

PHOTONICS spectra

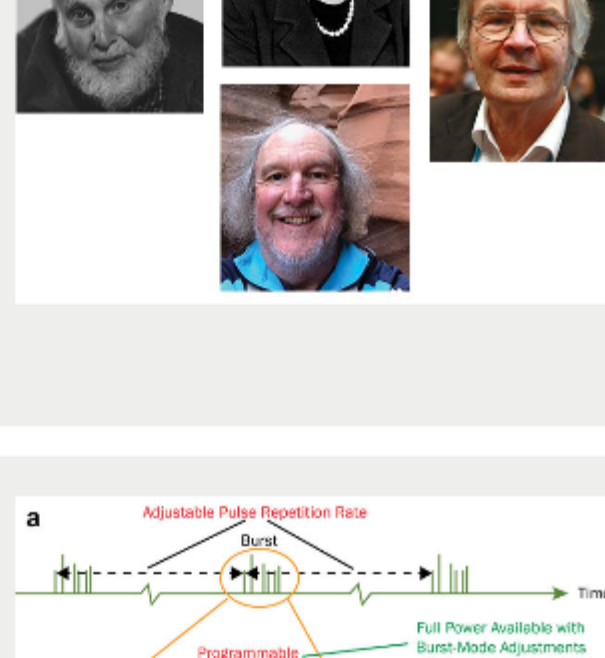


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Laser Pioneers

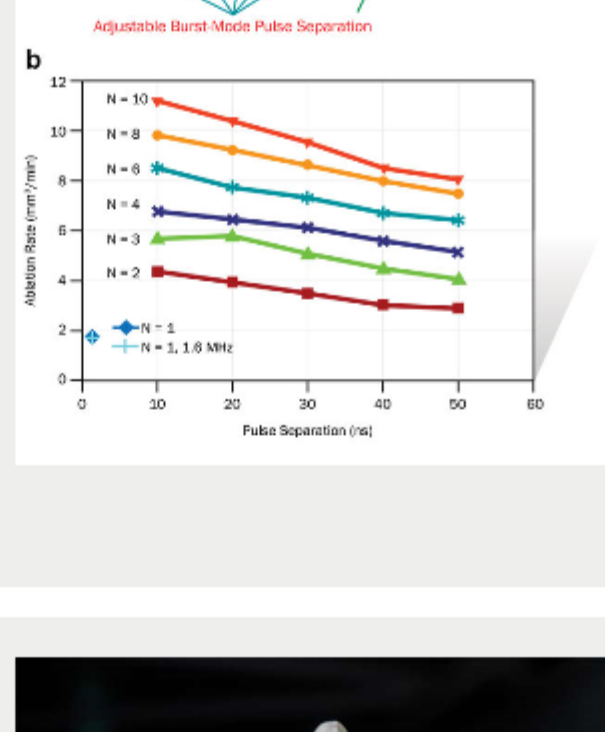
Listed here are many breakthroughs that followed the first ruby laser demonstration. Nearly all of the devices mentioned have played major roles in science or everyday life, and continue to today. This brief list of pioneers — not exhaustive by any means — places a human face on scientific progress and helps, like the technology itself, to inspire the international imagination.



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Picosecond Lasers Transform Volume Manufacturing

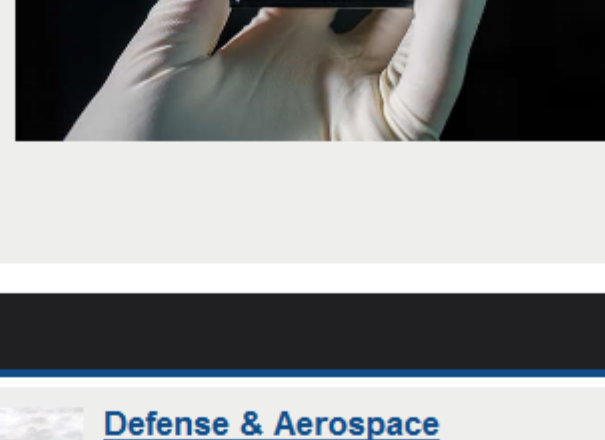
Although initially pioneered more than two decades ago, ultrashort-pulse lasers, and particularly picosecond lasers, are now more effective, more reliable, and less costly. As a result, their use in micromachining has greatly expanded, both in the variety of uses and the quantity being deployed.



