

# This Week in PHOTONICS



**LightMachinery**  
Excellence in Lasers and Optics

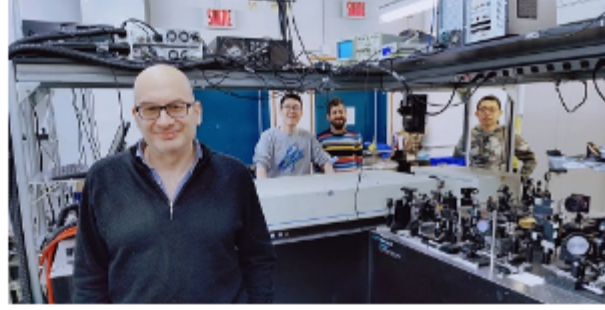


**Hyperfine Spectrometer**  
A sub-picometer resolution spectrometer in a compact package.

## :: Top Stories

### Metal-Wire Waveguides Deliver Unparalleled THz Network Efficiency

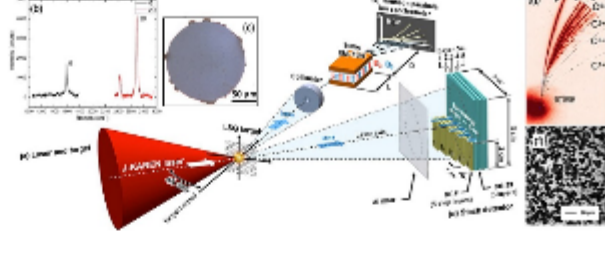
A research group at Institut national de la recherche scientifique (INRS) in Quebec has achieved broadband terahertz (THz) signal processing by directly engineering the wire surfaces of metal-wire waveguides. The approach allowed multiscale-structured Bragg gratings to be directly etched on metal wires without the need to introduce additional materials.



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### Graphene Target Withstands Direct Ion Acceleration

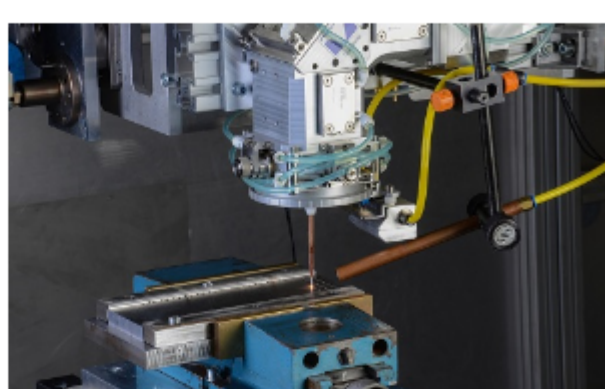
Osaka University researchers and their colleagues have reported direct energetic ion acceleration by irradiating what they claim to be the world's thinnest and strongest graphene target with the ultra-intense J-KAREN laser at Kansai Photon Science Institute at QST in Japan. The research supports the potential to develop compact and efficient laser-driven ion accelerators for cancer therapy, laser nuclear fusion, and more.



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### OCT Expands Wire-Based Laser Material Deposition's Range of Uses

Researchers at the Fraunhofer Institute for Production Technology IPT, in collaboration with five industry partners, have equipped a laser metal deposition (LMD) system with an OCT system. The combination mechanism enabled the scientists to successfully record the welding process in progress, and made it possible to control the quality and process during use, which reduces scrap.



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## :: Featured Products



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**HyperFine Brillouin Spectrometer**  
**LightMachinery Inc.**

The great challenge with Brillouin spectroscopy is that the scattered signal from the un-shifted wavelength of the laser can overwhelm the small Brillouin shifted return signal. LightMachinery has combined its leading-edge HyperFine spectrometer with a very narrow band tunable filter to suppress the bright un-shifted laser frequency.

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**Covesion 1 µm Waveguide Product Range**  
**Covesion Ltd.**

Covesion New Product Launch Spring 2022: PPLN Waveguides for Second Harmonic Generation (SHG) at ~1 µm input wavelength

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**Optica Adds Former EPIC CTO Jose Pozo to Executive Team** [Read Article](#)

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## :: Upcoming Webinars

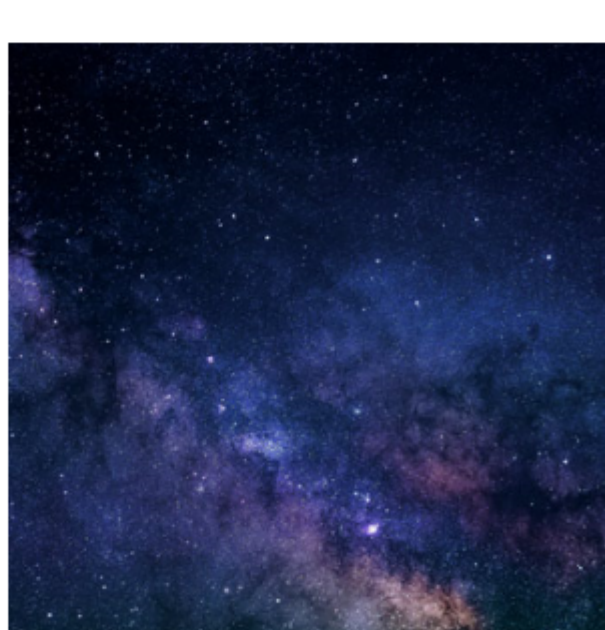
**Emerging Technologies Changing Ophthalmology Access and Point of Care**  
Thu, Mar 17, 2022 10:00 AM - 11:00 AM EDT  
This webinar — for those interested in visual optics, ophthalmology, and biomedical devices — introduces five technologies that are using optics, photonics, or imaging to redefine how patients are served along the point-of-care continuum, from diagnosis and treatment to surgical selection and correction. It also showcases how technologies are being applied to make tools more mobile and accessible, minimize workflows, and reduce the risks associated with COVID-19 to significantly improve both the patients' and the practitioners' experience. Presented by Luminat.

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## :: All Things Photonics

Building on the first episode of the season, University of California, Santa Barbara scientists **Philip Lubin** and **Joel Rothman** discuss Project Starlight, a NASA project that intends to send microscopic worms — among other creatures — into space. Lubin, the brainpower behind the directed energy facet of the project, identifies the considerable photonic advances that must be made before achieving atmospheric flight.

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