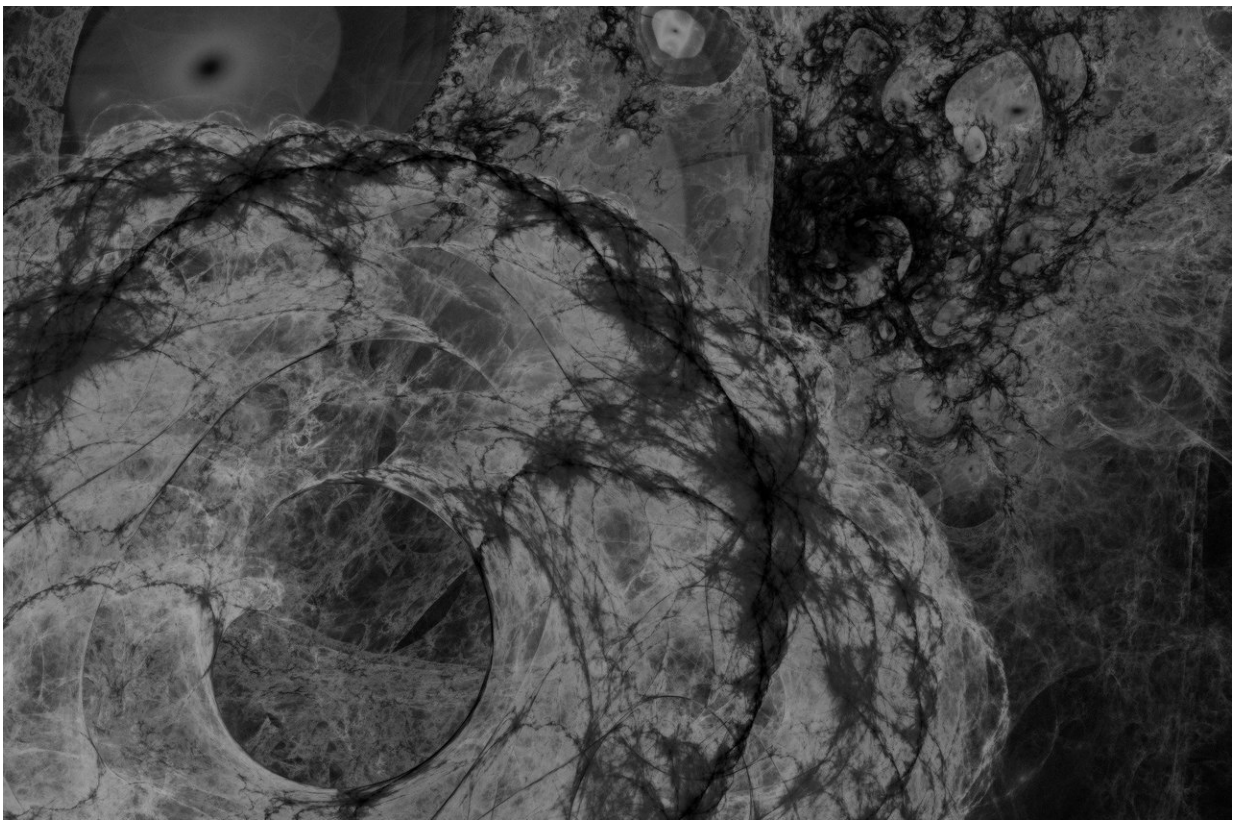
Best of Last Week – Dark matter on the move, boosting crop growth and a possible way to live longer and stronger

January 7 2019, by Bob Yirka



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It was another good week for physics as a team with members from the U.S., France and Japan recorded for the first time the "lifetime" of

graphene qubits—they found a way to record the "temporal coherence" of a graphene cubit, in which it represented one of two logical states simultaneously. And a team with members from the University of Surrey, Carnegie Mellon University and ETH Zürich found evidence of dark matter on the move—at least when heated up—by measuring the amount of dark matter at the center of 16 dwarf galaxies. Also, a team at the U.S. Department of Energy's Ames Laboratory, working with theoreticians at the University of Alabama Birmingham, uncovered a new competing state of matter in a superconducting material that was also long-lived. And a team at Drexel University found out what happens when layered materials are pushed to the brink—they experience a previously unknown buckling phenomenon when placed under pressure.

It was a good week for plant research, too, as a combined team from Gran Sasso Science Institute and Istituto Italiano di Technologia reported a mathematical approach for understanding intra-plant communication using a system of ordinary differential equations. Also, a team at the University of Illinois working with the U.S. Department of Agriculture's Agricultural Research Service engineered a shortcut for a photosynthetic glitch, boosting crop growth by 40 percent—a photorespiratory shortcut.

In other news, the Chinese space agency made headlines around the world as it landed a rover on the far side of the moon and powered up its devices in a pioneering moon mission. And in a study led by Nick Haining of Harvard Medical School, research revealed a new mechanism to "activate" the immune system against cancer, which involved marking human virus-like genes. Also, an international team of researchers found evidence that suggested a missing crust layer could be blamed on "Snowball Earth"—in studying crystals they found evidence of retreating glaciers scraping a whole layer of crust into the sea.

And finally, good news if you are hoping that science finds a way to help people live healthier and longer lives before your time runs out—a team

at the University of Michigan's Life Sciences Institute uncovered a cause of declining motor function and frailty in aging worms, which could translate to humans, and perhaps one day lead to a way for humans to live a stronger and longer life.