

Best of Last Week – A system for studying four-dimensional physics, a moon event and how alcohol causes DNA damage

January 8 2018, by Bob Yirka

Scientists from Griffith University (Australia) have overcome a major challenge connected to Einstein's 'spooky action at a distance' effect. Credit: Griffith University

It was a good week for physics as a team with Griffith's Centre for Quantum Dynamics in Australia showed that [quantum "spooky action at](#)

[a distance" is becoming practical](#)—they demonstrated a means for rigorously testing quantum nonlocality under adverse conditions—such as outside of a lab. Also, an international team built an experimental system that allows for studying [four-dimensional physics in two dimensions](#) and used it to demonstrate that it could be used for such purposes as testing predictions regarding the quantum Hall effect.

It was also a good week for space news as it was noted by several sources that January 31st is going to be special: [The moon is about to do something it hasn't done in more than 150 years](#)—offer us a [blue moon](#), (a full moon occurring twice in one month), a [total lunar eclipse](#) and a super moon (when the moon is closest to the Earth) all on the same night. Also, a large team of astronomers and astrophysicists declared that [an alien megastructure is not the cause of dimming of the "most mysterious star in the universe"](#)—Tabby's star which continues to defy explanation with its odd brightening and dimming. And a team led by a group at the University of California suggested that [supermassive black holes control star formation in large galaxies](#) by heating and dispelling gases that would otherwise form stars as they condense.

In other news, a team at the Harvard John A. Paulson School of Engineering and Applied Sciences announced that they had developed [a single metalens that focuses all colors of the rainbow in one point](#). The team suggested their lens may open new possibilities for virtual and augmented reality. Also, a combined team of researchers from the University of New Hampshire and the U.S. Forest Service announced that they had found that [the lethal fungus that causes white-nose syndrome in bats may have an Achilles' heel](#)—UV light. And a team at the University of Michigan described how they had found that [specially timed signals can ease tinnitus symptoms in the first test aimed at the condition's root cause](#). They also conducted a small test with a device based on their ideas and report that volunteers with tinnitus reported reduced symptoms. Also, an international team described developments

towards [nonaddictive opioid painkiller with no side effects](#)—noting that a new compound in opioids has been found that activates only those receptors involved in pain signaling.

And finally, if you are one of the billions worldwide who drink beverages with alcohol in them you might want to look into [new research that shows how alcohol damages DNA and increases cancer risk](#).

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