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For Immediate Release:

New Ultrafast Laser Streamlines MPE Microscopy

Santa Clara, Calif., November 11, 2017 – The new Chameleon Discovery laser with *Total Power Control* is the first one-box turnkey laser for multiphoton excitation (MPE) microscopy to include built-in, high-speed power modulation. Based on the latest acousto-optic (AO) technology, this new functionality provides modulation on both the tunable femtosecond output and high power fixed output.

Real-time power modulation is important in MPE for several reasons. It enables optimization of laser power for the depth of each image plane, and for fast “flyback” beam blanking when unidirectional raster scanning is required. Additionally, rapid online power control is often required to compensate for the sinusoidal velocity profiles of the latest resonant scanner technologies. The laser provides fast rise-time analog and digital control of laser power, which may be synchronized with the microscope scanning optics.

The Chameleon Discovery now includes an expanded tuning range, which when coupled with a frequency doubler, ensures gap-free wavelength coverage from 330 nm to 1320 nm. This is of special interest for ultrafast spectroscopy and other time-resolved studies. Power levels are also boosted on both tunable and fixed outputs.

Director of Product Marketing, Darryl McCoy, notes that, “Total Power Control is another milestone along the path to ever simpler push-button MPE imaging, similar to previous key developments such as the one-box laser and automated dispersion precompensation. This innovation lets researchers focus on acquisition of quality data, not tweaking and optimizing the laser and microscope.”

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