

The next Laser-Induced Breakdown Spectroscopy France Days, organized by the SFO LIBS Club will take place in Marseille on June 1 and 2, 2022 (France), on the Luminy campus of Aix-Marseille University. The LIBS 2022 Days will be a unique opportunity to bring together the entire chain of specialists in this increasingly developed instrumentation, from academics to manufacturers and instrumentation vendors.

<https://www.sfoptique.org/agenda>

## THE SECOND WAVINAIRE: METASURFACES – JUNE 2022

After the great success of the first edition, the SFO, the GDR Complexe and the GDR Ondes are pleased to announce the second Wavinaire – open questions which will be held on June.

The wavinaires are intended for students, post-docs, engineers and researchers. This second edition is organized around an emblematic publication:

"Light Propagation with Phase Discontinuities: Generalized Laws of Reflection and Refraction", N. Yu, P. Genevet, M. A. Kats, F. Aieta, J.-P. Tetienne, F. Capasso, and Z. Gaburro, *Science* 334, pp. 333-337 (2011)

An introductory mini course on a basic concept necessary for understanding the article, as well as a brief presentation of its main results, given by a post-doctoral fellow, will be followed by a critical perspective vision proposed by two internationally recognized experts, Pierre Chavel from Institut d'Optique Graduate School and Bernard Kress Director, Optical Engineering - AR hardware - Google, who will discuss the industrial and academic impacts. The Wavinaire will end with questions and a free discussion.

<https://www.sfoptique.org/pages/sfo/wavinaire.html>

## WELCOME TO OPTIQUE NICE 2022



You are cordially invited to participate in the 9th Congress of the French Optical Society SFO, which will take place in Nice, France from July 4 to July 8. This congress provides fertile ground for beneficial exchanges between academic and industrial actors of optics and photonics.

**Plenary session** : Alain Aspect, Sophie Brasselet, Jean Dalibard, Frédérique De Fornel, Rémi Carminati, Jérôme Faist, Philippe Goldner, Sophie Kazamias, Aurélie Jullien and Philip Russell.

**Tutorials sessions** will introduce different hot topics: Thermal emission at the nanoscale by Jean-Jacques Greffet and Yannick De Wilde, Single spin detection by Vincent Jacques, Multiphoton microscopy by Emmanuel Beaurepaire, Earth-space telemetry by Clément Courde and we will even go to Mars with Supercam on the Rove Perseverance by Pernelle Bernardi.

### OPTIQUE Nice Prizes, to promote optics and photonics research

To recognize excellence, the SFO awards two Scientific Prizes during this congress: Grand Prix SFO Léon Brillouin and the Young researcher Fabry-de Gramont prize. OPTIQUE SFO Congress welcomes for the second

time the Jean Jerphagnon Prize, a prestigious award for outstanding scientific contributions with high potential industrial impact.

### Women in Optics and Physics commission, to promote parity in Optics

The congress pays a special attention to the number of women working in optics, at all responsibility levels and tends to parity on invited conferences.

### PhD students and young researchers are welcome in OPTIQUE Nice

Our goal is to allow all PhD students to participate once in the congress during their thesis. More than 200 students are expected. OPTIQUE Nice 2022 will provide a dedicated and friendly space to initiate a "Youth" action...

### Nice hosts the 9<sup>th</sup> edition of SFO biennial congress

The members of local organizing committee orchestrated by Sébastien Tanzilli do their utmost efforts to accommodate hundreds of participants in a friendly atmosphere. During our networking program you will get to know this exciting city in all its aspects.



OPTIQUE Nice 2022 is an International Day of Light event

<https://www.sfoptique.org/>

## 2<sup>ND</sup> COLLOQUIUM ON THE PHYSICS AND APPLICATIONS OF METASURFACES

Fortezza da Basso, Florence, Italie, July 18-22, 2022

This 2<sup>nd</sup> colloquium is organized by the Nanophotonics Club of the French Optical Society (SFO) in collaboration with the Italian Society for Optics and Photonics (SIOF). The attendees will benefit from outstanding international keynote speakers, Andrea Alù (CUNY), Shanui Fan (Stanford University), Federico Capasso (Harvard University), Philippe Lalanne (CNRS Bordeaux), Anatoly Zayats (King's College London) will present the latest developments in all areas of Metasurfaces. <https://www.sfoptique.org/pages/sfo/colloque-metasurface.html>

## Research in applied optics at IOGS together with industrial partners

**T**he Institute of Optics Graduate School (IOGS) has been strengthening its applied research activity with industrial partners, both French and foreign, for a few years now, notably with the creation in early 2019 of a dedicated Industrial Photonics team at the Charles Fabry Laboratory (LCF, CNRS Joint Research Unit 8501) in Palaiseau (Ile de France), headed by Yvan Sortais.

