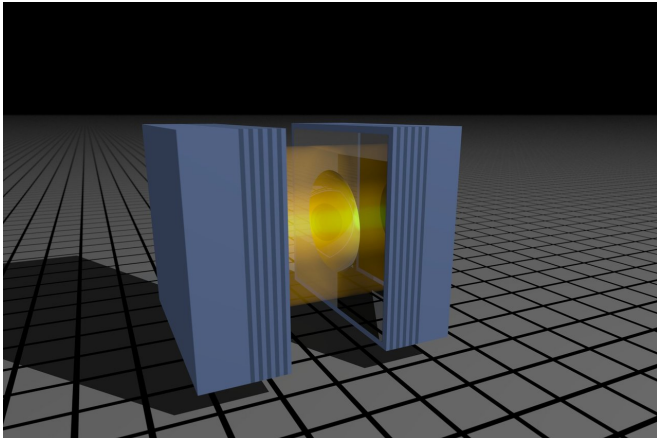


Best of Last Week – Seven photons acting like billions, how plants communicate and an anti-aging molecule

17 September 2018, by Bob Yirka



Artist's rendering of the core of the apparatus. Credit: Imperial College London

It was another good week for physics as a team at the University of Chicago found [gravitational waves provided a dose of reality about extra dimensions](#)—they did not offer evidence of gravity "leaking" into additional dimensions. And a team with members from Imperial College London, the University of Oxford and Karlsruhe Institute of Technology found that [just seven photons could act like billions](#), which suggested that scientists might study quantum behavior more easily than thought. Also, an international team reported on their discovery of [a 'tunable' novel quantum state of matter](#) that is more tunable than theory suggests. And another international collaboration resulted in the [discovery of optimal magnetic fields for suppressing instabilities in tokamaks](#), marking another step toward harnessing fusion reactions.

It was a good week for biology, too, as a team at the University of Wisconsin discovered that [blazes of light could reveal how plants signal danger over](#)

[long distances](#)—by using calcium to provide an electrical and chemical signal of a threat. And a team at the University of San Diego School of Medicine announced that they had found that [a single gene mutation may have helped humans become optimal long-distance runners](#)—a mutation that occurred between 2 and 3 million years ago. Also, a team of archaeologists at Stanford University found evidence that suggested [beer production may have been the motivation to cultivate cereals](#)—they found beer-brewing innovations in a cave in Israel that they believe predate the early appearance of cultivated cereals. And an international team developed [a gene therapy able to remove a core component of Parkinson's disease](#), taking another step towards an effective treatment for the debilitating disease. Also, another international team found that [superbugs jump frequently between humans and animals](#)—their genetic study of [antibiotic resistant bacteria](#) showed the evolution of the bugs as humans first began domesticating animals.

And finally, if you are like most people and would like to live to a ripe old age, in relatively good health, you might be interested in research done at Georgia State University—they identified [a molecule that has anti-aging effects on the vascular system](#)—and it is produced when people severely restrict their diet.

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