NEWS

Workers build an emergency field hospital in New York City's Central Park for COVID-19 patients.

PHOTO: MARY ALTAFFER/AP PHOTO

IN BRIEF

Edited by **Jeffrey Brainard**

INFECTIOUS DISEASE

A COVID-19 battle on multiple fronts

Scientists raced this week to help patients, save research, navigate obstacles, and counter misinformation.

U.S. bailout may fall short

FUNDING | The $2.2 trillion stimulus package the U.S. Congress approved on 27 March includes $1.25 billion to help federal research agencies combat the COVID-19 pandemic. But the amount for research is far below what will be needed, science advocates say; they plan to seek more money in the next relief bill. For now, the National Institutes of Health will get an additional $945 million to speed development of vaccines and therapies, and the National Science Foundation will receive $76 million more for researchers to pursue new approaches to understanding and coping with the pandemic. The Department of Energy's national laboratories will get an extra $100 million to continue operations. And a $14 billion allocation will help universities cover overall operating costs.

Disease risk dwarfs suicide peril

POLICY | Research contradicts U.S. President Donald Trump's claim on 23 March that suicides from a poor economy would greatly outnumber deaths from the new coronavirus disease. In fact, the microbe could kill nearly 500 times as many Americans as did suicides connected to the 2008 Great Recession, according to researchers at the University of Bristol wrote in a blog reviewing past studies.

Emergency OK for malaria drugs

DRUG DEVELOPMENT | The U.S. Food and Drug Administration this week allowed the use of two antimalarial drugs to treat people hospitalized with COVID-19—despite only anecdotal evidence that either is effective against the illness. President Donald Trump has touted hydroxychloroquine sulfate and chloroquine phosphate as potential treatments. The agency's emergency use authorization allows supplies of the drugs in the Strategic National Stockpile to be distributed to hospitalized patients when a clinical trial is not available or feasible. Sandoz, a division of Novartis, alone donated 30 million doses of hydroxychloroquine sulfate to the stockpile last week for patient care and clinical trials. This is the agency's first such authorization for a drug intended to treat COVID-19.

Polio fight is paused

GLOBAL HEALTH | In an unprecedented move, the Global Polio Eradication Initiative (GPEI) has recommended that countries suspend all polio vaccination campaigns until the second half of this year to help prevent the spread of COVID-19. The decision comes at a bad time: Before that disease surged, polio was on the rise in Afghanistan and Pakistan; so-called vaccine-derived viruses are spreading fast in Africa. The campaign is caught between two "terrible situations," says Michel Zaffran of the World Health Organization, who heads GPEI. It will reassess the timeline as the pandemic evolves.

Hawaii telescopes shut

ASTRONOMY | Telescope operations atop Mauna Kea on Hawaii closed on 29 March as the state ordered residents to stay at home to counter the COVID-19 pandemic. The shutdown is the second in less than 1 year at one of the world's leading observing sites; another was forced last summer by demonstrations over the planned construction of the Thirty Meter Telescope. Some 500 astronomers and support staff members work at the 12 independent observatories on the summit, the *Honolulu Star-Advertiser* reports. A major casualty will be the Event Horizon Telescope, a global array involving one

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instrument on Mauna Kea that last year provided the first image of a black hole. Its 2020 campaign has been canceled.

A science task for a rainy day

CITIZEN SCIENCE | "The British love talking about the weather. They also love measuring it." That's the motto of a U.K. research team hoping to lure the public to help a scholarly study while stuck at home sheltering from the COVID-19 virus. Last week, the team asked people to digitize data recorded by hand from about 5500 U.K. rain gauges from the 1820s to the 1950s. Researchers with the Rainfall Rescue project, funded by the National Centre for Atmospheric Science and the University of Reading, hope to analyze the data to better understand historical periods of wet and dry conditions and compare them with recent changes caused by global warming.

