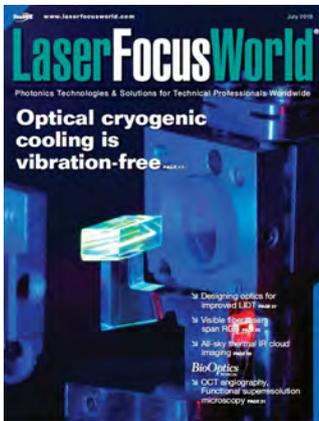


## IPG, Lake Shore and Siskiyou named in Los Alamos & UNM all optical cryocooler paper



The July issue of *Laser Focus World* magazine featured a photo of a YLF:Yb crystal mounted between two top-adjustable Siskiyou IXF monolithic tip/tilt flexure mounts on the cover. This illustrated their top story about a breakthrough all-solid-state optical cryocooler developed by the Los Alamos National Laboratory and the University of New Mexico.

Solid-state optical refrigeration uses anti-Stokes fluorescence to cool macroscopic objects to cryogenic temperatures without the annoying vibrations typically introduced by mechanical cryocooling systems.

The crystal was excited by a low power linearly-polarised continuous-wave fibre laser by **IPG Photonics**, while the temperature was monitored with a calibrated DT-670-SD silicon diode from **Lake Shore Cryotronics**.

Coupling the laser light to the crystal was achieved by using an astigmatic Herriott cell, with the optics held in vacuum compatible **Siskiyou IXF flexure mounts**... known for their excellent mechanical and thermal properties.



Researchers in the UK or Ireland wishing to replicate this experiment can **contact us** for research lasers from IPG Photonics, sensors and instrumentation from Lake Shore Cryotronics, and the full range of mounts and stages from Siskiyou. Elliot Scientific can also be approached to supply optics and custom machined parts as well.

The full paper describing the experiment can be [read here on nature.com](#).

## Economic laser trapping with Elliot Scientific Optical Tweezers



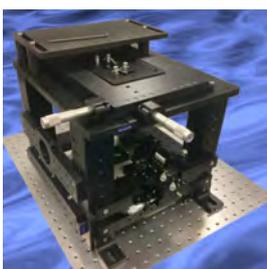
**Optical Tweezers** have been around for a long time. Over 40 years have passed since Arthur Ashkin and his colleagues described the single-beam gradient force trap and sparked a realisation in many scientists that this novel instrument would be a powerful tool for use in the course of their research. However, the costs - both in time and money - of building Optical Tweezers from scratch were often prohibitive.

With the development of easy to use 'straight out of the box' systems by Elliot Scientific, Optical Tweezers are now found in many labs around the world. Real experiments carried out in one such lab can be found [here](#).

Download our **2018 Optical Tweezers Brochure**. It describes all the systems we offer; from open architecture kits to complete computer-controlled multiple spot trapping systems with force detection and more, or **contact us** to discuss details.



## The RM21™ Platform from Mad City Labs aids microscopy



The precision manufactured RM21™ from **Mad City Labs** offers maximum user accessibility and more opportunities to develop configurable instruments with ease. Consequently, scientists in the global microscopy community have recognised its invaluable contribution towards their research.

The **RM21™** is the ideal platform for a range of microscopy applications such as super resolution (SR) microscopy, fluorescence microscopy and TIRF. Easy alignment of microscopy and optical components is achieved within its three dimensional space as all posts and fixturing points are referenced to a known datum.

The standard RM21™ includes a precision platform and an axial, motorised Z-axis for objective positioning. The Z-axis has a travel range of 50 mm (2") with a 95 nm step size. Please **contact us** for more information about other options.

## CRAIC Technologies' 508 PV™ adds advanced spectroscopy to your microscope



The **CRAIC Technologies' 508 PV™** UV-visible-NIR spectrophotometer is designed to be added to a microscope's open photoport or a probe station for high-resolution colour image capture and non-destructive analysis of the spectra of many types of microscopic samples.

The 508 PV™ features CRAIC's cutting edge Lightblades™ spectrophotometers which can acquire spectra from microscopic sample areas by absorbance, reflectance, polarisation, luminescence and fluorescence. Typical applications include:

- MEMS devices & material characterisation
- FPD colour masks, OLEDs and LEDs
- Surface plasmon resonance
- Mineralogy and vitrinite coal reflectometry
- Photoreceptors and semiconductors
- Optical thin film thickness
- Process contamination analysis



Please **contact us** for more details about this or other **CRAIC** products.

## Next month, meet Elliot Scientific and Lake Shore Cryotronics at...



### ICEC27-ICMC 2018

3rd to 7th September 2018, University of Oxford  
Exhibition days are Tuesday and Wednesday



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