Like any team of a laboratory under the supervision of the CNRS, this one does not aim at competing with private offices, nor to interfere in the competition between companies. It responds to requests from industrials which contain at least one original and innovative point in terms of research, which can be developed in the form of a patent or scientific communication, and when it is free to do so without interfering with the interests of another industrial with whom it is already working on a similar or related subject.

IOGS intends to offer the industry a response adapted to its needs: services, collaboration, supervision of doctoral theses (with industrial funding in particular), and funding applications for shared projects. IOGS status as a higher education and research institution allows industrials to benefit from the Research Tax Credit.

In all cases, whether or not the initial request from the industrial is ultimately translated into a contract, technical exchanges are governed by a confidentiality agreement signed by both parties. When it continues beyond the initial exchanges, the interaction can last from a few weeks for the shortest services, to several years for research projects such as a PhD thesis. The Industrial Photonics team deals in particular with requests related to the design, prototyping and metrology of optical systems, components or surfaces, in particular freeform optics, or optronic systems, for lighting or imaging. The studies concern many fields (defense, automotive, pharmaceutical, cosmetics, etc.). The Industrial Photonics team works closely with the French Freeform Optics



Association (Freeform Optics - Research and Solutions), of which IOGS is a founding member (see Refs. [1,2]).

It relies on the human and material resources of the LCF: computational resources, modeling (optical, mechanical, photometric, thermal, thin films, radiation, etc.), prototyping (precision optics, mechanics, electronics, 3D printing, etc.), and metrology (deformation and roughness of surfaces, transmission and spectral reflection, radiometric and photometric fluxes, color and visual appearance of materials). More generally, IOGS offers industry the expertise of the teams from the three laboratories it oversees with the CNRS: the LCF, the Laboratoire de Photonique Numérique et Nanophotonique (LP2N, UMR CNRS 5298) and the Laboratoire Hubert Curien (UMR CNRS 5516). IOGS' response to industrial requests is coordinated by the Innovation and Industrial Relations Department.

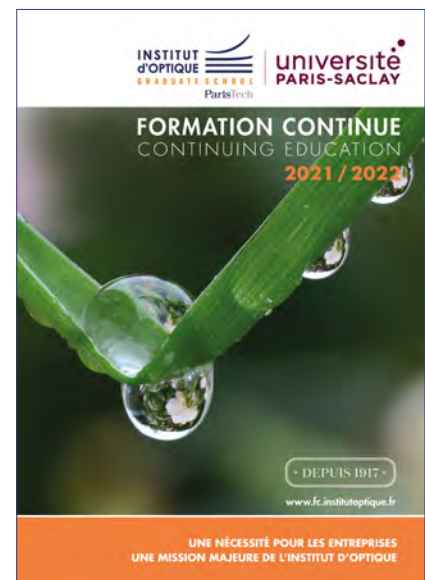
Contact: [dire@institutoptique.fr](mailto:dire@institutoptique.fr).

### REFERENCES

- [1] R. Geyl, F. Houbre, Y. Cornil, Th. Lépine and Y. Sortais, Optiques freeform : défis et perspectives, Photoniques 106, p. 17 (2021).  
[2] Y. Sortais, Th. Lépine, J.-J. Greffet, Des formes libres dans notre champ de vision, La Recherche 568, p. 54 (2022).

Yvan Sortais, Lab. Charles Fabry  
Email : [yvan.sortais@institutoptique.fr](mailto:yvan.sortais@institutoptique.fr)

An example of a partnership study between the LCF and industry : Design and implementation of benches for characterizing the optical properties of vials for the pharmaceutical industry (Credit: SGD Pharma)



CONTACT FORMATION  
CONTINUE INSTITUT D'OPTIQUE  
GRADUATE SCHOOL:

+33 1 64 53 32 36 - +33 1 64 53 32 15  
E-mail : [fc@institutoptique.fr](mailto:fc@institutoptique.fr)  
[www.fc.institutoptique.fr](http://www.fc.institutoptique.fr)

## AGENDA

### ■ Vision Stuttgart

04. - 06. October 2022

Meet us on french pavilion

[www.pole-optitec.com](http://www.pole-optitec.com)

## About OPTITEC

OPTITEC's mission on the regional/national level is to foster and promote activities of the photonics and imaging sectors in the south of France and to strengthen the synergies between its stakeholders (research, higher education and industry sectors).