Clinical trials put on hold

BIOMEDICINE | Thousands of clinical trials have been delayed as ripples from the COVID-19 pandemic continue to spread. Drug giants Bristol-Myers Squibb and Eli Lilly announced in March they will defer launching most new trials. And a survey of 73 research sites, reported last week by Clinical Research IO, a clinical trials software vendor, suggested widespread disruption: Twenty-four percent of investigators said they have halted enrolling new volunteers, and another one-third are considering doing the same. Meanwhile, clinical researchers testing novel cancer drugs and therapies for many other diseases are assessing how to ship drugs to volunteers to avoid inperson visits.

MORE FROM ONLINE

Highlights from *Science*'s online coverage of the pandemic; read more at sciencemag.org/tags/coronavirus.

Featured interview

Top China scientist: Wear masks

George Gao has been at the center of China's efforts to control COVID-19 as director-general of the Chinese Center for Disease Control and Prevention. In January he was part of a team that first isolated and sequenced severe acute respiratory syndrome coronavirus 2, the virus that causes COVID-19.

"The big mistake in the U.S. and Europe, in my opinion, is that people aren't wearing masks," he said. "It can prevent droplets that carry the virus from escaping and infecting others."

But evidence supporting suggestions like Gao's is spotty, according to a separate online news article in *Science*, **Would everyone wearing face masks help us slow the pandemic?**

More online headlines from *Science*

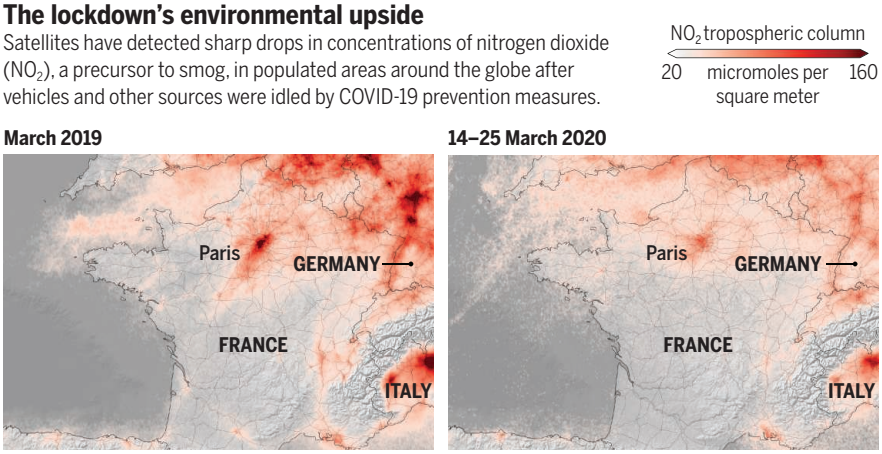
How sick will the coronavirus make you? The answer may be in your genes. Genetic analysis using large biobanks may enable predictions.

New coronavirus leaves pregnant women with wrenching choices—but little data to guide them. Parents and doctors must weigh benefits of breastfeeding versus risks of possible infection.

Iran confronts coronavirus amid a battle between science and conspiracy theories. Sanctions and distrust hamper pandemic response.

The lockdown's environmental upside

Satellites have detected sharp drops in concentrations of nitrogen dioxide (NO_2), a precursor to smog, in populated areas around the globe after vehicles and other sources were idled by COVID-19 prevention measures.



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BIOMEDICINE

U.S. outlines path for pot research

After nearly 4 years of what some researchers saw as foot dragging, the U.S. Drug Enforcement Administration (DEA) last week proposed rules that would allow it to process 37 applications to grow marijuana for medical research. For more than 50 years, federal authorities have allowed only one source, the University of Mississippi, Oxford, to cultivate research cannabis. But as interest in the plant's potential medical benefits has grown, some cannabis researchers have said the Mississippi supply lacks sufficient potency and diversity for studies of chronic pain, post-traumatic stress disorder, and other conditions. An applicant, the Scottsdale Research Institute (SRI), sued the agency in June 2019 to compel it to process the requests. DEA proposed the rules on 23 March. George Hodgin, CEO of another applicant, the Biopharmaceutical Research Company, called them "the most meaningful and material progress made in federal cannabis policy in decades." But the federal rulemaking process can take years, notes Shane Pennington, a lawyer for SRI, adding, "DEA basically has ... found a way to put this on the back burner a lot longer."

