to hear about lasers for bio-imaging & microscopy, hyperspectral imaging, and quantum technologies.

Kharagpur
India

Birmingham
UK



December 7, 2022 |

Photonix

Come see our supercontinuum white light lasers and industrial fiber lasers. Meet us in booth 54-40.



December 7, 2022 | Mumbai, India

Laser World of Photonics India

Dynotech Instruments Pvt Ltd and Advanced Photonics will show our supercontinuum lasers and industrial fiber lasers.

Photonix
Japan

Mumbai
India



December 11, 2022 | Barcelona, Spain

Optica Laser Congress & Exhibition

Meet us in booth 1608 for a talk about supercontinuum white light lasers, narrow linewidth



January 28, 2023 |

Photonics West 2023

Annual event featuring the best in photonics research and technology.

Barcelona
Spain

Photonics West 2023
USA

@Upcoming events from [NKT Photonics Webpage](#)



OPTICS & PHOTONICS NEWS



[Optics & Photonics News Magazine](#)
[December 2022 Issue](#)

- [Optics in 2022](#)
 - [2022 Photo Contest Winners](#)
-

[Browse all Issues](#)

OPTICS & PHOTONICS NEWS

Image of the Week



Diffraction on the hair, photographed in natural light by moving the camera, with a 0.4-second exposure time.

Invisible to the naked eye, it was visualized by movement.

Image Credit: Daniela Rapavá, Rimavská Sobota, Slovakia



OPTICS & PHOTONICS NEWS

PRESIDENT'S MESSAGE

—*Satoshi Kawata, Optica President*

An Eventful Year: Leading Optica for a year was great experience.



As I write this—the last of my monthly messages as Optica President—I am in Rochester, NY, USA, where Optica's annual Frontiers in Optics + Laser Science (FiO+LS) Conference is being held, along with the society's annual business meeting and Board meeting. Rochester is, of course, a mecca for optics and photonics.

This is only the second time I have travelled here from the other side of the globe; the first time, two decades ago, was to attend the International Conference on Near-Field Optics.

Although not many other participants from Asia came to this year's FiO+LS meeting, I enjoyed the chance to meet many Optica members, including students, volunteers and staff, in person. I was particularly fortunate in the opportunity to talk in person with seven former OSA presidents: Anthony Johnson, Michael Morris, Susan Houde-Walter, Eric Van Stryland, Joseph Eberly, Donna Strickland and Stephen Fantone. Meetings, receptions and banquets afforded other opportunities to reconnect with friends—and to make new ones. [Read More](#)



Biomedical Optics Express

welcomes submissions to a feature issue: "30 Years of Optical Coherence Tomography."

Since its first appearance more than 30 years ago, Optical Coherence Tomography (OCT) has undergone multiple generations of rapid technology development and has become a standard-of-care diagnostic technology in several medical specialties. Many of these developments were first described in Optica (formerly OSA) journals and meetings.

30 Years of Optical Coherence Tomography

Submission Opens: 28 November 2022

Submission Deadline: 28 February 2023

Biomedical Optics Express welcomes submissions to a feature issue, "30 Years of Optical Coherence Tomography." Since its first appearance more than 30 years ago, Optical Coherence Tomography (OCT) has undergone multiple generations of rapid technology development and has become a standard-of-care diagnostic technology in several medical specialties. Many of these developments were first described in Optica (formerly OSA) journals and meetings.

Submissions of contributed original papers describing novel technology development and applications are particularly encouraged. The issue will also include invited review papers summarizing progress in particular sub-fields of technology and applications of OCT and invited research papers on hot topics in current OCT research. Topics of interest include, but are not limited to, the following:

- New light sources and other OCT system component technologies
- New OCT system designs and implementations
- New contrasting schemes including exogenous, endogenous, as well as pure software-based methods
- Progress in OCT image processing, visualization and interpretation
- Artificial Intelligence applied to OCT
- Data management of high speed 3-and 4-dimensional OCT applications



- Functional imaging extensions of OCT, including OCT angiography, OCT elastography, or dynamic OCT
- Pre-clinical studies and applications of OCT in biological applications and animal models or organoids
- Technologies enabling clinical translation of OCT in ophthalmology, cardiology, and other medical disciplines
- Multimodal combination of OCT and complementary imaging and sensing methods
- Existing or proposed standards for conducting and reporting OCT-related research
- Analysis and meta-analyses of the research, clinical, and economic impact of OCT technology

All submissions need to present original, previously unpublished work and will be subject to the normal standards and peer review processes of the journal. The standard *Biomedical Optics Express* [Article Processing Charges](#) will apply to all published articles.