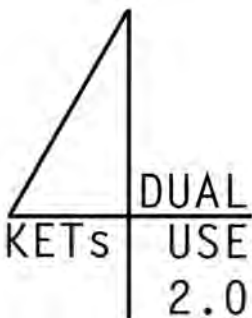
### European cluster

At the European level, OPTITEC fosters the participation of its members in various EU research and development programs, notably in Horizon Europe. In order to enhance the visibility and competitiveness of its members it facilitates the interaction with the European partners.

OPTITEC is a cluster dedicated to innovative technologies which harness light to generate, emit, detect, collect, transmit or amplify the flow of photons, from terahertz waves to X rays, applied to five industrial sectors on fast-growing markets : Security/defence & major scientific instruments, Health and life sciences, Industry 4.0, Smart mobility & cities and Digital agriculture.



## OPTITEC LAUNCHES PHASE 2 OF ITS EUROPEAN PROJECT SUPPORTING EUROPEAN DUAL-USE SMES



**K**ETS4Dual-Use 2.0 project officially started on 16 September 2021. The project builds on the outcomes of its predecessor EU KETS4Dual-Use, which was carried out as a Phase 1 project between September 2018 and February 2020.

The consortium of partners includes French clusters (pôles de compétitivité) OPTITEC, as the coordinator, Minalogic & SAFE and the defense and security related cluster CenSec (Denmark) as well as the Estonian Defence Industry Association (EDIA).

The project intends to act as a “springboard” for European dual-use companies wishing to access international markets, with the aim of integrating sustainable long-term partnerships. The project will support European dual-use small and medium enterprises (SMEs) accessing markets in Canada, Singapore and the United Arab Emirates (UAE) and generating growth, notably through their participation in international missions. The main objective is to set up business collaboration and to stimulate demand for European start-ups & SMEs technologies and services in target countries to gain cross-border diversification and sectoral synergies representing both the supplier (technology/service providers) and end-user side.

In order to efficiently support the European companies, notably SMEs, in their conquest of dual-use markets in target countries, various actions are being carried-out:

- Setting-up of focus groups to discuss innovative solutions in the field of dual-use technologies and resilient business models
- Identification of international advisors in target countries
- Training and organisation of international missions
- Providing SMEs with a sustainable lifecycle support following their participation in the missions

In the first 6 months, the consortium has elaborated and carried out a survey acting as the project's source of market needs as SMEs are required to take a mapping exercise to produce the data that will assist with identifying challenges and advantages of SMEs not only going international, but also collaborating in a cross-sectoral and boundary environment.

Furthermore, a series of four workshops focusing on the role of selected KETs (cyber-security & artificial intelligence) for dual-use and on resilient business models is being organised online between March and June 2022:

- Cyber-security - 24 March 2022
- Artificial Intelligence (AI) - 19 May 2022
- Access to EU funding: European Defence Fund - 2 June 2022
- Procurement processes in target countries - 30 June 2022

Learn more about KETS4Dual-Use project: <https://clustercollaboration.eu/content/european-key-enabling-technologies-dual-use-20>

LinkedIn profile: <https://www.linkedin.com/showcase/eu-kets4dual-use-2-0>

## THE ALPHA-RLH CLUSTER AND ITS MEMBERS AT PHOTONICS WEST

After two years of pandemic which slowed down international exchanges, the ALPHA-RLH cluster accompanied its members to the Photonics West exhibition, one of the major photonics and laser events, which finally took place in San Francisco over January 25-27, 2022. Within the French Pavilion organised by Business France, the companies AA Opto-Electronic, ALPhANOV, Femto Easy, First Light Imaging, Fogale Nanotech, GLOphotonics and Spark Lasers had the opportunity to exhibit and promote their technologies. Many other members participated with their own booth and/or visited the trade show. PIMAP+ European project, coordinated by ALPHA-RLH, facilitated the participation as visitors for two members, Polytec and Mathym. ALPHA-RLH also met with its European partners to set-up future internationalisation activities. The next edition of Photonics West will be held from January 28<sup>th</sup> to February 2<sup>nd</sup>, 2023. ALPHA-RLH is planning to attend such a great event!



