

# **Best of Last Week – Saturn's 'The Big Empty', a clue to where cancer metastases start and a pill that simulates exercise**

May 8 2017, by Bob Yirka

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The sounds and spectrograms in these two videos represent data collected by the Radio and Plasma Wave Science, or RPWS, instrument on NASA's Cassini spacecraft, as it crossed the plane of Saturn's rings on two separate orbits. Credit: NASA/JPL-Caltech/University of Iowa

(ScienceX)—It was a big week for space news as engineers at NASA

reported that the [Cassini probe found a vast void between Saturn's rings](#) which they promptly dubbed "The Big Empty." Also, a team of researchers doing work for the European Space Agency described [printing bricks from moondust using the sun's heat](#), proving that it is possible to build structures on the moon from native ingredients. The bricks will undergo further testing for strength and endurance. And an international team of space researchers reported that they had found [a giant wave rolling through the Perseus galaxy cluster](#)—a massive wave of hot gas.

In other news, engineers in Iceland [drilled 4.7 km down into a volcano to tap clean energy](#)—the "Thor" drill project is expected to produce 10 times as much energy as conventional wells. Also, an international team of researchers found that [the Eastern Amazon flooded twice](#) millions of years ago—they found a shark tooth and other sea creature fossils in the northwest Amazon basin. And a team in China achieved [direct counterfactual quantum communication](#)—they successfully transferred a monochrome bitmap from one location to another using a nested version of the quantum Zeno effect. Also, a study led by researchers at North Carolina State University found [a gender bias in open-source programming](#)—women's work was accepted more often in general but less often when their gender was identifiable.

In health news, a team of synthetic biologists from Imperial College London [engineered baker's yeast to produce penicillin molecules](#) and demonstrated that it had antibacterial properties against streptococcus. Also, a team at the Scripps Research Institute reported that they had finally found [a clue to where cancer metastases are born](#)—in escaping tumor cells that can lie dormant for many years.

And finally, if you have difficulty making yourself exercise or have a condition that prevents you from working out, help may be on the way—a team at the Salk Institute announced that they had developed

what they describe as ['Exercise-in-a-pill,' which boosts athletic endurance by 70 percent](#). Administering a chemical compound to inactive mice, they kick-started a gene pathway that is usually initiated by exercise.

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Citation: Best of Last Week – Saturn's 'The Big Empty', a clue to where cancer metastases start and a pill that simulates exercise (2017, May 8) retrieved 16 April 2024 from <https://sciencex.com/news/2017-05-week-saturn-big-clue-cancer.html>

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