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# Bruker 3D Microscopes

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### Superbright Nanocrystals Advance Biosensing

The combination of a special kind of nanocrystal known as a SuperDot™ and a unique optical fiber that enables light to interact with nanoscale volumes of liquid has allowed the detection of a single nanoparticle from a distance using light. "Until now, measuring a single nanoparticle would have required placing it inside a very bulky and expensive microscope," said professor Tanya Monro, director of the University of Adelaide's Institute for Photonics and Advanced Sensing. "For the first time, we've been able to detect a single nanoparticle at one end of an optical fiber from the other end. That opens up all sorts of possibilities in sensing."

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### Jenoptik Defense Div., Unions Reach Deal

The new long-term collective bargaining agreement will keep the company's facility in Essen, Germany, operating until at least the end of 2019.

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### Spaghetti-like Surface Makes Stronger SERS Sensor

Spaghetti-like arrays of gold-coated metallic carbon nanotubes can amplify the signals of surface-enhanced Raman spectroscopy (SERS) enough to perform analyses that are more reliable, sensitive and cost-effective, say researchers in Switzerland and California.

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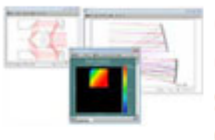
FEATURED VIDEO



### Swift Glass - Quality Fabricated Glass Parts

Swift Glass Company, an ISO 9001:2008 certified and ITAR registered company, is a privately owned worldwide leader in the manufacturing of quality fabricated glass parts for original equipment manufacturers. Watch to see some of our processes including: CNC milling and drilling; double sided lapping and polishing; thermal tempering; waterjet cutting; edging, and; slicing.

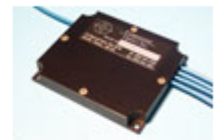
## Products on PhotonicsBuyersGuide.com



### CODE V Optical Design Software

Synopsys, Inc. CODE V® optical design software, version 10.5, offers new and improved optimization and tolerancing capabilities for the design of high-performance optical systems with reduced sensitivity to manufacturing and alignment errors.

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### Spliceless PM Coupler Array

Evanescent Optics Evanescent Optics Inc. offers low loss (<0.1dB), high isolation (<-25dB) PM fiber-optic couplers in both fixed ratio and variable models.

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### Mini And Micro Lens Elements

Argyle International, Inc. Argyle International has added a new series of miniature and micro lens elements to its diverse line of custom optics. Lens designs range from single and double convex, single and double concave, meniscus, rod lenses, and rod doublets and triplets.

[More info >>](#)



### Specialty Optical Liquids

Cargille Laboratories This Specialty Optical Liquids catalog features high-transmission, safe-handling laser liquids; fused silica matching liquids; and specific refractive index liquids (1.300 to 2.11 nD). Also featured are transparent and light-absorbing gels.

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## More Articles on Photonics.com

### North American Machine Vision Sales Grow in Q2

Total machine vision sales in North America rose 6 percent in the second quarter of 2013 compared with the second quarter a year ago, according to the Automated Imaging Association.

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### Semrock Receives ITAR Certification

The government has approved the maker of spectrally complex optical filters to manufacture parts for companies that require security levels and certification from the US Department of State for International Traffic in Arms Regulations (ITAR).

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### Conference to Explore Laser-based Weather Control

Ultrashort-pulse lasers as an emerging tool for controlling the weather will be the topic of interest at a gathering of atmospheric physicists, meteorologists and climatologists this month at the World Meteorological Organisation in Geneva.

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On this edition of the industry's **only weekly newscast**: a spaghetti-like surface makes for stronger SERS sensors, light might replace electricity in restoring healthy heartbeats, and lasers head to the classroom. Hosted by Photonics Media's Melinda Rose and Laura Marshall.

### Light to the Heart to Restore Healthy Beats

A multi-university team aims to put an optogenetic twist on the current practice of jump-starting a sluggish or stopped heart with a blast of electricity from a pacemaker or defibrillator by replacing the violent jolt of electricity with gently applied light.

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### LME Keynote to Address Ultrafast Industrial Lasers

The increasing availability of industrial-grade ultrafast lasers and their use in machining will be the focus of a keynote address by Magnus Bengtsson at the Laser Institute of America's third annual Lasers for Manufacturing Event (LME) next week.

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### Existence of New Element Confirmed

Experiments at the GSI research facility in Germany by an international team provided fresh evidence for the existence of a new, yet-to-be-named superheavy chemical element.

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### Measuring Optical Densities Over 10 Abs on the Agilent Cary 7000 Universal Measurement Spectrophotometer (UMS)

Agilent Technologies

High blocking optical filters deliver critical optical control in a wide variety of consumer and industrial products. Highly attenuating (i.e., high optical density) filters are used in personal protective equipment, such as laser safety eyewear, through to precise, low light level control in optical systems for enhanced sensitivity at preferred wavelengths. This technical overview demonstrates the performance of the Cary 7000 UMS for the measurement of such materials.

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## PHOTONICS buyers' guide

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- CMOS Cameras
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- Infrared Detectors
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## Industry Events

WEBINAR

### The Development and Application of an Innovative Technology Enabled by Optics

Wednesday, September 11, 2013 12 p.m. EDT/9 a.m. PDT

FREE WEBINAR

Wayne Lem  
Market Manager  
Trojan Technologies

Since 1977, Trojan Technologies of Ontario, Canada, has led the change to municipal water disinfection systems that use environmentally responsible, cost-effective ultraviolet light in place of chemicals. In this one-hour webinar, Wayne Lem, municipal wastewater market manager for Trojan Technologies, will explain how Trojan became the leader in advanced UV water treatment technology and the inaugural winner of the Optical Society's Enabled by Optics contest. Topics he will address include the challenges to developing an innovative technology, Trojan's technology and its future applications.

[REGISTER NOW](#)

### Lasers for Manufacturing Event (LME 2013) - September 11-12, 2013 - Schaumburg, Ill.

Visit Photonics Media at Booth 1026

The mission of the Laser Institute of America's (LIA) Lasers for Manufacturing Event (LME®) 2013 is to provide a one-stop event for companies interested in integrating laser technology into their production. LME is the place to view the most up-to-date laser equipment and find information about automation equipment, laser choices, beam delivery, safety considerations, applications development. Attendees also have the opportunity to meet exhibitors that supply these products and services.

Keynote sessions, open to all attendees, will cover: Ultra-high Brightness Direct Diodes, The Range of Laser Processing Applications in Industry, The Market for Industrial Lasers and Applications and Ultrafast Lasers - Are we There yet? Free educational courses include Main Laser Types Used for Manufacturing - Key Properties and Key Applications, Laser Safety for Industrial Laser Systems, Design Considerations for Industrial Laser Systems and Economic Justification for Laser Applications.

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