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BiOS Expo 2017: ALPHA-RLH cluster members unveil new ultrafast lasers and optics systems

**Imagine Optic demonstrates new MicAO for improved image contrast in
fluorescence microscopy; Amplitude Systèmes showcases world's first
industrial femtosecond laser Tangor, PRISM award 2017 finalist**

**More innovations for scientific, biomedical and industrial applications on
display at Alpha-RLH stand #8937**

Bordeaux, France, January 18, 2017 - ALPHA-RLH, a technology cluster specializing in photonics, microwave and digital technologies, today announces that four cluster members will showcase new performance in ultrafast lasers and optics systems to the global photonics community at BiOS Expo: Imagine Optic, Amplitude Systemes, Iriosome Solutions and Femto Easy.

BiOS, the world's largest biomedical optics and biophotonics exhibition, takes place in San Francisco, January 28 – 29, 2017. Alpha-RLH will be at stand #8937.

[Imagine Optic](#) will demonstrate the latest improvements to its plug & play adaptive optics device MicAO. MicAO is now compatible with a larger range of objective lenses and larger field of view cameras, such as sCMOS. By correcting the system and sample-induced aberrations, MicAO allows users to significantly improve the image contrast in spinning disk microscopy and to increase the 3D localization precision in single molecule detection methods using aberration-free astigmatism (3D PALM/STORM). This ability to correct aberrations allows the user to image cellular structures deeper in biological samples, up to a depth of 50µm.

The firm will also display its mechanical deformable mirror ILAO star for scientific applications at Photonics West. Based on Imagine Optic's new actuators technology, the ILAO Star is faster and backlash-free, thus making the device more reliable.

[Amplitude Systèmes](#) will show its newly launched Tangor, the world's first industrial femtosecond laser that has been nominated a PRISM award 2017 finalist. With average output power in excess of 100 W, the Tangor produces 400 fs pulses, peak powers greater than 500 MW, single-shot to 2 MHz repetition frequencies and superior beam quality. Tangor is aimed at high-throughput material processing applications.

Also on display will be Yuja, a versatile high-energy laser specially designed for quality cutting and drilling of delicate materials. Employing hybrid amplifier technology, Amplitude Systemes' Yuja offers high pulse energy while keeping the smallest footprint on the market. It delivers more than 100 µJ pulse energy, with a flexible repetition rate from 100 kHz to 2 MHz, making it ideally suited for the high speed drilling of various geometries that require micrometer-range accuracies.



[Irisiome Solutions](#) will exhibit the picosecond tunable laser from its SID series, currently in use for bio imaging applications at the MOSAIC research group from the Institut Fresnel in Marseilles. One of its major advantages for scientists is the turnkey system. This enables wavelength, pulse duration, repetition rate and average power settings to be adjusted within a few seconds through a touch screen located at the top of the laser. The company will also introduce a new tunable high-power fiber laser from its MANNY series that can reach average power up to 30W.

[Femto Easy](#) will show products from its current ultrafast instrumentation range, including a single shot autocorrelator capable of measuring few cycle pulses with interferometric resolution, and an innovative SHG single shot FROG. Both are suitable for several wavelength ranges (from UV to mid-IR) and several pulse durations, down to 5 fs. Femto Easy will also exhibit at Photonics West.

About ALPHA-RLH– Route des Lasers & des Hyperfréquences

ALPHA-RLH (Route des Lasers et des Hyperfréquences®) is a newly formed technology cluster specializing in photonics, lasers, microwave and digital technologies. It is the result of a merger between two French competitiveness clusters, Route des Lasers (Bordeaux) and Elopsys (Limoges), both located in the Nouvelle-Aquitaine region, a dynamic industrial area with one of Europe's highest concentrations of scientific expertise in photonics. As a priority, the cluster focuses on technologies and applications that are of strategic importance for national defense. These include the Laser Megajoule (LMJ), one of the two largest ever laser facilities in the world, and the Petawatt Aquitaine Laser (PETAL). It covers microwave communication, detection, navigation and localization, as well as other emerging technologies for digital healthcare, medical devices, renewable energy, smart buildings, embedded systems, aerospace, automotive clean tech and telecommunications etc. ALPHA-RLH currently has 250 members and has an operational budget of €2 million (\$2.1M).

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