Best of Last Week – New quantum mechanical property, a human carrying drone and training the brain to control emotions

January 11 2016, by Bob Yirka

Schematic representation of the nonlocal electron interference experiment. A dc current is driven from the upper left to the lower left contact. A nonlocal, oscillating voltage is measured between the upper and lower right contacts due the magnetic-field induced single-electron interference in the 500 nanometer ring in the middle.

With CES running in Las Vegas, it has been a busy week for technology news, but physics research moved ahead as one team of researchers with the University of Twente in the Netherlands discovered a new fundamental quantum mechanical property—it involves a property of electrical currents in tiny metal circuits. Another team of physicists in the U.S. offered theories to explain a mysterious collision at the Large Hadron Collider—one of which was that it revealed a heavier version of the Higgs boson.

In technology news, representatives of a Chinese drone maker unveiled a human-carrying drone—at CES. They call it the Ehang 184 and claim that it is the world's first drone able to carry human passengers. A team of researchers at Indiana University announced that they had created a 'nano-reactor' for the production of hydrogen biofuel, and a team at HRL Laboratories announced that they had achieved a breakthrough in ceramics 3D printing technology—a new approach that overcomes the limitations of current ceramic processing techniques allowing for the creation of high strength ceramic components made at high temperatures. A team with the Ulsan National Institute of Science and Technology in Korea announced that they had developed a stretchable, transparent heater made from metallic glass and suggest it likely will have many uses, such as heating body parts and defrosting side mirrors on cars.

In other news, a team of researchers from Germany and France claimed to have found the reasons behind why the real King Kong became extinct—not the Kong of fiction, of course, but the biggest ape known to have lived, which disappeared approximately 100,000 years ago. The new research suggests it failed to adapt to a changing climate. Also, a team of researchers in the U.K. suggested that exercise could work as a treatment for prostate cancer—they are embarking on a study to test the

idea. And researchers working on the Spitzer and Hubble projects, found 'twins' of superstar Eta Carinae in other galaxies—five objects with similar properties were found in other galaxies for the first time.

And finally, if you have ever wondered if it might be possible to teach yourself how to control your emotions to allow for living a more productive life, a team of researchers with Ben-Gurion University of the Negev reported that they found that the human brain can be taught to regulate negative emotions by taking part in a computer-assisted task that actually does some rewiring in the brain.

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Citation: Best of Last Week – New quantum mechanical property, a human carrying drone and training the brain to control emotions (2016, January 11) retrieved 12 October 2024 from https://sciencex.com/news/2016-01-week-quantum-mechanical-property-human.html

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