

Best of Last Week—Destroying 'forever chemicals,' a jumping unicycle robot, metformin as an early COVID treatment

August 22 2022, by Bob Yirka



Credit: Geist et al.

It was a good week for the biological sciences as a small team of researchers from Harvard University, the North Carolina Museum of

Natural Science and the University of Alberta, found evidence of [60 million years of climate change driving the evolution and diversity of reptiles](#)—resulting in the development of one of the most successful and diverse animal groups the world has ever seen. Also, a small international team of oceanographers found that even small changes in the position of the continents could lead to [a collapse of the circulation of oxygen and nutrients in the world's oceans](#), killing off most of the creatures that live there. And a team of researchers at Northwestern University developed [an inexpensive, low-temperature way to destroy "forever chemicals."](#) and in so doing, may reduce the problem of PFAS chemicals in the environment.

In technology news, a team at MIT made [a new semiconductor discovery](#)—they become stiffer when exposed to light. And the effect is reversible as the light is turned off. Also, a combined team from RWTH Aachen University and the Max Planck Institute for Intelligent Systems designed and built [a symmetric unicycle with jumping reaction wheels](#)—called the Wheelbot, the team suggests their design could represent the beginning of a new kind of robot. And an international team of researchers designed and built [a small neuromorphic chip for AI applications](#) that requires just a small fraction of the energy of those now in use. Also, a team with members from the University of California, Los Angeles and Irvine, made [advances in hydrogen fuel cell design](#) that exceed the DOE-set targets for fuel cell performance and durability.

In other news, a large team of researchers from across the U.S. has found that [an intranasal vaccination](#) produces potent systemic immunity against HIV and SARS-CoV-2 in animal models. Also, a team at the University of Cambridge's Department of Archaeology found that [medieval friars were "riddled with parasites"](#) despite living a more sanitary life than others of the time. And finally, an effort led by researchers at the University of Minnesota Medical School and School of Public Health found during a trial that the diabetes drug metformin [was](#)

effective at reducing the odds of a serious outcome for COVID-19 patients seeking early treatment.

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