

Best of Last Week – Solving a physics problem, Zika drug breakthrough and chemicals in antibacterial soap banned

September 5 2016, by Bob Yirka

Using SLAC's instrument for ultrafast electron diffraction, researchers were able to directly see the motions of atomic nuclei in vibrating molecules for the first time. In the experiment, a laser pulse (green) hit a spray of iodine gas (at right). This stimulated vibrations in the iodine molecules, which consist of two iodine atoms connected via a chemical bond (top left). The molecules were then hit by an electron beam (blue), generating a characteristic diffraction pattern (background) on a detector, from which the separation of the nuclei can be precisely determined. Credit: SLAC National Accelerator Laboratory

(ScienceX)—It was another good week for physics as a team of researchers at the U.S. Department of Energy's SLAC National Accelerator Laboratory used [a high-speed 'electron camera' to film atomic nuclei in vibrating molecules](#)—the laser-pulsed approach is expected to help scientists better understand nuclear motion. [A team of theorists solved a long-standing fundamental problem](#) by developing a means to reconcile the statistical versus dynamical pictures of reality physicists use to understand a system of atoms.

It was also a big week for space news, as a team at the University of Warwick suggested that [Planet Nine could spell doom for our solar system](#)—when the sun dies. Also, a team working with NASA reported on recent discoveries regarding the dwarf planet Ceres, [the tiny world where volcanoes erupt ice](#). And another [NASA team probed a peculiar age-defying star](#) called IRAS 19312+1950, a possible protostar, still in the making. And another team at NASA reported that [Jupiter's north pole is unlike anything else encountered in our solar system](#)—the Juno spacecraft has been sending back images of the planet during its first flyby.

In other news, an Australian team of researchers made news when they announced that they had found [a 3.7 billion-year-old fossil](#), the oldest yet—thanks to melting in Greenland. Also, a combined team of researchers with Florida State University, Johns Hopkins University and the National Institutes of Health announced that they had made [a Zika drug breakthrough](#)—they found that some drugs on the market, such as one used to get rid of tapeworms, are able to stop the virus from replicating inside the body and thus prevent brain damage. And a team at NASA announced that they noticed that [a strange thing happened in the stratosphere](#)—the 'quasi-biennial oscillation' changed a little bit, something that has never been seen before. They are not sure what it

might portend.

And finally, if you are one of the millions around the world who have regularly used antibacterial soap hoping that it would prevent infections, your actions may have been in vain all along, as the [FDA banned antiseptic chemicals from soaps](#), claiming that there is no proof that they actually work.

© 2016 ScienceX

Citation: Best of Last Week – Solving a physics problem, Zika drug breakthrough and chemicals in antibacterial soap banned (2016, September 5) retrieved 27 April 2024 from <https://sciencex.com/news/2016-09-week-physics-problem-zika-drug.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.