

Best of Last Week: Closing in on dark matter, ultra-high-res OLED display and distancing/masks may not stop COVID-19

October 26 2020, by Bob Yirka

Illustration of the meta-OLED display and the underlying metaphotonic layer, which improves the overall brightness and color of the display while keeping it thin and energy efficient. Credit: Samsung Advanced Institute of Technology

It was another good week for physics research as a team with members from the National Institute of Standards and Technology, the University

of Colorado, Stanford University and the University of Nevada used [precision metrology to close in on the nature of dark matter](#). Also, an international team of researchers used data from NASA's Chandra X-ray Observatory to [observe gravitational redshift in two stars that are very close in orbit](#). And a team at the University of Melbourne proposed [a new theory to explain the origin of dark matter](#)—one based on expanding bubblikeness in the early universe.

In technology news, a pair of statisticians at the University of Waterloo proposed [a math idea that may dramatically reduce the dataset size needed to train AI systems](#). Also, the passwords research group in Carnegie Mellon's CyLab Security and Privacy Institute proposed [a usable and secure password policy that could be backed by science](#). And a team of researchers from Germany, Ukraine, Austria, Belgium and the Netherlands demonstrated [an integrated circuit they made using magnons](#). Also, a team with members from Samsung Electronics, Stanford University and Hanyang University [borrowed solar panel technology to create a new ultra-high-resolution OLED display](#)—showcasing the possibility of displaying resolutions up to 10,000 pixels per inch.

In other news, NASA announced that its [robotic spacecraft OSIRIS-REx briefly touched down on the asteroid Bennu's boulder-strewn surface](#)—just long enough to collect dust and rock samples. And a team at Penn State College of Medicine found that [certain oral antiseptics and mouthwashes may have the ability to inactivate human coronaviruses](#).

And finally, if you are hoping to fend off a SARS-CoV-2-19 infection by keeping your distance from others and wearing a mask, you may want to check out the results of a study done by a team with members from TU Wien, the University of Florida, the Sorbonne in Paris, Clarkson University and MIT: they found that the models used to create guidelines for the current pandemic are outdated and that [social distancing and](#)

[mask wearing are not enough to prevent infections.](#)

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