Please prepare manuscripts according to the [author instructions](#) for submission to *Biomedical Optics Express* and submit through the [Prism electronic submission system](#), specifying from the drop-down menu that the manuscript is for the feature issue on 30 Years of OCT.

Feature Editors

Rainer A. Leitgeb, *Medical University of Vienna, Austria* (Lead Editor)

Brett Bouma, *Wellman Center of Medicine, Harvard Medical School, USA*

Kate Grieve, *Quinze Vingts Hospital and Vision Institute, France*

Christine Hendon, *Columbia University, USA*

Adrian Podoleanu, *University of Kent at Canterbury, UK*

Maciej Wojtkowski, *Polish Academy of Sciences, Poland*

Yoshiaki Yasuno, *University of Tsukuba, Japan*

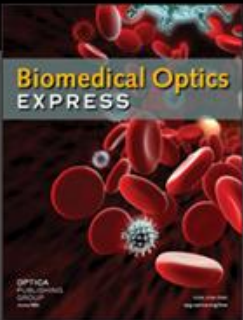
OPTICA
PUBLISHING GROUP

Formerly
OSA

Search All P...

JOURNALS CONFERENCES OTHER

[JOURNAL HOME](#)
[ABOUT](#)
[ISSUES IN PROGRESS](#)
[CURRENT ISSUE](#)
[ALL ISSUES](#)
[FEATURE ISSUES](#)



Biomedical Optics Express

Ruikang (Ricky) Wang, Editor-in-Chief
[Editorial Board >](#)

FEATURE ISSUE OF *BIOMEDICAL OPTICS EXPRESS*

30 Years of Optical Coherence Tomography

Submission Opens: 28 November 2022
Submission Deadline: 28 February 2023

Biomedical Optics Express welcomes submissions to a feature issue, "30 Years of Optical Coherence Tomography." Since its first appearance more than 30 years ago, Optical Coherence Tomography (OCT) has undergone multiple generations of rapid technology development and has become a standard-of-care diagnostic technology in several medical specialties. Many of these developments were first described in *Optica* (formerly OSA) journals and meetings.

Submissions of contributed original papers describing novel technology development and applications are particularly encouraged. The issue will also include invited review papers summarizing progress in particular sub-fields of technology and applications of OCT



Webinars

We recommend our NETLAS PhD students to attend these upcoming webinars (part of the free Thorlabs webinar series). Thorlabs' Digital Webinars are covering a variety of topics, each with a dedicated live Q&A session, and have a common goal of providing educational, engaging, and valuable content.



[Thorlabs Previously Recorded Webinars](#)

Thorlabs' Digital Webinar series began in mid-2020. Each webinar and Q&A session is recorded and added to the archive on [Thorlab's web page](#).



[Up Next!](#)

[Photonic Integration for Atom and Quantum Applications](#)

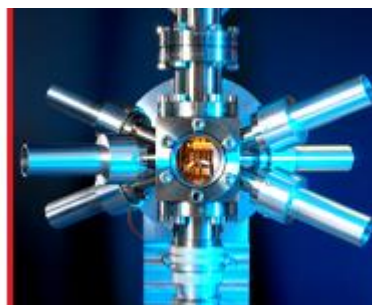
Photonic integration of laboratory-scale lasers and optics is critical to advancing atom and quantum sciences and applications. In this webinar, Professor Dan Blumenthal of UC Santa Barbara reviews the successful silicon nitride photonic integration platform and the latest achievements towards integrating atom and quantum components and systems.



