

For Immediate Release

ALPHA-RLH showcases French innovations at SPIE BiOS Expo & Photonics West 2018

**Technology cluster members view US as prime market for business
opportunities in advanced optoelectronic devices and components**

**New product releases from I2S, Neta, Le Verre Fluoré, Spark Lasers and
Irisiome Solutions**

Bordeaux, France, January 16, 2018 - [ALPHA-RLH®](#), a technology cluster specializing in photonics, microwave and digital technologies, today announces it will showcase new products from ten cluster members at SPIE BiOS Expo booth #8440 and Photonics West, San Francisco (CA), booth #437, January 27 – February 1. Innovations on display include the latest developments in higher power ultrafast lasers, terahertz imagers and other photonics components used to improve industrial manufacturing, detect defects, enhance test and measurement, and advance biomedical and other scientific research.

"BiOS, the largest biomedical optics and imaging conference, and Photonics West, a world-class industry event, offer our technology cluster members a superb opportunity to display groundbreaking products and demonstrate their know-how and expertise in developing highly-effective solutions that address the latest performance needs," said Hervé Floch, general manager at ALPHA-RLH. "ALPHA-RLH looks forward to building solid new contacts and strengthening existing leads for its members among the potential 20,000 international visitors who will attend the event this year."

New product releases

[i2S](#), a specialist in image capture and processing, will present the TZcam, a new uncooled 320x240 pixel terahertz imager offering a wide spectral response between 0.3THz and 5THz. The THz wave properties make this imager ideal for non-destructive testing on materials like plastic, ceramic, wood, composites and polymer. This camera, which offers the best sensitivity available today, can also be used in biomedical applications, for security purposes and for moisture control systems. Visit i2S at booth #437F.

[Neta](#), a start-up designing turnkey Asynchronous Optical Sampling (ASOPS) imaging systems for time-resolved spectroscopy, non-destructive testing and bioprofiling at nanometric scales, is announcing the availability of JAX-M1 in a new wavelength. Already 10,000 times faster than other products in its category due to the technology's use of two ultra-fast lasers, JAX-M1 offers end-users a unique capacity to produce an image of mechanical properties and bonding adhesion of the sample, whereas other solutions only provide punctual measurements. Whether estimating the thickness of thin films or the adhesion quality between metallic layers, Neta's technique supplies accurate information for qualifying defects. Mapping those defects at high speed brings a better management of quality control in production; it could also contribute to improved knowledge of cellular mechanics, which plays a vital role in diverse biological processes, as well as in the development of degenerative diseases or cancer. Visit Neta at booth #437G.

[Le Verre Fluoré](#), the leading developer of fluoride glass and IR optical fiber technology, will display the latest advances in IR transmitting fibers based on fluoride glasses used in research, spectroscopic analysis and potentially for infrared countermeasures. Designed to be the most transparent and lowest cost in the market, the company's IR transmitting fibers achieve world-record levels of optical attenuation: 0.00104dB/m for ZBLAN and

0.0022dB/m for InF3 based fibers. Le Verre Fluoré will exhibit passive fibers for the coupling of telescopes for astronomy, power laser transmission, thermal measurements and remote spectroscopy. Its active fibers are designed for fiber lasers operating beyond 2µm, most notably around 3µm. Visit Le Verre Fluoré at booth #437B.

Spark Lasers is releasing its new higher performance DIADEM femtosecond laser. The DIADEM laser produces femtosecond pulses variable from <400fs up to 10ps with an energy of 40µJ at an average power of 30W and at repetition rates ranging from single pulse up to 2MHz. This new generation high-quality industrial, high-energy femtosecond laser offers an ultra-compact, robust, lightweight and air-cooled package. The DIADEM laser benefits from the most recent developments in high-speed electronics offering on-the-fly parameter settings such as pulse-on-demand, burst of pulses, gating and energy modulation. New wavelengths are also available on its high power ALTAIR femtosecond laser series, specifically designed for demanding applications in biophotonics: optogenetics and multiphoton microscopy. The ALTAIR laser produces sub-150fs pulses at a repetition rate of 80MHz with average power ranging from <1W up to 20W. It is available with a standard wavelength of 1040nm, now extended to 1055, 1064 and 920nm to provide a unique tool for multiphoton microscopy. All ALTAIR lasers can be optionally equipped with built-in electronically controlled group delay dispersion compensation and high-speed synchronization. Visit Spark Lasers at booth #437I.

