

Best of Last Week: Hawking's black hole theorem, computer generated lyrics, five-minute workout

July 5 2021, by Bob Yirka

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It was a good week for space science as a team of researchers affiliated with several institutions in the U.S., one in Canada and one in Israel discovered [the most massive white dwarf ever observed](#)—it was also the

smallest, at just the size of the moon. Also, a team of astronomers studying data from the WIYN 3.5-meter Telescope and the Gemini Observatory reported that [there could be many more Earth-sized planets than has been previously thought](#)—perhaps twice as many. And a team with members affiliated with several institutions in the U.S. [observationally confirmed Stephen Hawking's black hole theorem](#) for the first time.

In technology news, a team at the University of California, Berkeley, created [insect-sized robots that were able to navigate mazes with the agility of a cheetah](#). Also, a combined team from the University of Maryland, College Park and the Baidu Research Robotics and Auto-Driving Lab, developed [an autonomous excavator for real-world deployment](#)—the system was able to conduct digging and loading tasks for long periods of time with no human intervention at speeds equivalent to human operators. And a team at the University of Waterloo announced that they had [developed a computer system able to generate lyrics for live instrumental music](#)—called LyricJam, the system was designed to help artists more easily compose songs. Also, a team at Rice University developed [a new method for indexing DNA databases much faster](#). The group claims their method cuts indexing [time](#) from weeks to hours and also reduces search times to mere minutes.

In other news, a team with members affiliated with multiple institutions in the U.S. [found a potential path to a broadly protective COVID-19 vaccine based on T cells](#)—possibly leading the way to vaccines that could protect against future variants. Also, the United Nations announced that [a new record high temperature had been recorded on the Antarctic continent](#)—18.3 degrees Celsius—yet another sign of a warming planet.

And finally, if you suffer from [high blood pressure](#), you may want to check out a research effort conducted by a team at Colorado University,

Boulder—they found that [exercising just five minutes a day, in a certain way, could lower blood pressure as well as prescribed medications.](#)

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