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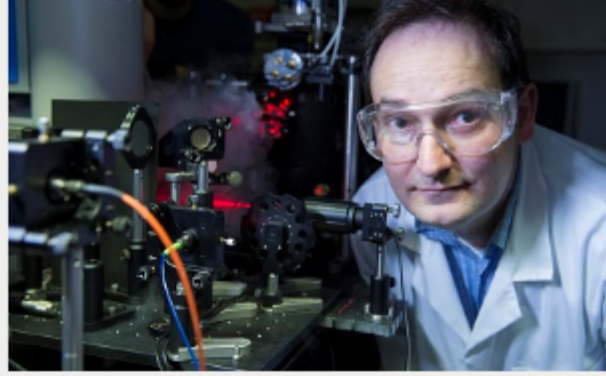
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Top Stories

Photon Source Lighting the Way for Quantum Computing

As today's computers show fundamental limitations in calculation capacity for future use, a scalable, electrically driven photon source could make quantum computing a reality sooner than expected. Quantum computing — a technology for designing computers based on quantum mechanics, the science of atomic structure and function — uses the qubit, or quantum bit, which can hold an infinite number of values.

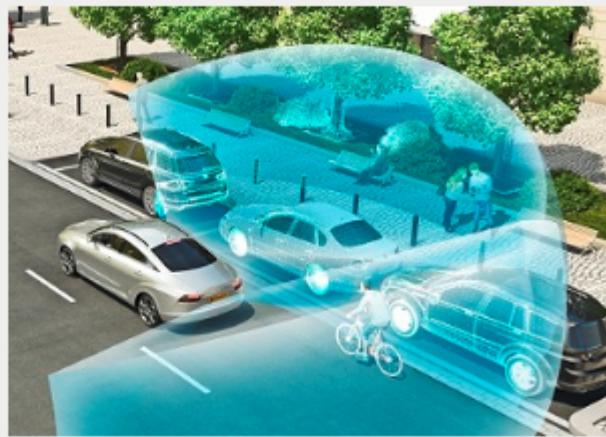


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AI Dialog Brings Together Humans and Their Machines

Artificial intelligence algorithms can potentially enhance future automated driving mobility applications. These same deep-learning algorithms could also increase visual object detection to further enhance human-machine dialog. In a joint venture, international technology company Continental and the University of Oxford are now conducting research in the field of artificial intelligence as it applies to the auto industry.

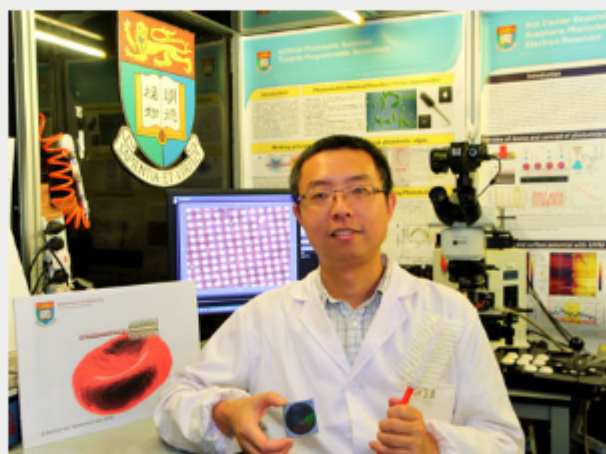


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Light Could Propel Nanorobots on a "Fantastic Voyage" Through the Human Body

Light-driven synthetic nanorobots, comparable in size to a blood cell, could someday travel through the human body to aid surgeons in the removal of tumors and deliver targeted medications. A nanorobot that uses light as its propelling force has been demonstrated by a research team at Hong Kong University (HKU).



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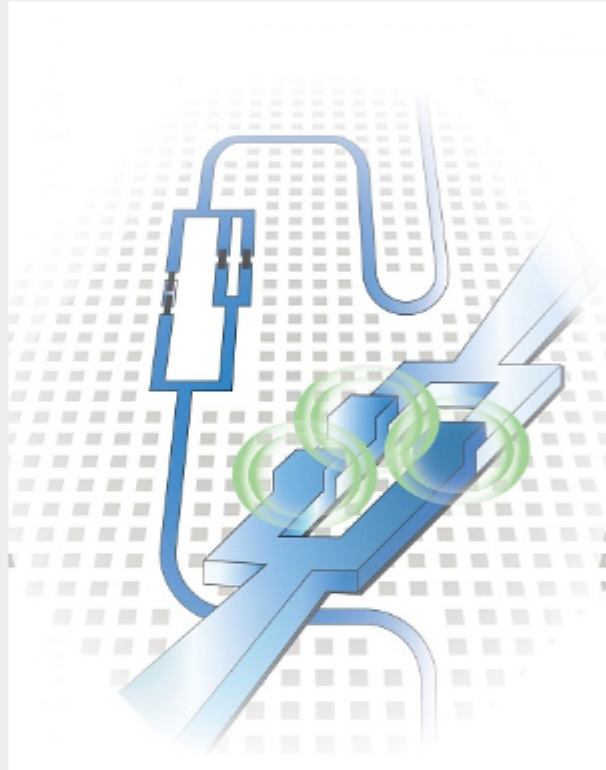


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Ultrastrong Coupling Achieved Between Light and Matter

An ultrastrong coupling (USC) between photons and qubits 10 times larger than ever seen may open the door to a domain of physics and applications deemed unattainable until recently. Researchers at the University of Waterloo's Institute for Quantum Computing (IQC) are investigating light-matter interactions in quantum optics. For their research, they fabricated aluminum circuits and then cooled them in dilution refrigerators to one percent of a degree above absolute zero, making the circuits superconducting and able to carry a current without resistance or loss of energy.

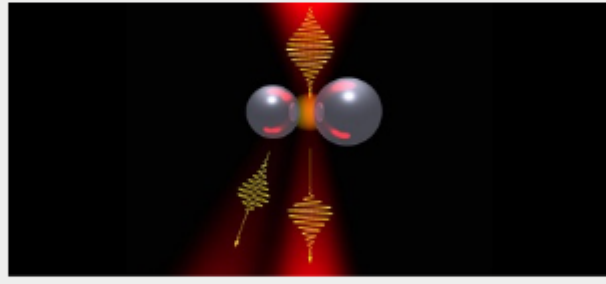


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Silicon Nanoantennas Turn Light Around

Light is rather hard to control, as photons have neither mass nor electric charge. Devices such as nanoantennas can control the propagation of electromagnetic waves, but only to a certain degree. A proposed nonlinear optical nanoantenna that can be manipulated, will operate at 250 Gbps, shining light, so to speak, on the development of optical computers where information is carried by photons, rather than electrons, greatly increasing the speed of transmitting and processing of information.



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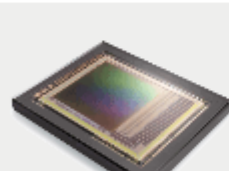
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Industry Events

Nanophotonics and Micro/Nano Optics International Conference 2016

December 7-9, 2016 - Pierre and Marie Curie University - Paris France

The Nanophotonics and Micro/Nano Optics International Conference is an annual event that hosts high-profile plenary speakers, world class researchers, oral and poster presentations, workshops, and sponsor exhibits. Key issues and new concepts in optics will be the focus of the 2016 conference. Specific topics to be covered include: Photonic and plasmonic nanomaterials; magneto-optical nanomaterials; sol-gel optical materials; optical properties of nanostructures; nonlinear nano-optics; quantum dots; and much more.

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