Irisiome Solutions, a developer of compact, turnkey and reliable solutions for a wide range of scientific applications, will introduce its very first integrated turnkey picosecond fiber laser system based on a new picosecond pulse generation, the picosecond pulse gating. Contrary to conventional picosecond pulse generation methods (the mode locking or the gain switching), the pulse gating technique allows greater flexibility of the pulse parameter with:

- Adjustable pulse duration from 35ps to 2ns
- Adjustable repetition rate from 5MHz up to 2 GHz
- External triggering

Irisiome Solutions achieves all of this flexibility with the reliability and integration of a fiber laser. The company integrates this method with a large range of fiber amplifiers from 20mW up to 30W and a large range of wavelengths from visible to infrared within its MANNY product family. Visit Irisiome Solutions at booth #8440 and booth #437F.

Other advanced technologies on display

ALPhANOV, the optical and laser technology center of the ALPHA-RLH competitiveness cluster, will exhibit the PULS module, a pocket-size picosecond mod-locked oscillator covering a large range of wavelengths due to its versatility. Based on a picosecond passively mode-locked fiber laser technology, this laser oscillator offers a unique monolithic solution for seeding optical amplifiers and for applications in multiphoton imaging, micromachining and biophotonics. ALPhANOV will also showcase several kinds of photonic crystal fiber patch cords; one of the challenges for PCFs lies in their end preparation. ALPhANOV has developed strong expertise for supplying end-treatment solutions to photonic crystal fibers such as splicing, cleaving, end-capping or connectorization. Visit ALPhANOV at booth #8440 and booth #437C.

ISP System, specialists in high-precision mechanic and mechatronic equipment for intense lasers, will exhibit:

- An electro-mechanical deformable mirror for intense lasers that are available now for terahertz applications or for very large apertures with very high damage thresholds (up to 0.5J/cm² @ 20fs) and large bandwidth (up to 200nm)
- Motorized mounts used in beam transport for intense lasers, including tip-tilt and gimbal mounts for very large beam apertures with high vacuum compatibility, suitable for fine positioning of transport mirrors, compressor gratings and focusing parabolic mirrors

- A laser-sintering machine used to make assemblies of electronics components and optoelectronics on substrates due to an oxalate sintering process
- A nano-positioning linear stage with 10mm stroke and nanometric resolution

Visit ISP System at booth #437H.

Femto Easy, a developer of robust and reliable measurement devices for temporal and spectral characterization of ultrafast lasers, will display its ultra compact Row Optical Correlator (ROC) autocorrelator and its Fast FROG, available in six models. Both products are easy to install since they require no calibration. The autocorrelator provides single shot measurements up to 200kHz and down to 5 femtosecond pulses while the achromatic and non-dispersive single shot FROG can achieve below 5 femtosecond pulses. Visit Femto Easy at booth #8440 and booth #437G.

The **Amplitude Laser Group** is one of the world's leading providers of ultrafast and high energy lasers. From petawatt peak powers to kilojoule pulse energies and high average power industrial lasers, Amplitude offers a wide range of systems for scientific and industrial applications. By combining high quality manufacturing and aggressive R&D, the industrial division of Amplitude provides innovative and reliable solutions for the most demanding industrial applications. Visit the Amplitude Laser Group at booth #8440.

Scoptique, an international service provider specializing in tailored solutions in optical design & R&D, will share with visitors its unique service in optical engineering and optical recruitment, along with its experience in designing innovative optics for the global industry for more than 20 years. Visit Scoptique at booth #437F.

About ALPHA-RLH

ALPHA-RLH, a French competitiveness cluster for laser and microwave technologies, specializes in partnering with companies and laboratories to set up, evaluate and fund innovative projects. Based in Bordeaux, Limoges and La Rochelle with missions in China and the US, the cluster is unique in aggregating skills, expertise and talent in photonics and microwave to nurture innovation, while facilitating the further economic development of the Nouvelle-Aquitaine region. ALPHA-RLH has spearheaded many ventures, including most recently the SAPHyR project designed to improve the aerospace industry's understanding of photonics technologies. ALPHA-RLH currently has 253 members who are active in two key strategic fields of activity: Photonics-Lasers (laser sources and procedures, optical components, instrumentation) and Microwaves-Electronics (integrated circuits, radiocommunication systems, radar systems). These two areas of activity are conducted with the support of digital tools (Digital Solutions & the Factory of the Future Cross-Disciplinary Field of Activity), and promote collaborative innovation to increase member activity in four markets:

- Healthcare (medical devices and autonomy): imaging, diagnosis and therapeutic techniques, as well as technological solutions for people suffering from a loss of autonomy
- Communications, Digital Security: components or systems for data transfer, data and network security
- Aeronautics, Space, Defense: embedded optic/optronic systems, innovative solutions for materials, communication, navigation, lighting
- Energy, Smart Buildings: solar technologies, lighting solutions, energy efficiency, energy storage, communicating or connected devices for buildings

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