

# **Best of Last Week—Entangled beams of light, AI gadgets at CES 2023, good hydration linked to healthy aging**

January 9 2023, by Bob Yirka

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It was a good week for science research as a team at the University of São Paulo's Physics Institute's Laboratory for Coherent Manipulation of Atoms and Light developed [a light source](#) that produced two entangled

beams of light—the optical-parametric-oscillator-based device was quantum-correlated. Also, a team at the U.S. Department of Energy's Lawrence Berkeley National Laboratory developed [a new method of refrigeration](#)—called "ionocaloric cooling," it is based on phase changes in a material that results in cooling. And in a bit of bad news, a trio of researchers, Michael Park, Erin Leahey and Russell Funk, analyzed millions of research papers and found that [the rate of scientific breakthroughs](#) is slowing over time.

In technology news, a team at the University of Michigan announced [a new catalyst](#) that is 10 times more efficient than previous sun-powered, water-splitting devices—possibly paving the way to cheap, sustainable hydrogen. And all indications suggest that [AI-infused gadgets](#) will be a major draw at this year's CES extravaganza in Las Vegas. After disrupted shows the past two years, CES 2023 is expected to be a massive event this time around. A team with members from MIT, Harvard University, DMAT srl, Udine, and Istituto Meccanica dei Materiali SA, determined how the ancient Romans made [concrete that was so durable](#)—they added millimeter-scale bright white mineral particles that gave the concrete self-healing capabilities. And BMW unveiled a prototype car called i Vision Dee at CES 2023, which, among other features such as projecting augmented reality images on the windshield, was able to [change the color of its exterior on demand](#).

In other news, a team at Baylor College of Medicine found evidence showing that [dawn-to-dusk dry fasting](#) can lead to health benefits. In their study of immune cells, they found that fasting during daylight hours for weeks at a time could have anti-atherosclerotic, anti-inflammatory and anti-tumorigenic effects on the proteins in peripheral blood mononuclear cell immune cells. A team at the University of Oxford's School of Geography found that [compound extreme heat and drought](#) will hit approximately 90% of the world's population at some point in the future. And finally, a team at the U.S. National Institutes of Health

found evidence that [good hydration](#) can be linked to healthy aging.

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