Who will lead NSF?

LEADERSHIP | France Córdova completed her 6-year term this week as the 14th director of the U.S. National Science Foundation (NSF), and the $8 billion agency had no acting director as *Science* went to press. NSF's chief operating officer, chemist Fleming Crim, is the odds-on favorite to fill in until the U.S. Senate confirms Sethuraman Panchanathan, who was nominated as director in December 2019. But the White House could also name a temporary head from another

CONSERVATION ECOLOGY

Elephants restore depleted soil

By defecating and toppling trees, African elephants can help enrich savanna soils, replacing nutrients lost to cattle ranching, a study says. Even at moderate densities, cattle remove nutrients from grasslands because they are herded into corrals at night—robbing the soil of the dung and urine they would otherwise deposit on the savanna. A study begun in 1995 called the Kenya Long-term Exclosure Experiment now reports nearly twice as much soil carbon in controlled grazing areas that included elephants; soil nitrogen was also higher. The explanation, researchers say in the 16 March issue of *Nature Sustainability*, is that elephants spread dung as they roam, and they knock down trees, whose decomposition adds nutrients to the soil. The higher nutrient content provides more nutritious grasses, benefiting gazelles and other wild herbivores. The rich grasses could improve grazing for cattle, too, offering a reason for ranchers to protect elephants. Their numbers have been increasing in Kenya but are in decline elsewhere because of poaching.

Cattle and elephants coexist at a research station in Kenya.

federal agency. "NSF has a strong leadership team" ready to soldier on, says agency spokesperson Amanda Greenwell.

U.S. eases up on emissions

ENVIRONMENT | The Trump administration this week finalized its plan to roll back auto fuel efficiency standards, from an average of 54 miles per gallon (23 kilometers per liter) to 40 miles per gallon (17 kilometers per liter) by 2025. The move, if it survives legal challenges, will add at least 1 billion tons to annual U.S. greenhouse emissions.

Rochester settles #MeToo case

LITIGATION | The University of Rochester and its accusers in a high-profile sexual harassment lawsuit agreed on 27 March to a $9.4 million settlement for the plaintiffs, ending a bitter episode that divided its Department of Brain and Cognitive Sciences. Nine now-former professors and students sued in 2017, saying the university retaliated against and defamed them after they alleged sexual harassment by faculty member and linguist Florian Jaeger. The university did not find Jaeger guilty of sexual harassment. Nor did it admit fault in the settlement, which the plaintiffs called a major victory. Jaeger, through his lawyer, continued to deny the allegations. The university says it has expanded training to prevent and address sexual misconduct. Driven in part by the case, New York state enacted sweeping changes in 2019 to its sexual harassment laws.

Physics pioneer Anderson dies

THEORETICAL PHYSICS | Philip Anderson, a feisty theorist whose shaped physics far beyond his métier, condensed matter, died on 29 March at age 96. In the 1950s he showed how disorder could trap free-flowing electrons in a crystalline solid, a quantum effect for which he shared the 1977 Nobel Prize in Physics. He also revolutionized physicists' understanding of magnetism and superconductivity. He nearly invented the Higgs boson, the most famous of fundamental particles, before it was hypothesized by Peter Higgs in 1964. "Phil was a true giant of physics," says Michael Norman, a theorist at Argonne National Laboratory. "One of the greatest ever."

Tooth hints at humanity's history

BIOANTHROPOLOGY | A molecular analysis of tooth enamel from an 800,000-year-old ancestor of modern humans showcases the promise of ancient proteins for reconstructing our species' tangled family tree, researchers say. Analysis of the tiny specimen from *Homo antecessor* offers new evidence that the extinct hominin was most likely a close relative of the last common ancestor of Neanderthals, Denisovans, and modern humans, says a study published this week in *Nature*. Researchers used mass spectrometry to study the specimen, found in Spain's Atapuerca Mountains. They identified seven proteins, which are much hardier than DNA, and compared the genetic sequences that would have coded for the proteins with those of other hominins.

PHOTO: J. MARTÍN-TORRES

Science

News at a glance

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