

Best of Last Week-Paving the way to fusion power, new way to make saltwater fresh and why forgetting can make you smart

June 26 2017, by Bob Yirka

Although the vacuum chamber in the British fusion reactor JET has a wall made of solid metal, it can melt if it gets hit by a beam of runaway electrons. It is these runaway elementary particles that doctoral students Linnea Hesslow and Ola Embréus have successfully identified and decelerated. Credit: Eurofusion

(ScienceX)—It was another good week for physics as a team at Ecole

Polytechnique Federale de Lausanne announced that [a 100-year-old physics problem had been solved](#)—regarding how much electromagnetic energy can be stored in wave guiding systems. Also, a pair of researchers at Chalmers University of Technology described a model they developed that could cause [deceleration of runaway electrons in a reactor, possibly paving the way to fusion power](#). Linnea Hesslow and Ola Embréus suggest it could be done by injecting heavy ions of neon argon using gas pellets into the reactor. And mathematical physicist Paul Sutcliffe with Durham University described [magnetic nanoknots that evoked Lord Kelvin's vortex theory of atoms](#). Also, an international team of researchers announced that they had discovered [atomic imperfections that could move quantum communication networks closer to reality](#)—by manipulating a quantum interface between light and matter in silicon carbide along wavelengths.

In space news, an international team of researchers studying data from Hubble found it had captured [a massive dead disk galaxy, challenging theories of galaxy evolution](#)—a spinning, disk-shaped galaxy that stopped making stars soon after the Big Bang. And a pair of researchers at the University of Arizona's Lunar and Planetary Laboratory described [an unseen 'planetary mass object' signaled by a warped Kuiper Belt](#)—something different and closer than the theorized Planet Nine. Also, a team at Caltech announced that [a new branch in the family tree of exoplanets had been discovered](#)—one that covers rocky Earth-like planets and larger mini-Neptunes.

In other news, a team with the Center for Nanotechnology Enabled Water Treatment announced a new [design to get freshwater from salt water using only solar energy](#)—a modular, off-grid desalination technology. Also, a team at Temple University found that [extra-virgin olive oil preserves memory and protects the brain against Alzheimer's](#) by reducing the buildup of amyloid-beta plaques and neurofibrillary tangles in the brain.

And finally, if you have ever found that forgetting unimportant things might be freeing up your brain for more important activities, you might be on to something. A pair of researchers with the University of Toronto conducted a study in which they found that [forgetting can make you smarter](#).

© 2017 ScienceX

Citation: Best of Last Week-Paving the way to fusion power, new way to make saltwater fresh and why forgetting can make you smart (2017, June 26) retrieved 26 April 2024 from <https://sciencex.com/news/2017-06-week-paving-fusion-power-saltwater-fresh.html>

<p>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.</p>
--