

Best of Last Week—Nanomagnets that levitate, Yellowstone spawning super-eruptions and T cell activation alters behavior

October 30 2017, by Bob Yirka

Scanning electron micrograph of a human T lymphocyte (also called a T cell) from the immune system of a healthy donor. Credit: NIAID

(ScienceX)—It was another good week for physics as an international team of researchers proposed [a test of quantum gravity using current technology](#) based on laser based experiments. Also, a team at the University of Innsbruck demonstrated [nanomagnets that levitate thanks to quantum physics](#)—they based it on quantum angular momentum of electrons.

It was also a good week for space research as an international team announced that they had captured evidence of [the first visiting object from outside our solar system](#)—an object named A/2017 U1 that is believed to be small, rocky or icy, and from another star system—and is just passing through. Also, a team with members from the universities of Groningen, Naples and Bonn [used artificial intelligence to find 56 new gravitational lens candidates](#)—they hope that studying them might lead to a better understanding of dark matter.

In other news, a team at the Max Planck Institute for Intelligent Systems announced that they had used [an AI method to upscale low-resolution images to high-resolution](#)—though not pixel perfect, the team reports, the results are an improvement. Also, Jim Kennett with UC Santa Barbara gave a talk at this year's Geological Society of America meeting [outlining a theory that suggests Yellowstone spawned twin super-eruptions that altered the global climate](#) approximately 630,000 years ago. And a team at Harvard T.H. Chan School of Public Health found that [manipulating mitochondrial networks could promote healthy aging](#)—either via dietary restriction or genetic manipulation that mimics it. And a team at the University of Warwick found evidence of humans causing [crops to evolve 10 millennia earlier than thought](#). Also, a team at Michigan State University argued that [transparent solar technology represents the 'wave of the future'](#)—suggesting it could be used together with traditional rooftop units to meet the demand for electricity in the U.S.

And finally, if you expect to suffer from an infection of some kind in the future, you might want to take a look at research done by a team at the RIKEN Center for Integrative Medical Sciences —they found that [activation of immune T cells leads to behavioral changes](#) such as anxiety and exacerbated fear responses.

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