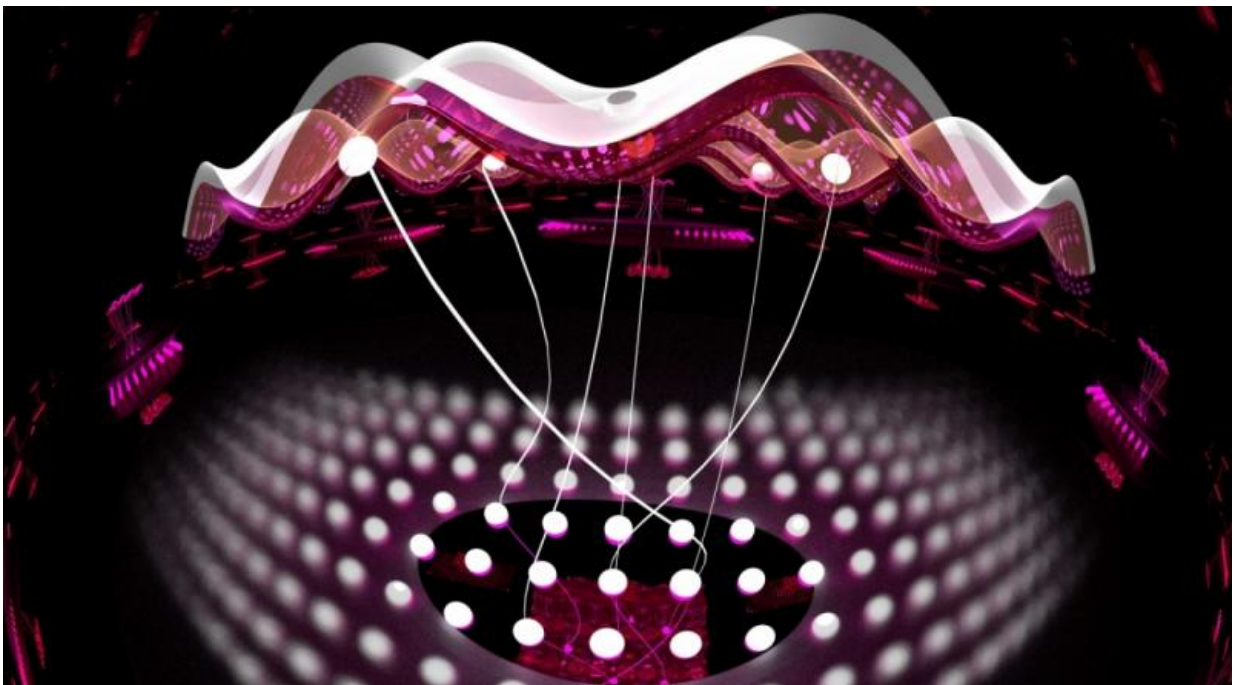


Best of Last Week—Neural networks and quantum entanglement, no universe without big bang and looking at left-handedness

June 19 2017, by Bob Yirka



An artist's rendering of a neural network with two layers. At the top is a real quantum system, like atoms in an optical lattice. Below is a network of hidden neurons that capture their interactions. Credit: E. Edwards/JQI

(ScienceX)—It was another good week for physics as a team with the University of Maryland and JQI described research into [using neural networks to take on quantum entanglement](#) to describe wide swaths of

quantum systems. Also, [a team of physicists used quantum memory to demonstrate quantum secure direct communication](#) for the first time.

The group from the University of Science and Technology of China and Nanjing University of Posts and Telecommunications demonstrated most of the essential steps of the protocol.

In space news, a pair of researchers, Steven Stahler, with UC Berkeley and Sarah Sadavoy with the Smithsonian Astrophysical Observatory announced that they had found [new evidence that all stars are born in pairs](#), which would, of course, include our own sun. Also, an international [team](#) announced that [two new massive planets had been detected around the star HD 27894](#). And another international group announced that they had found evidence showing that [Jupiter is the oldest planet in the solar system](#). Also, a group with the Max Planck Institute for Gravitational Physics announced that they had used mathematics to show that there could be [no universe without a big bang](#).

In other news, a team at Stanford University announced that [wireless charging of moving electric vehicles overcame a major hurdle](#)—they transmitted electricity to a nearby moving object without using wires. Also, a team with the Icahn School of Medicine at Mount Sinai found through a study that [early stress confers lifelong vulnerability causing alterations in a specific brain region](#). And a team of 11 students from ETH Zürich and Zurich University of the Arts created [a little hexacopter that showed off its acrobatic moves](#)—with the omnidirectional hexacopter, position and orientation are completely decoupled allowing the drone to maneuver in a way that redefines agility.

And finally, if you are left handed, you might be interested in a study conducted by a team at *The Conversation* to [find out if left-handed people are more gifted than others](#). They looked at several prior studies and then conducted a series of experiments with student volunteers looking for any area where [left-handed people](#) outperformed those who

are right handed.

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