

Best of Last Week – Measuring pressure inside a proton, flying wireless robot insects and yogurt may treat inflammation

21 May 2018, by Bob Yirka



Nuclear physicists have found that the proton's building blocks, the quarks, are subjected to a pressure of 100 decillion Pascal (10³⁵) near the center of a proton, which is about 10 times greater than the pressure in the heart of a neutron star. Credit: DOE's Jefferson Lab

It was a good week for physics as a team at the U.S. Department of Energy's Thomas Jefferson National Accelerator Facility conducted the [first measurement of a subatomic particle's mechanical property, revealing the distribution of pressure inside of a proton](#)—and it turned out to be 10 times that of the pressure inside of a neutron star. Also, [a new quantum probability rule offered a novel perspective of wave function collapse](#). The work done by a team at the University of Queensland resulted in a unified probability rule that they call the "Quantum Process Rule." And a team with members from the U.K. and Australia wondered [if a multiverse could be hospitable to life](#). Their work suggested it might be more of a possibility than previously thought.

In technology news, a team with members from the Center for Free-Electron Laser Science in Germany and Uppsala University in Sweden

announced that they had developed [the world's fastest water heater](#), which increased a sample by 100,000 degrees in under a 10th of a picosecond. And a team of engineers at the University of Washington unveiled [the first wireless flying robotic insect](#). They reported that it weighs less than a toothpick and was powered by a laser beam.

In other news, a team in France found that [Hitler definitely died in 1945](#)—their study of his teeth conclusively showed they were the German dictator's. Also, a team at UCLA announced that they had ["transferred" a memory](#) from one marine snail to another by transplanting RNA from one of them to the other. And an international team of researchers discovered that [emissions of a banned ozone-eating chemical are somehow rising](#)—they believe they are being released from somewhere in Asia. Also, a team led by a group at NASA reported that [a satellite study found major shifts in global freshwater](#)—wetter areas are getting wetter and drier areas drier, they found.

And finally, if you are one of the millions suffering from some form of [chronic inflammation](#), help might be as close as the refrigerator—a team at the University of Washington-Madison found that [yogurt may dampen chronic inflammation linked to multiple diseases](#).

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