## NewSkin project: application for the second NewSkin Open Call



ALPHA-RLH and the 33 other partners involved in the Horizon 2020 NewSkin project have closed the 1st open call on the 31st of January 2022. This was a great success as 22 applications from SMEs, research organisations and public structures were selected to cooperate with the NewSkin partners in the framework of R&D projects. These services are entirely financed by the NewSkin project and will allow

to develop and test new nanotechnological products and processes on prototypes and thus improve the performance of surfaces (including metals, polymers, ceramics, graphene etc.). A second open call will be open from April to July 2022. Do not miss this opportunity to join the Open Innovation Test Bed allowing to evaluate and uptake innovative surface nanotechnologies and connect with a unique innovation ecosystem. Register on the project platform to join the NewSkin community, increase your organisation's visibility, discover the NewSkin service offer and apply for the NewSkin open calls.

Contact: Romain Herault - r.herault@alpha-rlh.com



## Available funds from PhotonHub Europe project to accelerate your cross-border innovation projects

PhotonHub Europe project, whose ALPHA-RLH is one of the partners (linked third party), offers innovation support for European SMEs covering the entire value chain:

- **Prototyping (TRL3-4):** Highly collaborative co-innovation initiatives between the PhotonHub partner(s) and the company. Max grant: 100 k€.
- **Upscaling (TRL5-6):** Support to optimise an initial prototype for small-series production in a manner which is compatible with full-scale manufacturing (possibility to include third parties). Max grant: 250 k€.
- **Manufacturing (TRL7-8):** Brokerage service, helping companies innovating with photonics to rapidly connect with existing European manufacturers (2 k€ for EPIC to support the company). Interested companies should fill in the registration form available on the website to be contacted and oriented by the project's team: <https://www.photonhub.eu/application-form/>

## French innovations at CES Las Vegas

The CES Las Vegas, the world's largest event for new technologies, was held over January 5-7, 2022. A French delegation of 140 start-ups was present at the show. Among them, a delegation of 24 start-ups from Nouvelle-Aquitaine, supported by the Nouvelle-Aquitaine Regional Council, the French Tech Bordeaux, the International Chamber of Commerce of Nouvelle-Aquitaine and the ALPHA-RLH cluster. They had the opportunity to present their innovations and benefit from media exposure. We can mention Airudit, a member of the ALPHA-RLH cluster, specialised in the design of voice-controlled human/system interfaces, and MyEli, which won the CES 2022 Innovation Award for its connected jewel that alerts, secures and protects you in case of danger. The exhibition allowed ALPHA-RLH to discover the latest technological innovations and their applications on the markets, particularly in the fields of artificial intelligence, automotive technology, digital health, well-being and smart home. A great experience!



© French Tech Bordeaux

## UPCOMING INTERNATIONAL EVENTS

■ **Business Mission AISTech 2022**  
May 16-19 in Pittsburgh (USA)

■ **Manufacturing World Japan**  
June 22-24 in Tokyo (Japan)

■ **Laser World of Photonics China**  
July 13-15 in Shanghai (China)

■ **INPHO Venture Summit**  
October 13-14 in Bordeaux  
(France)

## NEW MEMBERS

Welcome to our new members : **Axeclair**, **Cegitek** and **Luzilight** !

**The 5<sup>th</sup> edition of Photonics Online Meetings, a European wide virtual business event dedicated to photonics technologies, will be held on 22 November 2022.**

The event will bring together major contractors and suppliers of photonics technologies and services.

An exceptional arrangement of pre-scheduled and relevant meetings between technology suppliers and contractors will make this day a unique event during which partnerships and business opportunities are woven. In addition, a rich program of plenary conferences, demonstrations and technical presentations led by experts will form pattern of the event.

