

# Best of Last Week: Weird laws of nature, quantum logic gates and brain-inspired computing

May 4 2020, by Bob Yirka

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It was a good week for physics as a team at the University of New South Wales found hints that one of the cosmological constants is not so constant after all—suggesting that [the laws of nature are "downright](#)

[weird," and not as constant as previously thought](#). Also, a team of U.S. Army researchers working with a team at MIT reported on [a possible path to quantum computing at room temperature](#)—and demonstrated the feasibility of quantum logic gates made using photonic circuits and optical crystals.

In technology news, Apple Inc. filed [a patent for an artificial intelligence system that would enable future motorists to enjoy windows that continuously change characteristics as they drive](#). The patent included details describing how the system would control reflection, light and heat conduction. Also, a combined team with members from the Air Force Research Laboratory Information Directorate and the University of Massachusetts unveiled [a 3-D memristor-based circuit for brain-inspired computing](#). They say it can map and implement complex machine learning algorithms such as convolutional neural networks. And a team at the Cockrell School of Engineering at the University of Texas at Austin claimed that [next-generation batteries are ready to take a major step toward commercial viability](#). Also, a team at Carnegie Mellon University announced that they had [developed a device that simulates the feel of walls and solid objects for users in a virtual reality world](#).

In other news, a team of researchers in Canada announced that they had [cracked the COVID-19 genome](#) signature—a milestone that will allow other researchers to quickly and easily classify a deadly virus like COVID-19 in just minutes. Also, a team at Paris University hospital trust found that [the arthritis drug tocilizumab showed "significant" promise as a treatment for patients with severe COVID-19 infections](#). And two groups of researchers studying data from Hubble found that it had captured [the breakup of comet ATLAS](#)—dashing the hopes of those who had been expecting a dramatic show from the comet.

And finally, if you are like millions of others around the world looking for a way to minimize the severity of a COVID-19 infection should the

virus make its way into your body, you might want to check out the results of a team at USC—they found that [the timing of an immune response to COVID-19 may contribute to disease severity](#)—which suggests you may want to get tested as soon as possible if you suspect you might be infected.

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