Elliot Scientific

solution science for research and industry

January 2019

Elliot Scientific expands microscopy solutions in 2019. Introducing...

Digital Holographic Microscopy (DHM®) from Lyncée Tec

Swiss-based Lyncée Tec offer digital holographic imaging (DHM®) techniques for life science, materials science, and industrial inspection - making the invisible visible. DHM® is a non-scanning non-contact technology that instantly delivers 3D & 4D topography.

DHM® 3D optical profilometers offer unrivalled high measurement rates and a very short exposure times. These unique features make possible applications not conceivable using white light interferometers and confocal microscopes: 3D topography measurements in presence of environmental vibration or of intrinsic sample vibration, characterisation in cryogenic and high temperature environments, large surfaces screening, and analysis of the deformation dynamics of samples due to stimuli such as temperature and pressure changes, light irradiance, mechanical force, or electromagnetic fields.

In life sciences, DHM® enables label-free non-invasive millisecond to multi-days continuous measurement of cells. Quantitative phase measurements (QPM) provide information about cell morphology and intracellular content, cell proliferation and viability, trans-membrane ionic currents and water transport.

DHM® is a combined hardware and software solution optimised for research and industrial applications. Systems include:

Reflection DHM® measures the reflected wavefront from a sample. It offers more than a typical standard optical profilometer as it enables dynamic measurement within vertical ranges with sub-nm resolution. Thus it is superb for surface topography, defect inspection, MEMS measurement, and structured thin films.

Transmission DHM® measures the optical path difference of a beam travelling through a sample. This technique is ideal for measurements of micro-optical components, microfluidic devices, and defects or particles inside transparent samples... which also makes it the best choice for cellular applications.

DHM® Macroscope for wide-field industrial inspection.

Camera upgrade to add Transmission DHM® to your existing microscope.

For more information about these exciting Lyncée Tec products, their capabilities and typical applications, **contact us for details**.

Confocal Raman Imaging from WITec

WITec is a market leader in the field of micro- and nano-analytical microscope systems based on confocal Raman imaging. The award-winning WITec team works constantly to develop innovative products and new technologies, such as TrueSurface real-time autofocus.

The confocality of a WITec Raman microscope strongly reduces any background signals from the sample, allowing the generation of depth profiles and 3D images with exceptional spectral and spatial resolution. The distribution of chemical compounds throughout a sample can therefore be analysed with ease.

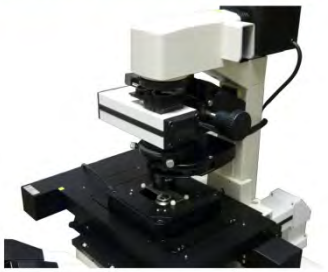
WITec's ingenious designs also offer correlative analysing techniques by combining instrument modules in a single piece of equipment to deliver more comprehensive sample analysis.

Choose from fluorescence, luminescence, atomic force microscopy (AFM), and near-field microscopy (SNOM or NSOM) units to augment the Raman imaging capability.

The speed, resolution and image quality produced by these ground-breaking WITec systems shows that Raman imaging has truly become a powerful, accessible and enabling technology. Why not come and see the difference in Raman imaging by booking a demonstration with Elliot Scientific - **contact us now for details**.

Optical Tweezer Systems from Elliot Scientific

Elliot Scientific originally developed a complete, standalone Optical Tweezer system to help researchers eliminate the necessity of building one from scratch, and spending significant time and cost in implementing this enabling and powerful technology.



Single spot | Multi-spot | QPD and CPT options

Now in its 3rd generation, Elliot Scientific Optical Tweezers are accessible, fully integrated systems for laser trapping. Comprising microscope, lasers, imaging system and specialist software all in one integral package. Supplied complete or, in many cases, as an upgrade to your existing microscope - **contact us for details**.

In addition to these products, Elliot Scientific continues to deliver Solution Science for the microscopist by offering:

- Anti-vibration solutions from **Accurion** and **Kinetic Systems**
- LED light sources with high powers from **Prizmatix**
- Micromanipulators and sample positioners from **Siskiyou Corporation**
- Microspectrophotometers from **CRAIC Technologies**
- Patch clamp amplifiers and electronics from **Tecella**
- Spatial Light Modulators from **HOLOEYE**

Lake Shore's revolutionary new M91 FastHall™ controller leads the field

Lake Shore's new **MeasureReady M91 FastHall™** controller is an advanced all-in-one instrument that delivers significantly higher levels of precision, speed, and convenience to researchers involved in the study of electronic materials.

