

Weekly Progress Roundup

The Blue Ghost lunar lander aces its touchdown, a new breakthrough makes us safer from superbugs, and the quest to resurrect extinct species takes a surprising turn.

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The Blue Ghost private lunar lander touches down

Firefly Aerospace’s Blue Ghost lunar lander, which was [launched by SpaceX](#) in January, has successfully touched down on the moon’s surface last Sunday. “An upright and stable landing makes Firefly — a startup founded a decade ago — the first private outfit to put a spacecraft on the moon without crashing or falling over,” the [Associated Press](#) reported.

The lander is carrying experimental devices for NASA, including a vacuum for dirt-gathering, a drill for collecting data below the moon’s surface, and safety equipment to test for future human moonwalkers.

UK scientists develop a new bulwark against superbugs

Superbugs are one of the most serious dangers of our time, and our precautions against them are imperfect. As [The Guardian](#) explains, “Currently, hospital labs can take as long as seven days to specify bacterial infections, while for some infections a definitive diagnosis may take eight weeks.” While awaiting specific diagnoses, patients often receive overly broad antibiotics that can contribute to antibiotic resistance.

Scientists in the UK have developed a new and improved diagnostic tool to avoid this problem. They have built a DNA sequencing program that diagnoses infections much more accurately and delivers results within 48 hours by reading the bacteria’s genetic code. “The pioneering system, successfully trialled in 2,000 NHS patients, is already helping doctors offer better-targeted treatments earlier,” [The Guardian](#) reports.

That allows doctors to give patients targeted treatments rather than broad-spectrum ones, which helps patients more effectively while reducing the chance of disease spreading.

Colossal Biosciences creates a “woolly mouse”

Biotech startup [Colossal Biosciences](#) is working to bring back the woolly mammoth, the dodo bird, and the Tasmanian tiger. On the way to achieving these goals, the company has created an entirely new strain: the woolly mouse.

“Ben Lamm, co-founder and chief executive of Colossal, said the team had been studying ancient mammoth genomes and comparing them with those of Asian elephants to understand how they differ and had already begun genome-editing cells of the latter,” [The Guardian](#) reported on Tuesday. “Now the team say they have fresh support for their approach after creating healthy, genetically modified mice that have traits geared towards cold tolerance, including woolly hair.”

The team’s genome editing methods involved genetically modifying mouse eggs or embryonic mouse stem cells, focusing on genes associated with various hair-related traits similar to those found in mammoths. These advances are only a small step in bringing back the mammoth, but they are suggestive of the potentially boundless opportunities for changing our biological world.

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