For further information and to register: <https://onlinemeetings.photonics-france.org/>

## AGENDA

■ **Laser world of photonics, Munich, April 26-29, 2022**

■ **Business meeting agrifood, Paris, May 24, 2022**  
[French speaking only]

■ **Journées securite optique et laser (jsol) Bordeaux, November 8-9, 2022**

■ **French photonics days Saint-Etienne, October 20-21, 2022**  
[French speaking only]

■ **Photonics online meetings, Online, November 2022**

## CONTACT

PHOTONICS FRANCE  
[contact@photonics-france.org](mailto:contact@photonics-france.org)  
[www.photonics-france.org](http://www.photonics-france.org)

## BUSINESS MEETING

# Photonics for Agrifood industry May 24 in Paris

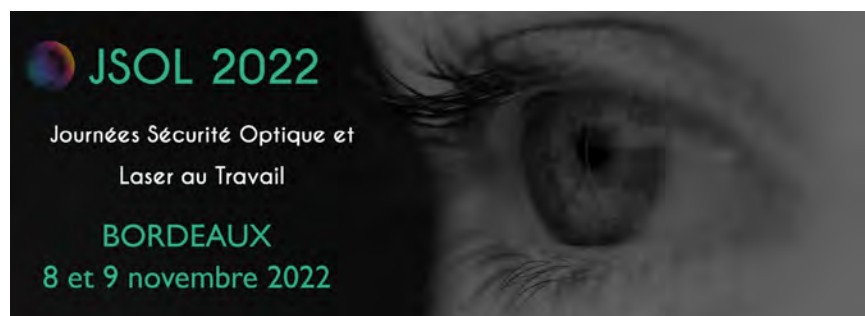


**A**fter many successful editions covering different industries, Photonics France organizes a Business Meeting on May 24, 2022 dedicated to the Agrifood industry. A full day dedicated to business and networking in Paris (Denfert-Rochereau), with conferences and workshops on the needs and projects of major contractors and integrators

For more information and registration : [www.billetweb.fr/business-meeting-agroalimentaire](http://www.billetweb.fr/business-meeting-agroalimentaire)  
The event is French speaking only;

## Call for submissions: optics and laser safety days

### JOURNÉES SECURITE OPTIQUE ET LASER (JSOL) November 8-9, 2022 in Bordeaux



The 4<sup>th</sup> edition of the Optical and Laser Safety Days at Work (Journées Sécurité Optique et Laser au Travail - JSOL), organized by the National Optical Safety Committee (Comité National de Sécurité Optique - CNSO) will take place on November 8 and 9, 2022 in Bordeaux. The objective of this event is to promote a safety and prevention awareness in the field of laser and optical security in companies.

We are looking for speakers to present the risks related to the use of lasers or optical sources, best practices, as well as the evolution of the regulations.

**You want to submit a presentation? Send your abstract to [cnso@photonics-france.org](mailto:cnso@photonics-france.org)**

## Nano-optics & Nanophotonics (NANO-PHOT) Graduate School

### An unparalleled 5-year program of excellence

NANO-PHOT (Nano-Optics & Nanophotonics) offers an ambitious 5 years (Master + PhD) education program on the use of light on a nanometer scale. It aims at training the next generations of researchers and professionals at the cutting edge of nanophotonics sciences and technologies.

#### Master program (30 ECTS credits/semester)

The NANO-PHOT graduate School offers a rich training program that is 100 % taught in English. It involves more than 20 faculty members, among them 10 external specialist lecturers for about 15 classes.

**Semester 1 in Reims:** Mathematical and numerical tools for physicists, Wave Optics, Solid state Physics Communication, bibliography, conferences  
Foreign Language, Lab Project I (1/day/week)

**Semester 2 in Troyes:** Classical and quantum light-matter interaction; Materials and devices in optics and optoelectronics; Nano-optics and Nanophotonics; Microscopies & Spectroscopies; Nanofabrication & nanomaterials; Innovative companies: entrepreneurship, economic intelligence, Intellectual properties; Foreign Language; Lab Project II (1 day/week)

**Semester 3 in Troyes:** Multi-scale characterization; Hot topics in nano-optics & nanophotonics; Quantum Optics and Nano-Optics; Foreign language; Management of research projects; Lab Project III (2 days/week)

**Semester 4:** 6-month internship in a partner laboratory or company. The master thesis can be based on the previous Lab projects.

#### PhD program (UTT doctoral school)

- 3-years PhD research project in a Laboratory within the NANO-PHOT network
- Joint international PhDs are possible!
- Science and Technology Training - 60 h - examples of courses: laser use, atomic force microscopy, nano-optics & plasmonics
- Employability-Focused/Human Science training - 60h - example of course: ethics and scientific integrity.

