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PHOTONICS.com

Thursday, June 5, 2014

Laser Scanning Lends Credence to Theory of Brain Circuitry



Nerve cells in the brain can rewire and fine-tune themselves by forming connections with neighboring cells. Researchers in Canada made the discovery using timed visual stimulation and multi-photon laser-scanning technology while examining brain development in *Xenopus* tadpoles.

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Hungarian Attosecond Laser Facility Gets EU Funding

The European Commission recently approved €111 million (about \$150 million) to build an attosecond laser research complex in Hungary.

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Nanowire Probes Provide Visual Enhancement for AFM

Nanowire probe tips originally intended for atomic force microscopes in NSMM applications could have another use: LEDs that can illuminate tiny sample regions.

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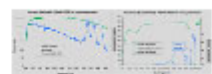
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RGB Matrix Laser

Necsel
Necsel holds key patented technology to be the premium worldwide supplier of high power red, green and blue lasers with price points that enable the targeted display and lighting markets.

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Optogenetic Method Erases, Reactivates Memories



A new optogenetics technique could essentially control memories, showing potential for treating brain-related conditions such as Alzheimer's disease.

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Laser Sensing for Self-Driving Cars, 3-D Video Games

A new technology is able to remotely sense objects across distances 10 times farther than with existing low-power laser systems.

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Augmented Reality Device Easier on the Eyes

A new device that superimposes computer-generated images in the user's direct view aims to make augmented reality technology easier on the eyes.

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In this edition of the industry's **premier weekly newscast**: A low-light laser technique regrows tooth cells, flexible transistors prompt the next generation of electronic screens, optogenetics controls memory, and three researchers earn the Kavli Prize in nanoscience.

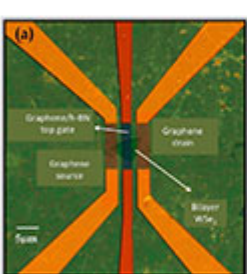
Rotational Sensor Exploits Polarization

A rotational angle sensor that measures light polarization aims to be more efficient than its optical and magnetic counterparts.

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New Thin-film Transistors Could Mean Flexible Screens



Ultra-thin, transparent, flexible transistors could lead to the next generation of screens for computers, smartphones and televisions.

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Laser Triggers Stem Cells to Fix Teeth

A new low-light laser technique has shown the potential to regrow tooth cells.

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WHITE PAPER



High-power Visible Spectrum Diode Lasers for Display and Medical Applications - Beam Sources with Tailored Beam Quality and Spectral Characteristics

DILAS Diodenlaser GmbH

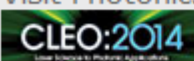
Improved beam shaping concepts allow coupling of red and blue diode lasers into smaller fibers. For medical applications beam sources with narrow wavelength distribution in the blue spectral region were developed. Modules up to 100W in a 400µm NA0.22 fiber were realized. Progress in manufacturing technologies allows for coupling of more than 25W into a 200µm NA0.22 fiber in the blue wavelength range.

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Industry Events

CLEO 2014 - June 8-13, 2014 · San Jose, Calif.

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The Conference on Lasers and Electro-Optics (CLEO) unites the field of lasers and electro-optics by bringing together all aspects of laser technology. It offers high-quality content featuring breakthrough research and applied innovations in areas such as ultrafast lasers, energy-efficient optics, quantum electronics, biophotonics and more.

A comprehensive technical program features 1,700+ presentations and hundreds of sessions covering the most important technical developments in the industry, and more than 300 companies participate in an EXPO that offers extensive show floor business programming, networking opportunities, market focus, the Technology Transfer program and a technology playground.

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FEATURED VIDEO



Eric Felkel, Product Manager at Zygo, talks about the Prism nominated Nexview. Nexview 3D optical surface profiler excels at measuring all surfaces - from super-smooth to very rough, with sub-nanometer precision, independent of field of view. Measurement types include flatness, roughness, large steps and segments, thin films, and steep slopes, with feature heights ranging from < 1 nm up to 20000 µm.

Zygo - 3D Optical Surface Profiler

Eric Felkel, Product Manager at Zygo, talks about the Prism nominated Nexview. Nexview 3D optical surface profiler excels at measuring all surfaces - from super-smooth to very rough, with sub-nanometer precision, independent of field of view. Measurement types include flatness, roughness, large steps and segments, thin films, and steep slopes, with feature heights ranging from < 1 nm up to 20000 µm.

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