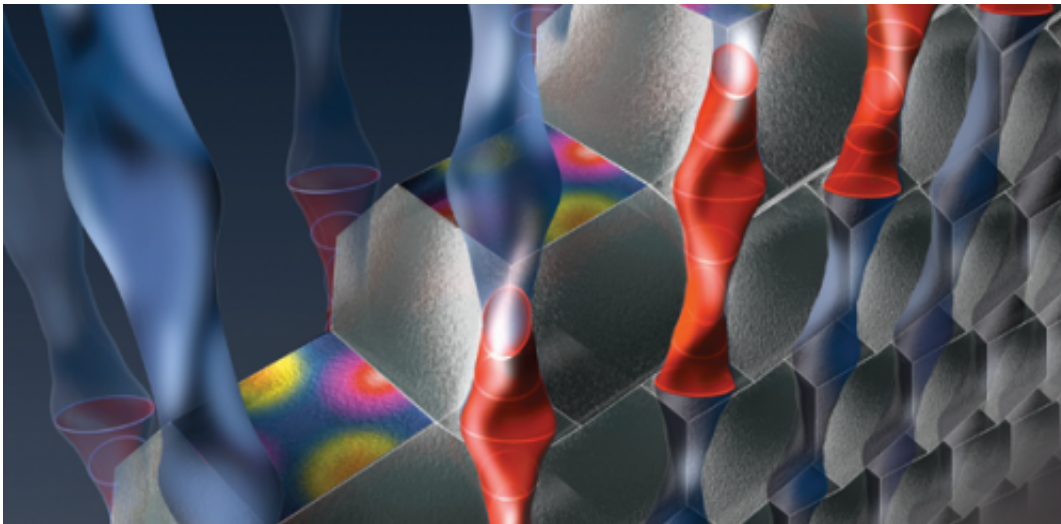


Best of Last Week – Superconducting secrets solved, simulating time travel and possible breakthrough in treating autism

June 23 2014, by Bob Yirka



Map of superconducting copper oxide structure. Credit: Nicolle R Fuller

(Phys.org) —It's been a big week for solving mysteries—first up, a breakthrough has been made in [identifying the origin of superconductivity in high temperature superconductors](#). A team at the University of Cambridge found that moving electrons created twisted "pockets" of electrons in the materials from which superconductivity emerged. Also an [Egyptologist unravels an ancient mystery](#)—turns out an ancient army wasn't destroyed by a sand storm after all, it was conquered by another army and then covered up by the losing side. And

in Quantum biology: [Algae evolved to switch quantum coherence on and off](#)—researchers at UNSW in Australia have uncovered how a type of algae is able to exist in extremely low-light conditions and the discovery adds to the growing list of observations that indicate that quantum phenomena are operating in nature.

In other physics news, researchers found that a [a new test may provide a 'smoking gun' for modified gravity](#)—it might help explain observations that don't appear to adhere to general relativity's rules regarding gravity, such as the accelerated expansion of the universe. And researchers at the University of Queensland have been [simulating time travel: Doctor Who meets Professor Heisenberg](#). They used photons to simulate quantum particles traveling through time.

In news that could potentially impact millions of people around the world, [scientists explain stress-heart attack link](#)—they found that stress tends to activate bone marrow stem cells, which in turn trigger an overproduction of [white blood cells](#). Finding such a link is, of course, the first step toward finding a way to prevent it from happening. Also important to a lot of people, [researchers find thousands of secret keys in Android apps](#)—the keys found in apps on Google Play could be used by nefarious types to steal user data or resources from service providers.

And finally, in what might be a breakthrough, researchers at the University of California have found that a [single-dose drug reverses autism-like symptoms in mice](#)—it's a drug used to help with sleeping sickness. They found that the drug caused normal cellular signaling to be restored in a model of autism in a mouse—reversing the symptoms of autism and providing hope for patients and people the world over who care for those with the condition.

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