### Target skills

- Basics of the multiscale interaction between light and matter
- Knowledge and knowhow in the field of nano-optics and nano-photonics
- Knowing the different types of optical materials and their properties
- Knowing the behavior of light at the quantum level.
- Skills in the use of tools of numerical simulation, nanocharacterization and nano-fabrication.
- Getting aware of the potential domain of applications of nanooptics and nanophotonics.
- Autonomy in a research laboratory in interaction with a research team.
- Setting up and managing national and international research projects.
- Understanding the economic and legal environment of innovative companies.



### Training by research



Arousing students' interest in research begins with their involvement in laboratories.

The NANO-PHOT Graduate School allows students to carry out "Lab projects" from the first year of their Master's degree. The NANO-PHOT students may have a complete access of all research facilities after specific trainings. Located on two sites, research facilities are spread among 7 involved laboratories and a 1200 m<sup>2</sup> platform of technology (including 750 m<sup>2</sup> of clean rooms).

#### NEWS

- A Troyes-Berlin-Ohio Nanophotonics Workshop took place in Troyes on 2022, February 24<sup>th</sup>  
<https://nano-phot.utt.fr/news/troyes-berlin-ohio-nanophotonics-workshop>
- NANO-PHOT has been sponsoring the annual French scanning probe microscopy forum that took place in the beautiful "baie de Somme" in March 2022:  
[www.sondeslocales.fr/forum2022](http://www.sondeslocales.fr/forum2022)
- NANO-PHOT is one of the sponsors of the NFO16 conference (The 16th International Conference on Near-Field Optics, Nanophotonics and Related Techniques) that will take place in Victoria, BC, Canada from 29 August to 2 September 2022  
<https://nfo16.ece.uvic.ca/index.html>  
#clients-j

## ECA-iXblue, a new French naval defense leader

Groupe Gorgé, parent company of robotic specialist ECA-Group, has announced the acquisition of iXblue for 410 million euros. This operation will lead to a world-class player in the fields of maritime, inertial navigation, defense, space and photonics. Long-standing partners, ECA Group and iXblue benefit from strong technological and commercial synergies. With a unique offer ranging from components to complex systems, the group will provide high performance solutions for critical missions in harsh environments.

## Photonics Bretagne expands its team

Photonics Bretagne welcomes three new talents who joined the team in 2022 to bring their complementary expertises to the Research and Technology Organisation:



**Robin POUYET**  
Materials Engineer  
and Polymer Chemist



**Stéphane PERRIN**  
Biophotonics  
Project Manager



**Sébastien CLAUDOT**  
Technical Manager

### AGENDA

■ **Agrophotonics Webinar**  
Québec-Bretagne  
May 11-12, Online

■ **Agrophotonics MorningTech**  
"Light technologies at the  
service of animal production"  
June 9, Ploufragan (France)

■ **Photonics Bretagne**  
General Assembly  
June 21, Lannion (France)

## Strong attendance of the Photonics Bretagne network at Photonics Europe



**P**hotonics Bretagne and its members (IDIL Fibres Optiques, iXblue, Kerdry, Leukos, Lumibird, Luzilight, mirSense, Optosigma Europe, Oxxius, Silentsys) have exhibited at Photonics Europe in Strasbourg from April 3 to 7 and presented their latest innovations in sensing, imaging, lasers and related components. Photonics Bretagne has put in light its new range of VLMA Yb fibres, draw tower Bragg gratings, and multiple range of PCF (Hollow core, supercontinuum, endlessly singlemode...).

The new Perfos® Polarisation Maintening (PM) Ytterbium doped Very Large Mode Area (VLMA) fibre is particularly suited for the continuously growing ultrafast fibre laser market. The combination of robust single mode behavior in an all-solid glass form factor with 750  $\mu\text{m}^2$  fundamental mode area makes this fibre an ideal tool for high-end industrial fibre laser manufacturers.

The fibre Bragg gratings arrays are perfectly suited to be used as thermal or strain sensors. We inscribe them directly during the draw to allow the fibre to preserve its pristine mechanical strength. Our process allows us to inscribe in the fibre as many gratings as requested in a repeatable way.

