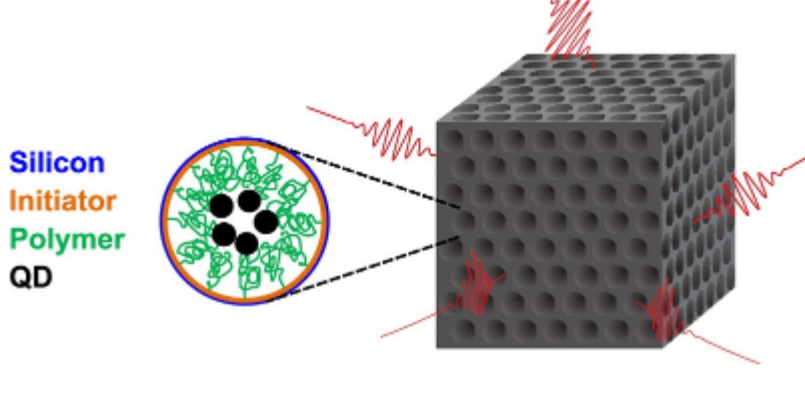




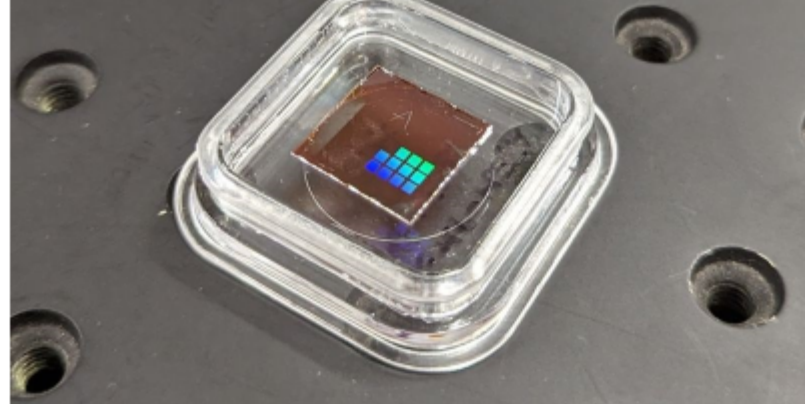
Weekly News



Photon Emission Control for Quantum Applications Sets Precision Record

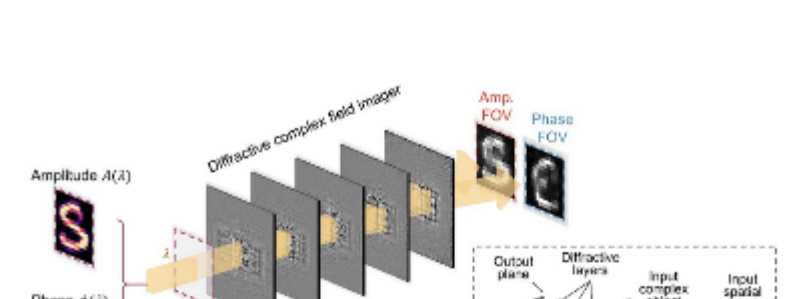
Researchers at the University of Twente (UT) demonstrated a way to control the emission of photons with record-setting precision, by using nanophotonic tools — specifically, tiny chemical chains of polymer brushes — to hold photon sources in place. Through their demonstration, the team showed that excited light sources can be reduced by nearly 50%. [Read Article](#)

excited light sources can be reduced by nearly 50%. [Read Article](#)



Metasurfaces Enable Switch from Edge Detection to IR Imaging

To create a compact, flexible sensor for agriculture and other industries, an international engineering team combined the tunability of phase change materials with reconfigurable image-processing metasurfaces. The resulting device provides image processing functionality that can be dynamically reconfigured by a temperature change of just a few degrees. [Read Article](#)



Imager Captures Amplitude, Phase Info Without Digital Processing

Researchers at the University of California, Los Angeles have developed an all-optical complex field imager capable of capturing both amplitude and phase information of optical fields without the need for digital processing. The researchers believe that the imager could be used in fields such as biomedical imaging, security, sensing, and material science. [Read Article](#)

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IDS Imaging Development Systems GmbH

