

Best of Last Week—Observing infinitely long wavelengths, finding Baryonic matter and heart burn drugs and liver disease

October 16 2017, by Bob Yirka

A zero-index waveguide compatible with current silicon photonic technologies.
Credit: Second Bay Studios/Harvard SEAS

(ScienceX)—It was a good week for physics as a team at the Harvard John A. Paulson School of Engineering and Applied Sciences reported

that they had [directly observed infinitely long wavelengths for the first time](#) using a zero-index waveguide they had developed. Also, a group at the University of Geneva conducting experiments with quantum theory found [a single photon revealed quantum entanglement of 16 million atoms](#) in a one-centimeter crystal. And a team with members from the Max Planck Institute and the BCCMS centre in Bremen [reported reversal of current flow in a quantum](#) system using a quantum observer, which made it more likely that the current would flow in one direction or another.

In space news, [two separate teams of astronomers found evidence of missing Baryonic matter](#). Also, an international team of astronomers using data from the CALIFA survey [discovered unusual spindle-like galaxies](#), showing they are much more common than has been thought.

In other news, a team at Stanford University announced that they had developed [a battery based on sodium that may offer more cost-effective storage than lithium](#). They achieved their results by adding myo-inositol to the sodium-based electrode. And a team at Imperial College London studying psilocybin found that [magic mushrooms may "reset" the brains of depressed patients](#) for weeks following treatment. Also, a team with members from Sweden, the U.S. and China conducted mitochondrial DNA testing and found that [Newfoundland was populated multiple times by distinct groups](#) going back approximately 10,000 years. And a team at the University of Arizona studied data held in global databases and found [that pest resistance to biotech crops is surging](#). The crops were bioengineered to produce insect killing proteins from the *Bacillus thuringiensis* bacteria.

And finally, if you are one of the millions of people around the world suffering from heartburn, you may want to take note of a study conducted by a team at the University of California San Diego School of Medicine—they found that [common acid reflux medications promote](#)

chronic liver disease. Specifically, proton pump inhibitors may alter gut bacteria in harmful ways.

© 2017 ScienceX

Citation: Best of Last Week—Observing infinitely long wavelengths, finding Baryonic matter and heart burn drugs and liver disease (2017, October 16) retrieved 19 April 2024 from <https://sciencex.com/news/2017-10-weekobserving-infinitely-wavelengths-baryonic-heart.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.