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Optical Coatings with Atomic Precision

Today, optical coatings are a commodity: They exist on all types of professional and consumer optics. Among the various technologies for depositing optical coatings, atomic layer deposition (ALD) stands out for its conformal coating on high-aspect-ratio nanostructured and steeply curved surfaces.



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Featured Products

Alluxa Ultra Series Filters and Coatings

Alluxa
Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

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Defense & Aerospace

Photonics Media
Drawing mainly from the pages of Photonics Spectra and focusing on the last decade or so of developments, Defense & Aerospace offers an overview of these industries as only Photonics Media can present it — from laser paint removal and laser bonding in aerospace, to breakthroughs in quantum sensing.

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Wave Optics Module

COMSOL Inc.
The Wave Optics Module is an add-on product to the COMSOL Multiphysics® simulation software platform. You can use the Wave Optics Module to efficiently model and optimize optical systems and photonic devices.

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TracePro Optics and Illumination Software

Lambda Research Corp.
TracePro combines a graphical user interface with solid modeling, Monte Carlo ray tracing, analysis features, CAD import/export, optimization methods, and a complete and robust macro language to solve a wide variety of problems in illumination design and optical analysis.

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High Brightness Fiber-coupled Diode Laser

PhotonTec Berlin GmbH
New high power and brightness fiber-coupled diode lasers at 915nm and 976nm provide more power up to 150W from a single 105µm/0.22NA fiber and up to 210W from a single 200µm/0.22NA fiber. With the same package the power of wavelength stabilized diode laser at 976nm reaches max.

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Lince 11M Sensor for High-speed Applications

Teledyne e2v (UK) Ltd.
Teledyne e2v announces the expansion of its Lince family of image sensors with a new 11Megapixel detector. Lince11M is a new CMOS image sensor designed for applications that require 4K resolution at very high shutter speed. This standard sensor uniquely combines 4K resolution at 710 fps in APS-C format.

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Light Pipes and Homogenizers

IRD Glass
IRD Glass specializes in high precision light homogenizers and light pipes. Light pipes and homogenizers are designed to smooth out the irregularities inherent in a raw non-uniform beam of light to create a more uniform and evenly distributed beam of output energy.

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C-WAVE: Tunable CW Laser Light

HUBNER Photonics
The C-WAVE, by HÜBNER Photonics, is a unique, tunable, single frequency, cw, OPO, covering 450 nm - 650 nm and 900 nm - 1300 nm. In the region 450 nm — 650 nm output powers of up to 200 mW are available while at 900 nm - 1300 nm output powers up to 400 mW are available.

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Optical Filters for Point of Care Applications

Delta Optical Thin Film A/S
Physically small custom optical filters. Delta Optical Thin Film can deliver physically small custom optical filters for research, clinical, and PoC fluorescence-based instruments in high volumes at low cost. By combining our optical filters with our knowledge in complete optical design, we help our customers with more than the optical filters.

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Broadband Wire-Grid Polarizers

Moxtek Inc.
Moxtek offers a variety of wire-grid polarizers and polarizing beamsplitters designed for demanding applications. Our polarizers are made from heat tolerant inorganic materials that enable exposure to temperatures that degrade film based polarizers. Our polarizers are designed for narrow and broadband UV-VIS-IR wavelengths.

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FAC on Tab With Precise Positioning

FISBA AG
The two dominating options of pre-assembled Fast Axis Collimator Lenses (FACs) are FACs with side tabs and FACs on bottom tabs. Bottom tabs provide advantages such as better thermal conductivity between the FAC and the mechanical holder as well as a more mechanically robust design.

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Full Digital High Definition OLED Microdisplay

Yunnan OLIGHTEK Opto-Electronic Technology Co. Ltd.
The prominent high-definition OLED full digital microdisplays by OLIGHTEK profoundly widen near-to-eye applications and lead the way in near-to-eye technology. OLIGHTEK's full digital high-definition OLED microdisplays are available for new applications in markets such as: High resolution human medical field, Virtual world and simulation training...

