Best of Last Week – The sound of an atom captured, solid light created and the banality of evil

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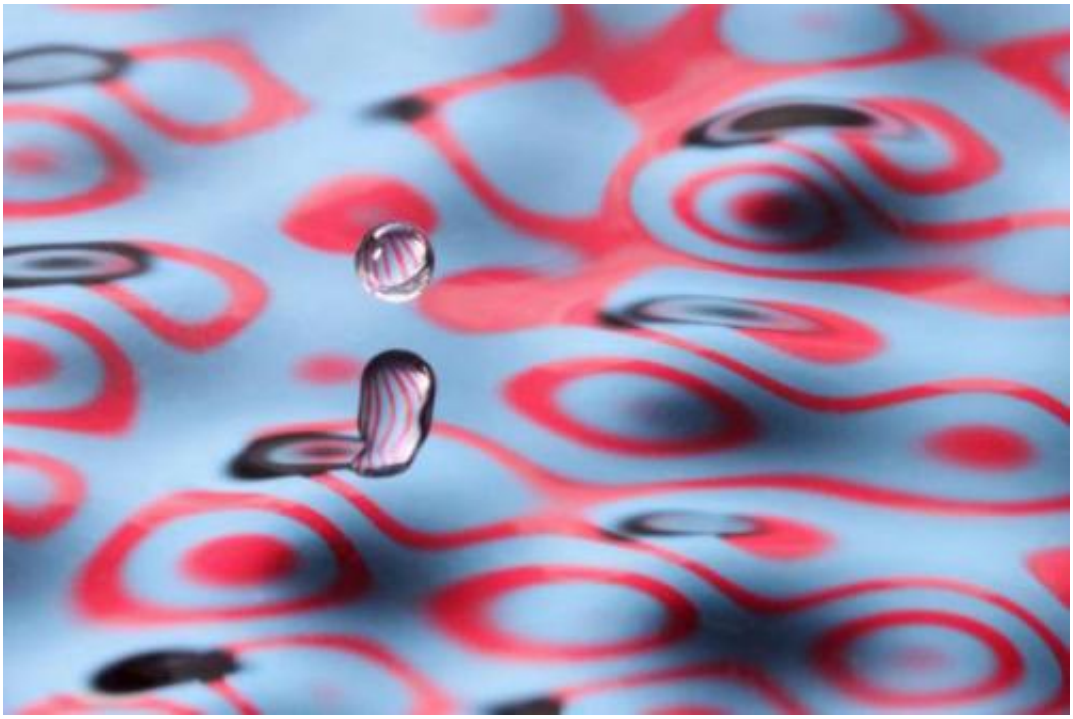

Close-ups of an experiment conducted by John Bush and his student Daniel Harris, in which a bouncing droplet of fluid was propelled across a fluid bath by waves it generated. Credit: Dan Harris

(Phys.org) —It was an interesting week for physics research, as a team at MIT began taking a second look at pilot-wave theory—they're wondering if, when looked at a certain way , fluid mechanics might

suggest an alternative to quantum orthodoxy—they're taking a new approach to define whether some types of matter are particles, or waves, or whether it's about particles being carried along by waves.

Meanwhile, another team at Chalmers University of Technology announced that the sound of an atom has been captured. By using sound to communicate with an artificial atom, they are looking to find ways to allow sound to take on the role of light in certain quantum physics situations to demonstrate certain phenomena. And at Princeton University, researchers have begun crystallizing light to create "solid" light that could compute previously unsolvable problems—locking photons together, they suggest, might also help answer some of the fundamental questions physicists still have regarding matter.

Space scientists have been busy as well. One team built a model that simulates the birth of our solar system revealing a planetary mystery—are the planets that exist now part of a normal natural process or was there one or more rare events that led to their formation? More research will have to be done to find better evidence. Also, researchers working with Hubble found a supernova companion star after two decades of searching.

In more practical news, researchers at the University of Glasgow reported that they had found a Hydrogen production breakthrough that could herald cheap green energy—they claim their process is 30 times faster than conventional techniques. Another team at UW-Madison claimed to have developed a tabletop motor using an entirely new driving principle based on an electric, rather than magnetic, field.

There were also some surprises last week as well: Researchers at Cummings School of Veterinary Medicine announced a potential breakthrough in treating liver cancer—they found that a hormone that is involved in mammalian milk production might also help prevent liver

cancer. And another team in England has created a new digital map that reveals some stunning, hidden archaeology of Stonehenge. It's actually kind of eerie looking at it.

And finally, if you've been wondering if you, or perhaps some of those around you, are inherently evil, a team of psychologists suggests that evil is not so banal, after all. They're looking into what is known as the "banality of evil," where ordinary people go along with atrocities, such as the holocaust, as mindless puppets. They think such instances are not banal at all and instead occur because those that go along when ordered to do so, do it out of a feeling of identification—this would mean that people committing such acts have far more choice in the matter than most of us would like to believe.