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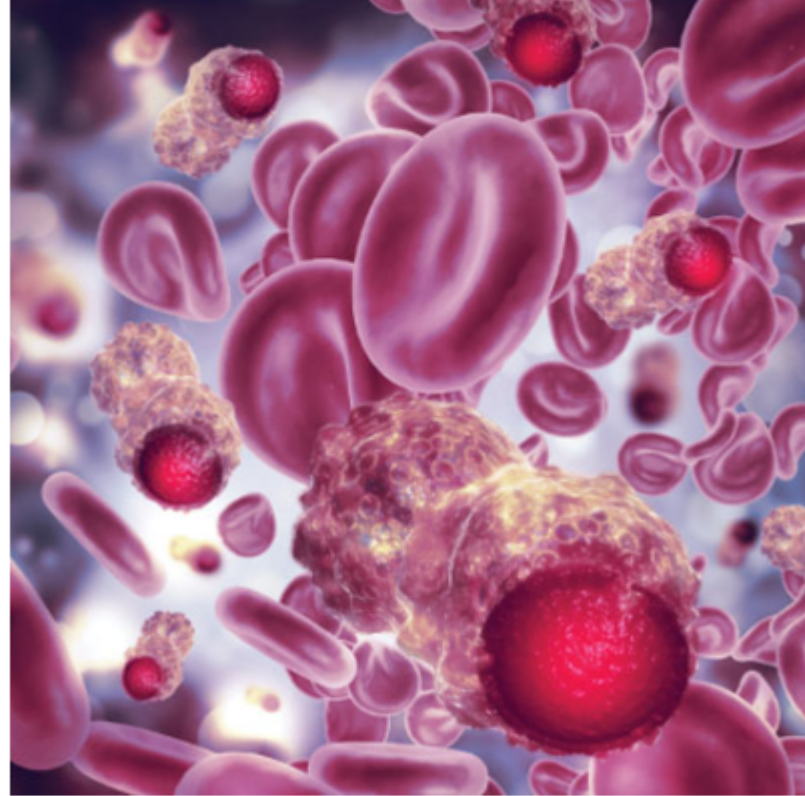
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Latest Webinars



Functional Imaging and Monitoring of Tissues with Diffusing Light

Tue, Jun 25, 2024 1:00 PM - 2:00 PM EDT
Diffusing light can be used to quantitatively probe the physiology of tissues located far below the surfaces of the body. The emerging light fields contain a wealth of diagnostic information about blood flow, blood oxygenation, and oxygen metabolism, pertaining to molecular biomarkers such as cytochrome-c oxidase, lipid, and water as well as health biometrics, such as intracranial pressure and cerebral autoregulation. Arjun Yodh of The University of Pennsylvania introduces the essential diffuse optics measurement tools and paradigms. Then, he discusses selected clinical and preclinical examples from collaborations with colleagues at the Hospital of the University of Pennsylvania and the Children's Hospital of Philadelphia. These examples illustrate the potential of the technologies in the contexts of brain injuries and breast cancer. Lastly, he discusses the recent progress of the community that will propel this field forward.

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The Heart of Gas Sensors: Novel IR Detectors for Gas Analysis

Thu, Jun 27, 2024 10:00 AM - 11:00 AM EDT
This webinar covers the heart of gas sensors: IR detectors. Jędrzej Mijas of VIGO Photonics discusses optical gas analysis in MIR as the most efficient gas analysis field, with special emphasis on choosing the proper IR detector for each gas sensing technique. As the most important gaseous species to detect are methane (CH₄), ammonia (NH₃), nitrous oxides (NO_x), and sulphur oxides (SO_x), techniques for accurate detection of these substances in various applications are the core of this presentation. He also addresses the pros and cons of various techniques, especially nondispersive infrared (NDIR), Fourier transform infrared (FTIR), and tunable diode laser absorption spectroscopy (TDLAS), and tunable transform infrared (TTIR). Next, he touches on the novel IR detectors manufactured by VIGO for gas analysis, showcasing

the specific features that make them the best fit for gas analysis. Finally, he describes both high-end mercury cadmium telluride (MCT) detectors tailored for gas analysis, as well as cost-effective and RoHS-compliant III-V superlattice detectors. Attendees will benefit by obtaining a clear image of IR gas analysis and will be more confident in the choice of detector for the job. Presented by VIGO Photonics.

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