

Best of Last Week—A new analog computer, a fairy robot, the mental health benefits of cinnamon

February 6 2023, by Bob Yirka

For their artificial fairy, Hao Zeng and Jianfeng Yang got inspired by dandelion seeds. Credit: Jianfeng Yang / Tampere University

It was a good week for physics as a combined team of physicists from Stanford University and University College Dublin designed and built a

quantum simulator platform demonstrating that [a new type of analog computer](#) could solve what are currently unsolvable problems. A team of physicists from MIT observed [rare resonance in colliding, ultracold molecules for the first time](#). And another team of physicists at MIT discovered a new and exotic property in what they describe as "[magic-angle](#)" [graphene](#)—it can be switched on and off using an electric pulse.

In technology news, a team of engineers at the Light Robots group at Tampere University designed and built [a fairy-like robot](#) that flies by the power of wind and light—called FAIRY, the stimuli-responsive, polymer-based robot has an actuator made using a crystalline elastomer. And a team at Google demonstrated [MusicLM: A high-fidelity, music-generating AI](#)—establishing what the group describes as a new level of composition and high fidelity in songs produced by a computer. Also, a combined team from Stanford University and SLAC National Accelerator Laboratory illuminated a barrier to [next-generation batteries that charge quickly](#)—mechanical stress failures allowing lithium to seep into an electrolyte, resulting in short circuits. And a team of engineering and materials scientists from China, Australia and the U.S found an inexpensive way to [produce hydrogen](#) directly from untreated sea water.

In other news, a large team with members from several institutions in China used the evolutionary history of the SARS-CoV-2 virus to create [a universal vaccine](#) that is already being tested in animal models. Based on the conserved regions of the spike protein, the vaccine is thus far showing what the team describes as promise. Also, a team of astronomers announced that they have [discovered 12 new moons orbiting Jupiter](#), putting the planet's total at 92—the most for any planet in the solar system. And finally, a team of researchers at Birjand University of Medical Sciences in Iran analyzed prior studies regarding [the impact of cinnamon on the human body](#) and found evidence showing that it could have positive effects on the functioning of the human brain, boosting memory and learning.

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