

submillimeter Array (ALMA) in Chile on the black hole at the heart of NGC 1332, a galaxy that is roughly 22 million parsecs (73 million light years) away. ALMA's high-resolution images revealed carbon monoxide gas orbiting just outside the black hole. By measuring the velocity of the gas, the team found the black hole to be 664 million times the mass of the Sun, with an uncertainty of roughly 10%.

The technique improves on less-direct measurement methods.

**Astrophys. J. Lett. in the press; preprint at <http://arxiv.org/abs/1605.01346> (2016)**

## EVOLUTION

## Commerce kept camel DNA diverse

Ancient caravans travelling through the deserts of the Middle East and Africa over the past several thousand years have shaped the genetic diversity of domestic camels.

To learn about camels' evolutionary history, a team led by Pamela Burger at the University of Veterinary Medicine in Vienna and Olivier Hanotte at the University of Nottingham, UK, analysed DNA from the remains of 15 ancient dromedaries and from more than 1,000 living ones from 21 countries. They found that domestic camels (*Camelus dromedarius*; pictured) are most closely related to wild ones now living in the southeast Arabian Peninsula, and that their DNA varies little by geography — a possible relic of ancient trading routes that mixed the genes of distant populations.

Unlike some other domesticated livestock, camels seem to have largely maintained their ancestral genetic diversity. **Proc. Natl Acad. Sci. USA** <http://doi.org/bhf7> (2016)



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## STEM CELLS

## Self-help for type 1 diabetes

Cells from people with type 1 diabetes can be reprogrammed so that they produce insulin in response to glucose when implanted into mice. This suggests that patients with the disease could one day be treated with their own reprogrammed cells.

In previous work, Douglas Melton at Harvard University in Cambridge, Massachusetts, and his team took connective-tissue cells from healthy donors, reprogrammed them into stem cells and then grew  $\beta$ -cells, which make insulin in the pancreas. Now the team has done this using connective-tissue cells from people with type 1 diabetes. The  $\beta$ -cells derived from these patients were similar to those derived from healthy individuals — they prevented diabetes in mice that had lost their own  $\beta$ -cells, and responded to anti-diabetes drugs.

**Nature Commun. 7, 11463 (2016)**

## CELL BIOLOGY

## 'Nanoblade' slips organelle into cells

A laser-based technique permits the delivery of energy-generating organelles called mitochondria into single mammalian cells, where they can restore metabolic activities.

Mitochondria have their own DNA, which can cause disease if mutated, and researchers have been looking for ways to isolate the organelles, correct genetic defects and return the mitochondria to cells. Pei-Yu Chiou and Michael Teittel at the University of California, Los Angeles, and their colleagues coated a micropipette tip with a 100-nanometre-thick film

## SOCIAL SELECTION

Popular topics on social media

## Epigenetics article kicks up a storm

A story in the 2 May issue of *The New Yorker* has been criticized for inaccurately describing how genes are regulated. The article by Siddhartha Mukherjee — a physician, cancer researcher and award-winning author at Columbia University in New York — examines how environmental factors change gene activity without altering DNA sequence. Jerry Coyne, an evolutionary ecologist at the University of Chicago in Illinois, wrote two blog posts calling the piece “superficial and misleading”, largely because it ignored key aspects of gene regulation. Other researchers quoted in the blog called it “horribly damaging” and “a truly painful read”. Mukherjee responded with a point-by-point rebuttal online. Speaking to *Nature*, he says he now realizes that he erred by omitting key areas of science, but that he didn't mean to mislead. “I thought that I had done it justice,” he says.

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of light-absorbing titanium and lightly touched it to a cell membrane. A laser pulse heated the tip, causing a bubble to quickly form and collapse in the cell's culture medium. The bubble's expansion punctured the membrane, creating an opening large enough for the delivery of mitochondria.

The technique's 2% efficiency rate is higher than that of other methods, and the team is now working to increase throughput. **Cell Metab. 23, 921–929 (2016)**



## ECOLOGY

## Wolf cull makes poaching worse

Government-approved killing of wolves (pictured) increases illegal hunting in parts of the United States.

State-sanctioned culls are thought to be an effective conservation tool for reducing poaching of large carnivores. Guillaume Chapron at the Swedish University of Agricultural Sciences in Riddarhyttan and Adrian Treves at the University of Wisconsin–Madison studied wolf populations in Michigan and Wisconsin between 1995 and 2012. During that time, policy shifts meant that wolves

experienced periodic stages of protection and legal culling. The authors found that population growth slowed during periods of culling, regardless of the number of wolves culled.

The authors ruled out other explanations for the decline, and suggest that culling increases people's intolerance of endangered predators, leading to more poaching. They recommend a moratorium on culling until its effects are better understood.

**Proc. R. Soc. B 283, 20152939 (2016)**

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