

Best of Last Week—Overshoot Day, ultrasound stickers see inside the body, viruses may trigger Alzheimer's disease

August 1 2022, by Bob Yirka

MIT engineers designed an adhesive patch that produces ultrasound images of the body. The stamp-sized device sticks to skin and can provide continuous ultrasound imaging of internal organs for 48 hours. Credit: Felice Frankel

It was a good week for planetary science as a team at the University of Rochester wondering [how Earth avoided a Mars-like fate](#) found that

ancient rocks suggest it had to do with the timing of the formation of Earth's inner core. Miners working in Angola unearthed [a rare pink diamond](#) that is believed to be the largest found in more than 300 years. And mankind marked a dubious milestone, dubbed "[Overshoot Day](#)"—when humanity has consumed everything Earth can sustainably produce in one year, this time in just seven months.

In technology news, a combined team from the University of Siena, IIT, Great Cell, BeDimensional S.p.A., the Hellenic Mediterranean University in Crete and the University of Rome Tor Vergata demonstrated [a standalone solar farm in Crete](#) that integrates graphene perovskite solar panels. Also, a team with members from Shanghai Jiao Tong University and East China Normal University developed [a molecular implementation of a DNA-based artificial neural network](#)—their approach demonstrated ways to overcome problems associated with traditional artificial neural network designs. And a team at MIT developed [stickers that could be used to see inside the body](#). The stamp-sized stickers adhere to the skin and rely on ultrasound imaging to provide continuous imagery for up to 48 hours. Also, a team with members from CoorsTek Membrane Sciences, SINTEF Industry and Universitat Politècnica de València, developed and demonstrated [a ceramic membrane-based reactor](#) capable of producing hydrogen while simultaneously capturing carbon.

In other news, a team with members affiliated with several institutions in the U.K. found that a [third COVID-19 booster shot](#) is crucial to identifying and battling new variants of the disease. A combined team from the Florida Museum of Natural History and the Georgia Museum of Natural History found [the oldest DNA evidence from a domesticated horse in the Americas](#), leading credence to theories that suggest horses in the Americas arrived via the wreck of a Spanish galleon. And finally, a combined team from the University of Oxford and Tufts University found evidence that [common viruses may trigger the onset of](#)

[Alzheimer's disease.](#)

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