

# Best of Last Week: Extracting fuel from sunlight, uncloaking nature's deepest secret, and how mouthwash thwarts exercise

September 9 2019, by Bob Yirka

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It was a good week for technology research, as a team at Rice University announced that they had built [a reactor that turns a greenhouse gas into](#)

[pure liquid fuel](#)—it uses carbon dioxide to produce formic acid, a fuel cell that can generate electricity. And a team with members from the U.S. and Singapore developed [a way to create multifunctional metallic backbones for origami robotics](#)—the backbones formed the basis for reconfigurable robots. Also, a team at the University of Central Florida found [a tensor network-based method to simulate quantum many-body systems on Amazon Web Services](#). And a team at Arizona State University described their novel approach to finding a new source of energy—[extracting clean fuel from sunlight](#). Their work involved combining light-collecting semiconductors with catalytic materials that could use chemical reactions to produce clean fuels.

In other news, a team of Italian mathematicians found that [novel math could bring machine learning to the next level](#)—allowing artificial vision machines to learn to recognize complex images more quickly. Also, a team with members from Stanford University, the University of Cambridge and Imperial College London, found that [a vintage film showed the Thwaites Glacier ice shelf melting faster than previously observed](#)—after digitizing the data from the 1970s-era film, they were able to compare the size of the shelf with its present size. And an international team found [a way to observe a physics phenomenon for the first time](#)—called the non-Abelian Aharonov-Bohm Effect, it involves optical waves, synthetic magnetic fields and time reversal. Also, a team at the University of Texas Southwestern claimed they had [unlocked one of nature's deepest secrets](#)—how heart muscle regenerates. And a team led by groups at the University of Bristol and MIT announced that they had [solved the Sum-Of-Three-Cubes problem for 42](#)—using a real life planetary computer reminiscent of "Deep Thought" of *The Hitchhiker's Guide to the Galaxy* fame.

And finally, if you are one of the millions of people around the world who exercise regularly to keep in shape, you might want to take note of the results found by an international team of researchers—that

[mouthwash use could inhibit the benefits of exercise.](#)

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