

Year in Review—The most important research of 2015: October

December 23 2015, by Bob Yirka

Artist's rendition of spatially segregated domains of multipolar order in the Sr_2IrO_4 crystal. The orientation of the multipolar order in each domain is depicted by the multi-lobed object. Credit: Liuyan Zhao

(ScienceX)—In this new monthly series, we are offering summary articles featuring links to some of the most interesting, intriguing or popular stories that appeared on ScienceX throughout 2015. This is the October 2015 edition.

In [physics news](#), a team of researchers with members from several institutions in the U.S. and one in Israel announced that they had [uncovered a novel phase of matter](#)—it is not a magnet, an insulator or a conventional metal, but something completely different, a phase characterized by the unusual ordering of electrons. And a trio of researchers working at Cornell University [verified the Zeno effect, whereby atoms will not move while observed](#), by conducting experiments at temperatures just .000000001 degrees above absolute zero. In related news, a team of researchers at the University of New South Wales announced that [a crucial hurdle had been overcome in quantum computing](#)—they demonstrated a two-qubit logic gate, which they claim will make building a true quantum computer much more feasible.

In Earth news, a trio of researchers, two from Princeton and one with Potsdam University, conducted a study with results showing that [a sea level rise will swallow Miami, New Orleans](#) and other cities around the world as global warming continues. Also, another team with NASA found that [mass gains of the Antarctic Ice Sheet have been greater than losses](#), due to snow accumulations.

In other news, an undergraduate student at the University of Alberta found [the fossilized remains of an ornithomimus dinosaur with skin and tail feathers](#), bolstering the linkages between modern birds and dinosaurs. A team of researchers at MIT built a prototype [big data system that replaces human intuition with algorithms](#); they report that it outperformed human teams. And an international team of [researchers studying comet Lovejoy unexpectedly discovered that it contains ethyl alcohol and sugar](#)—evidence that comets could have been a source of the [complex organic molecules](#) necessary for the emergence of life.

In medical news, a team of [researchers](#) working at Rutgers University found that [a drug used to treat cancer appeared to sharpen memory](#)—it

was one of a class of drugs known as HDAC inhibitors. A team at Osaka University announced that they had [identified a potential 'birth control pill' for men](#)—the drugs cyclosporine A and FK506 caused temporary infertility in male mice.

The January 2015 edition of our Year in Review series can be read [here](#).

The February 2015 edition of our Year in Review series can be read [here](#).

The March 2015 edition of our Year in Review series can be read [here](#).

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Citation: Year in Review—The most important research of 2015: October (2015, December 23)
retrieved 9 May 2024 from

<https://sciencex.com/news/2015-12-year-reviewthe-important-october.html>

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