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Press Release - New OPO Simplifies Long Wavelength MPE Microscopy



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The new **Chameleon OPO** (Optical Parametric Oscillator) from Coherent Inc. (Santa Clara, CA) (Nasdaq: COHR) has been completely redesigned to provide extremely simple access to tunable near-IR wavelengths for multiphoton excitation microscopy (MPE). When used with any model of the Chameleon family of ultrafast lasers this new OPO delivers **continuous gap-free tuning from 1,000 nm to over 1600 nm with up to 600 mW of specified output power**. Moreover, tuning causes no change in beam pointing direction and thus requires no adjustments of downstream (microscope) optics.

Chameleon OPO utilizes a periodically poled crystal where the poling is a function of the position in the crystal, forming a fan-shaped grating. This not only yields efficient OPO wavelength conversion, but also enables the OPO to be pumped at any wavelength in the range 740 nm to 880 nm. The wavelength of the **Chameleon oscillator and the Chameleon OPO can thus be tuned completely independently, enabling simultaneous sample excitation at two wavelengths**. The tuning of both devices is controlled through a single common interface.

There are several advantages to using a tunable MPE source at longer (>1000 nm) wavelengths. First it enables optimum excitation of the new m-fruit fluorophores like m-cherry. In addition, these longer wavelengths are less damaging to live tissues, and also undergo less scatter, supporting deeper images. Finally, the group velocity dispersion (GVD) of typical microscope optics is lower at these longer wavelengths, further enhancing MPE image quality.

Founded in 1966, Coherent, Inc. is a Russell 2000 Index company and a world leader in providing laser-based solutions to the commercial and scientific research markets. For more information about Coherent, including product and financial updates, visit our website at www.Coherent.com.

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