Photonics Bretagne also showed its very last development on metal coatings that allow optical fibres to handle harsh environment (High temperature, radiative conditions...).

## 5G ACCELERATION STRATEGY AND NETWORKS OF THE FUTURE: LAUNCH OF SIMBADE PROJECT

**T**he SIMBADE project is one of the seven initiatives selected from the French Government as part of the "5G Acceleration Strategy and Networks of the Future" program, and received funding from Direction Générale des Entreprises (DGE). The partners of the project are Ekinops (project leader), Idil Fibres Optiques, Le Verre Fluoré, Orange, the University Lille 1 - PhLAM laboratory, and Photonics Bretagne. One objective is to develop the telecom infrastructure and transport capabilities to unlock networks of the future. It aims to increase the exploitable bandwidth in DWDM transmission systems through the development of efficient fibre amplifiers in O-E-S telecom bands.

EPIC PROMOTES THE DEVELOPMENT  
AND COMPETITIVENESS OF THE EUROPEAN  
PHOTONICS INDUSTRY AND ITS MEMBERS



## Open platform to explore new usage scenarios for optic sensors

On April 5<sup>th</sup>, together with the CEA, Captronic, the Auvergne-Rhône-Alpes region, the IRT Nanoelec and the Auvergne-Rhône-Alpes Entreprises agency, Minalogic presented at the “SystemLab” Regional Digital Campus an open platform for new imaging applications. In particular, STMicroelectronics, Lynred and Prophesee will examine with small enterprises new scenarios for the use of optic sensors by amalgamating data using artificial intelligence. The goal of this activity is to promote closer collaboration between potential users and the R&D actors in optical imaging by exploring, looking ahead to and opening the way for tomorrow’s technologies and uses. This morning event involved ten start-ups, small enterprises and micro enterprises and other organizations from the region.

For more information, please go to the IRT Nanoelec web site or contact Florent Bouvier.

### AGENDA

■ **Minalogic Business Meetings**  
May 31, 2022, in Grenoble

■ **Minalogic Annual Day,**  
June 23, 2022, in Grenoble

■ **Laser Processing for Industry” talks,**  
June 28-29, 2022, in Saint-Etienne

■ **Photonics for Health” week,**  
July 4-8, 2022, in Saint-Etienne

■ **Vision trade fair,**  
October 4-6, 2022, in Stuttgart

■ **“French Photonics Days”, October**  
20-21, 2022, in Saint-Etienne, as part  
of the Manufacturing Biennale.

Contact person:  
Florent Bouvier  
Photonics Manager in Minalogic  
Tel: +33 (0)6 35 03 98 52  
florent.bouvier@minalogic.com

## All eyes are on the 2022 French Photonics Days in Saint-Etienne

The 4<sup>th</sup> edition of the French Photonics Days will be held on October 20<sup>th</sup> and 21<sup>st</sup>, 2022, in Saint-Etienne. The event is being hosted by Photonics France, SupOptique Alumni, Minalogic and Cluster Lumière, in partnership with Manutech Sleight Graduate School and the Institut d’Optique Graduate School, with support from the Saint-Étienne Urban Area and the Auvergne-Rhône-Alpes Region.



The goal of French Photonics Days is to promote the French field of photonics, to give due credit to the regions’ actions and investments in this field, and to highlight the technological advances and market perspectives of local actors. The topic selected for this 4<sup>th</sup> year’s event is “Photonics for Displays, Lighting and Manufacturing”. This topic reflects the skills and experience of the actors in the local networks and enables French Photonics Days to benefit from the label and the dynamics of the Manufacturing Biennale.

Designed for a technical but not specialized audience, the objectives of French Photonics Days are to:

- provide an update on the development of new photonics technologies and present their applications and markets,
- discuss education and training, and future planning for the field of photonics,
- promote new products at the event sponsors’ stands,
- offer visits of local companies.

In technical terms, the subjects adopted are: the revolution in free-form optics, photonics and surfaces, and new LEDs and OLEDs for lighting and displays. This year’s event, to be held in the UNESCO city of creative design, will also comprise many occasions for networking, including an evening reception.

Registration can be done on the Minalogic and Photonics France web sites.