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PI Mini Positioning Stages

PI (Physik Instrumente) LP, Air Bearings and Piezo Precision Motion
PI has engineered a compact motorized linear stage that combines high accuracy with affordability. A large variety of drive and configuration options is offered, from open loop stepper motors with lead screws to fast, servo motor driven units with linear encoders and low-friction ball-screws.

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OEM Microscope Components

Nikon Instruments Inc.
Nikon provides a large range of microscopy components to satisfy diverse optical requirements. These components can be incorporated into imaging systems to fulfill unique experimental requirements. Nikon is staffed with a dedicated team to service large volume and OEM requests.

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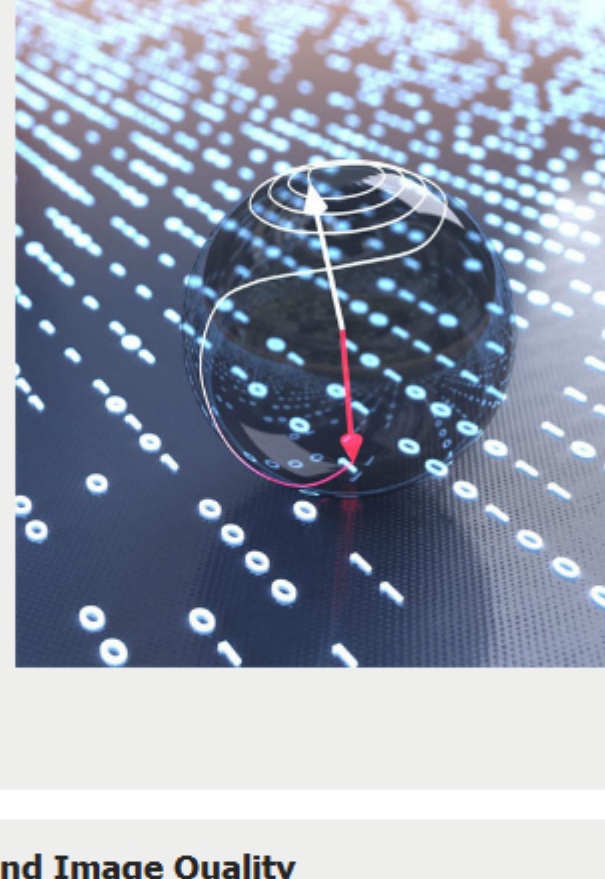
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In Case You Missed It

Superfast Computing Method Uses Terahertz Light Pulses

An international team has discovered how to perform superfast data processing using light pulses instead of electricity. The team used magnets to create faster data processing speeds without incurring high energy costs.

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Laguerre-Gaussian Mode Sorter Could Improve Internet Speeds and Image Quality

A new optical device that splits light beams into modes, with each mode acting as an independent channel of information, could be used to pack hundreds of modes into a single optical fiber, increasing the amount of information the fiber can carry. The device splits a beam of light into the "shapes" it is composed of, similar to how a prism splits white light into different colors. It was developed by researchers at the University of Queensland and Nokia Bell Labs.

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Computing Using Photopolymers and Light

A new type of computing, developed by researchers at McMaster University, uses a single-component, light-responsive system to perform computing operations without relying on external electrical power or processors.

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Webinars

Laser Source Selection for Microwelding Applications

Tue, Jun 25, 2019 1:00 PM - 2:00 PM EDT
This webinar will cover laser engine and beam delivery options for microwelding applications for a range of markets, including medical device manufacturing, automotive components, electronic leads, and batteries. There are a number of microwelding laser sources and techniques available today for the manufacturing engineer. This presentation will cover the differences between the various laser sources and the manufacturing considerations to keep in mind when you select the best laser for your application from the different commercial options available today. This webinar is sponsored by Ophir.

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Features

Avalanche Photodiodes, Embedded Vision, IR Metrology

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra*. Please submit an informal 100-word abstract to Susan Petrie, Senior Editor, at Susan.Petrie@Photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

About Photonics Spectra

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