## Best of Last Week: Moon ark, nanomaterial transistors, and an update for the Antikythera Mechanism

March 15 2021, by Bob Yirka



Side view of the crater Moltke taken from Apollo 10. Credit: Public Domain

It was a good week for space exploration as <u>Perseverance rover's</u> <u>SuperCam science instrument delivered its first results</u>—three audio files recorded by the Mars rover just hours after landing. Also, a team at the University of Arizona made headlines when they proposed <u>a solarpowered lunar ark as a "modern global insurance policy"</u>—they suggested sending cryogenically frozen seed, spore, sperm and egg samples from 6.7 million people to the moon in case of a global disaster. And a team from the Harvard-Smithsonian Center for Astrophysics <u>detected a black hole on the move</u>—a supermassive black hole wandering through space.

In technology news, a team affiliated with several institutions in China created <u>a new transistor based on metal nanoparticles and ionic gradients</u>. Also, a combined team from École Polytechnique Fédérale de Lausanne and IBM Research Europe announced <u>a hybrid technology that combines III-V tunnel FETs and MOSFETs</u>. And Elon Musk company OpenAI discovered that their newly developed <u>neural network, CLIP, mirrored human brain neurons when conducting image recognition</u>. Also, a team from University College London recreated <u>a mechanical cosmos for the world's first computer</u>—the ancient Greek astronomical calculator known as the Antikythera Mechanism.

In other news, a team at Colorado State University found that <u>the</u> <u>insatiable demand for cannabis has created a giant carbon footprint</u> —mostly due to the electricity and natural gas used for cultivation. And a team at Karolinska Institutet in Sweden found that it may be possible to <u>eliminate metabolic derangements caused by a high-fat diet</u>—by lowering the levels of a key regulator of lipid metabolism.

And finally, people who have already received the first dose of one of the COVID-19 vaccines may want to check out a study by a team at Mount Sinai Hospital—they found that <u>a second shot of COVID-19</u> vaccine may not be necessary in previously infected individuals. In their study testing the Pfizer and Moderna vaccines, they found that those who had been infected with COVID-19 prior to vaccination developed antibodies 10 to 20 times higher than those who had not been vaccinated.

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