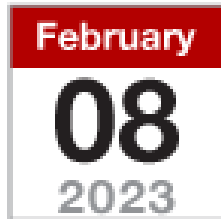
Presented by Dan Blumenthal, Professor, UC Santa Barbara

Dr. Blumenthal is a Distinguished Professor in the Department of Electrical and Computer Engineering at UCSB, Director of the Terabit Optical Ethernet Center, and head of the Optical Communications and Photonics Integration group. He is the Co-Founder of Packet Photonics Inc. and Calient Networks.

**Click to
Register!**



An Atomic Clock Is One Application of Photonic Integration



[Coming Soon!](#)

Galvanometers 101: Selection Process

oin Thorlabs' product line expert, Carol Borsa, as she highlights galvanometer systems and how to choose the best configuration for your application. Carol will provide a breakdown of the system's main parts, an explanation of the different levels of integration that are available, and a review of the considerations that should be taken into account during product selection.



Presented by Carol Borsa, Inside Account Manager, Thorlabs

Carol Borsa has been with Thorlabs since a merge that occurred in 2020 and is currently working as the subject matter expert for the galvanometer product line. Within this role, Carol works to help customers choose catalog galvanometers that work for their application. She additionally works with customizations and alternative configurations for projects that have specific requirements within both R&D and OEM.

[**Click to Register!**](#)



Thorlabs Offers a Variety of [1-Axis](#), [2-Axis](#), and [3-Axis](#) Galvanometers



THORLABS

Holographic Grating Spectrometer

Features

- 810 - 965 nm Wavelength Range
- Incorporates a Volume Phase Holographic Transmission Grating
- Spot-Size-Limited Design (Diffraction-Limited with Single Mode Fiber Input)
- **High-Speed USB 3.0 Connection Allows up to 130,000 Scans per Second**
- Trigger Input for External Synchronization (TTL)
- 2048 Pixel Line Scan Sensor
- Wavelength Calibrated and Shipped with Calibration Report
- Amplitude Corrected: Relative Correction Based on Pixel Intensity
- Includes Single Mode Fiber Patch Cable

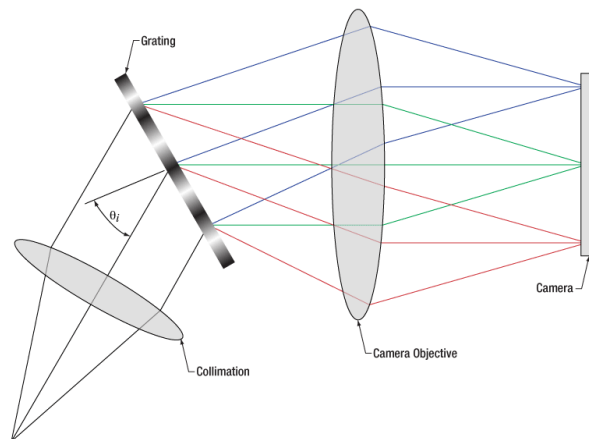


Diagram Showing the Operation of the HG10 Spectrometer

[The HG10 Holographic Grating Spectrometer](#) is a fiber-based, high-speed spectrometer that **provides sub-nanometer resolution**. Each spectrometer is wavelength calibrated and amplitude corrected relative to the pixel intensity with its included patch cable, and a calibration report is included on the USB stick shipped with each unit. Note that if a different patch cable is used with the spectrometer, the system (spectrometer and new patch cable) should be recalibrated.



**SANTEC is running SLM winter
Promotion: LCOS-SLM**

**(Liquid crystal on silicon based spatial light
modulator)**

Santec is offering multiple units in basic model SLM-200, **UV hardened model SLM-250 and high power model SLM-300** for sale.

More info at

<https://santec.com/en/products/components/slm/>





[Optica Chapter AOG, Kent University](#) organized a Christmas Event on 9th December 2022

At slightly last minute, it was decided that the [Optica Chapter](#) should host a Christmas event. All members joined in with the idea and planning enthusiastically; and the plan was made to host the event 'XMAS Improv Slam'.