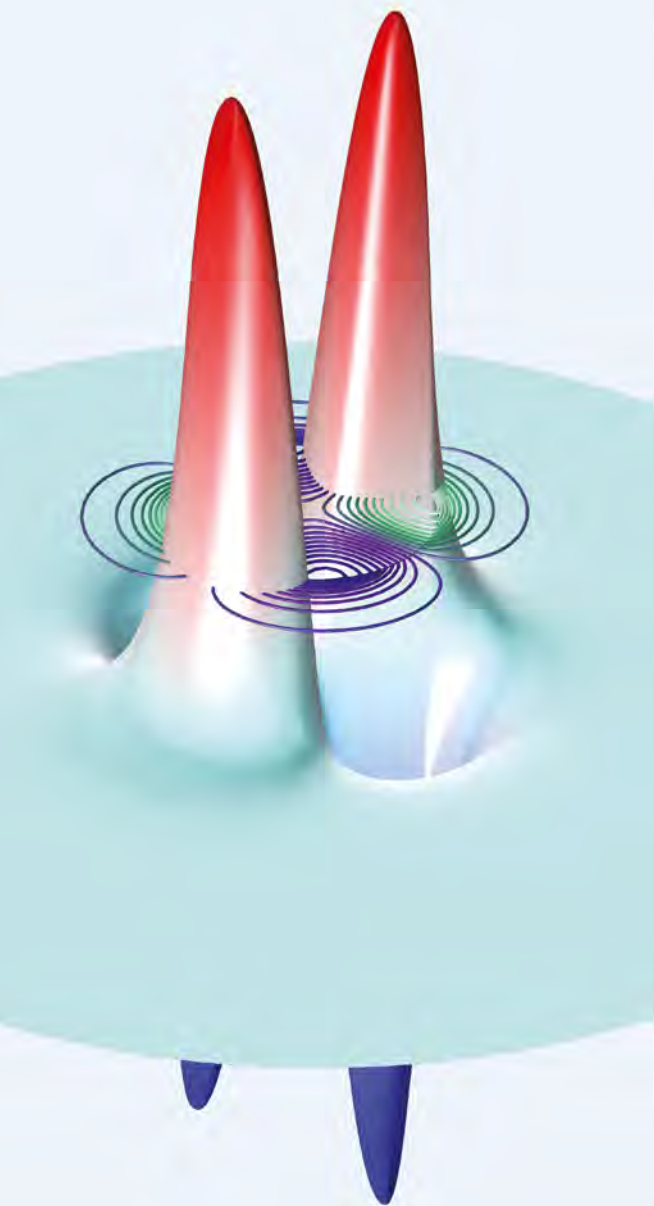
Registration is free for members of the sponsoring entities (except for the reception).

## LASER WORLD OF PHOTONICS: A GREAT SUCCESS FOR THIS 2022 EVENT



Minalogic took part in the Laser World of Photonics, the worldwide trade fair for photonics components, systems and applications that was held on April 26-29, in Munich. Our cluster accompanied a regional delegation of 9 members, under the aegis of its International Development Plan, with financial support from the Auvergne-Rhône-Alpes region. Present at the French Pavilion, operated by Business France and coordinated by Photonics France to bring together the French photonics field, 5 members of Minalogic (Data Pixel, Hef Groupe, Qiova, Set Corporation, Teem Photonics) benefited from high visibility and the collective strength of the groups flying the French flag. Alpao, Cedrat Technologies Fiberocryst, Edmund Optics and Mathym were present with their own stands.

On site, Florent Bouvier and Damien Cohen, from Minalogic’s staff, assisted the members with their R&D and business prospection activities. They also took advantage of the event to promote the regional photonics entities at the international level and to identify relevant contacts. In order to promote networking, conviviality and occasions for meeting people, a reception was held on April 27<sup>th</sup> at the French Pavilion that brought together the members of the French photonics entities and a number of European partners participating in the Photonics21 platform. For more information, please refer to the Minalogic web site.



## SIMULATION CASE STUDY

# Simulate today what Bartholinus observed through a crystal in 1669

In order to optimize anisotropic materials, you need to first gain an in-depth understanding of the physics at play. In 1669, Professor Erasmus Bartholinus observed birefringence using a piece of Icelandic calcite crystal. Today, you can run qualitative and quantitative analyses using simulation software.

LEARN MORE [comsol.blog/anisotropic-media](https://comsol.blog/anisotropic-media)



The COMSOL Multiphysics® software is used for simulating designs, devices, and processes in all fields of engineering, manufacturing, and scientific research.