

Best of Last Week – Who's got your mail, a smart-roof coating, why some COVID infections are more severe

December 20 2021, by Bob Yirka

Samples of an all-season smart-roof coating designed to keep homes warm during the winter and cool during the summer – without consuming natural gas or electricity. The device looks like Scotch tape, and can be affixed to solid surfaces such as a rooftop. Research findings by scientists at the Department of Energy's Lawrence Berkeley National Laboratory point to a groundbreaking technology that outperforms commercial cool-roof systems in energy savings. Credit: Junqiao Wu, Lawrence Berkeley National Laboratory

It was a good week for the biological sciences as a team led by Louisiana State University's Jake Esselstyn [identified 14 new endemic species of shrews](#) on the island of Sulawesi—the largest number of new species identified in a single effort since 1931. Also, a combined effort by groups from the University of Copenhagen and the Greenland Institute of Natural Resources found that [after thousands of years, an iconic whale is confronting a new enemy](#). Narwhals living in remote parts of the Arctic Ocean are now being exposed to human-made noise as global warming has led to encroachment.

In technology news, a team at MIT sought [to understand why deep-learning methods confidently recognize images that are nonsense](#). And a team at the University of California San Diego, wondered, ["who's got your email?"](#) They found that for most people not living in Russia or China, the answer was Google or Microsoft. Also, a team at Toyota Central R&D Labs unveiled [a new untethered and insect-sized aerial vehicle](#) with flapping wings and powered with wireless radiofrequency technology. And a team with members from the University of California, Berkeley, Lawrence Berkeley National Laboratory and one from East Bay Innovation Academy, developed [a new smart-roof coating that enables year-round energy savings](#). It helps keep a house cooler during the summer and warmer during the winter and does not require an energy source or produce emissions.

In other news, a team at Yale wondered [why are some COVID cases more severe than others](#). To find out, they engineered what they described as humanized mice. Testing them revealed that that severe cases of COVID-19 may be linked to different kinds of antiviral inflammatory response. Also, a team at Leiden University found that [Neanderthals changed their ecosystems 125,000 years ago](#). And a team at Monash University uncovered [a key to how exercise protects against the consequences of aging](#).

And finally, a team at Oregon Health & Science University found that people who experience breakthrough COVID infections [develop super-immunity against all known variants](#).

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