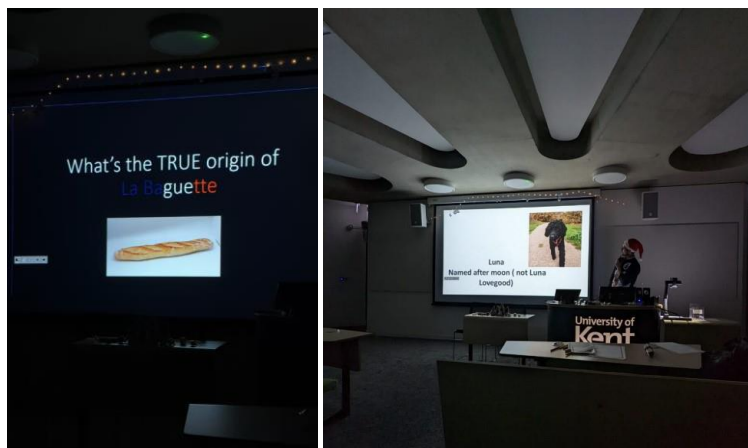
The concept of the event was as follows: whomever attended should pick a topic of their choice to prepare a short presentation either on paper or computer. There was a 15 minute limit on creating the presentation. All attendees then listed the keyword for their presentation, and one by one would go up and use a virtual dice throw to decide which presentation they would give (but not your own!).

The presentations prepared at this event included titles of:

- Luna
- Frustration
- Eggs
- Conspiracy
- French Stuff
- Tooth
- Help!

As can be seen, the titles given were very vague and left the audience in great anticipation as to what was about to be delivered, as well as the unique and creative interpretations of the participants when delivering a talk on a completely unknown topic!

The lecture theatre where the event was hosted, was lightly decorated by Optica members prior, and music was playing throughout. The evening was one of a kind, and created much laughter and fun.



Article and photos by [Lucy Abbot](#), AOG PhD Student

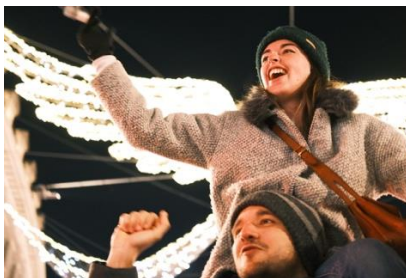


NETLAS fellows in London

London is a great city to visit during the Christmas season. Various stunning light decorations are present all around the city, creating a lovely Christmas feeling. On 10th December 2022 together with my colleagues Philipp, Sacha and Julien, I roamed around during the day enjoying the cold and sunny weather. In the evening, we had the pleasure to watch the happiness of the Moroccans and French after the quarter final where they qualified for the semi-final. Quite an intense moment for the 3 frenchies in London. In short, London is a lively city with lots to do and see, especially before Christmas.



@Photos Marie Klufts



@Photo Julien Camard



@Photo Marie Klufts



@Photo Julien Camard

Article by [NETLAS PhD Student Marie Klufts](#)



AOG Christmas celebration 2022

AOG is keeping the tradition of gathering every year to celebrate Christmas. To host the celebration, this year AOG decided to find a different location than used in the past but familiar to everyone: [Ye Olde Beverlie Pub](#). For the 1st time ever within AOG, all PhD Students prepared a Christmas carol sung in Romanian language called [“Trei Pastori”](#) (three shepherds) under the supervision and support of [NETLAS PhD Student Phillip Tatar-Mathes](#), a special surprise especially for the Romanian members of the group which was the highlight of the evening. There was another event prepared by the AOG: Secret Santa. Like every year, the celebration ended with the traditional speech of the head of the group, Prof. Adrian Podoleanu, who highlighted the achievements of the year 2022. A selection of photos will follow.





@Photos by AOG members & their friends

Merry Christmas from AOG!



NETWORK EVENTS

We invite all partners to communicate events and ideas to place in our newsletter

Please send any piece of news, on NETLAS activities or anything else happening that may be of interest to the NETLAS community, to Ramona Cernat: R.Cernat@kent.ac.uk and to Adrian Podoleanu: ap11@kent.ac.uk