The unique FastHall measurement technique fundamentally changes the way the Hall effect is generated and measured by eliminating the need to switch the polarity of the applied magnetic field during the measurement.

FastHall™ changes the game!

This patented breakthrough results in faster and more accurate measurements, especially when using high field superconducting magnets or when measuring very low mobility materials.

- Designed to work with **any** magnet
  - Permanent magnets
  - Electromagnets
  - Superconducting magnets
  - Pulsed magnets (pulse Δt ~100 µs)
- DC & AC field Hall measurements & analysis
- Removes the need for field reversal
- More than 100x faster than previous systems
- Ideal for measuring low mobility materials
- Manual or auto operation
- Digital and analogue I/O for easy integration
- Auto excitation values & measuring ranges
- 10 MΩ to 200 GΩ sample measurement option
- Mobility range extended to 0.001 cm^2/V s, without using AC field techniques
- Three year warranty as standard

Lake Shore CRYOTRONICS	FastHall™	AC field	DC field
Requires current reversal	YES	YES	YES
Requires field reversal	NO	AC field (sinusoidal)	YES
Can be used with permanent magnets	✓ FAST	✗	✓ MANUAL
Can be used with electromagnets	✓ FAST	✓ SLOWER WITH LOWER MOBILITIES	✓ SLOWER WITH LARGE ELECTROMAGNETS
Can be used with superconducting magnets	✓ FASTER THAN DC FIELD	✗	✓ SLOW
Measurement capability	Lower mobility: ~10^{-3} cm^2/V s and up	Lower mobility: ~10^{-3} cm^2/V s and up	Higher mobility: ~1 cm^2/V s and up

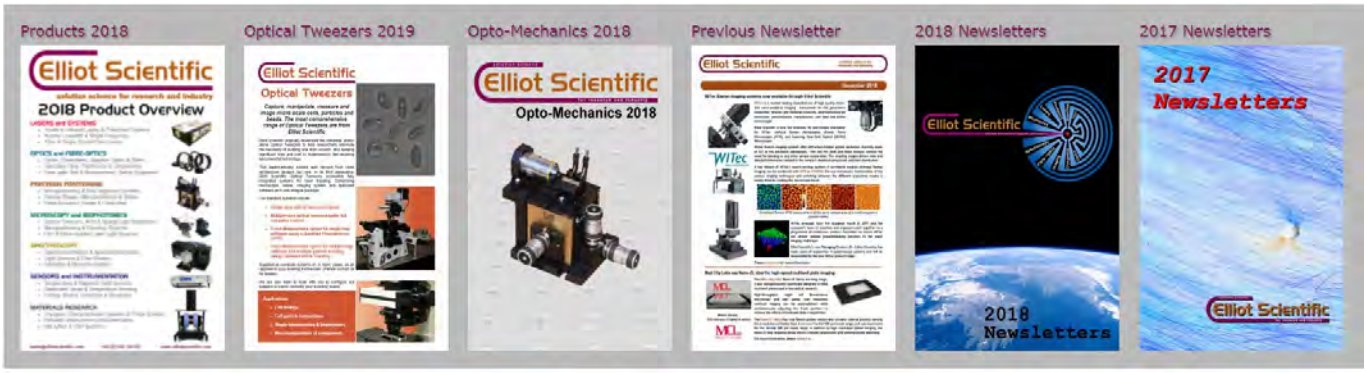
For information about pricing and delivery as well as technical details, please **contact us**.

Next month, meet Elliot Scientific and some of the companies we represent at...

Photonics West

5th to 7th February 2019
Booth #4660, Moscone Center, San Francisco

EXFO	#3009	**Lambda Research Optics**	#1927	**Optisource**	#969
Gamma Scientific	#2653	**Mad City Labs**	#846	**OZ Optics**	#4548
HOLOEYE	#545	**Micro Laser Systems**	#529	**Prizmatix**	#2562
IPG Photonics	#1641	**NoIR Laser**	#831	**Siskiyou**	#536



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