

RESEARCH HIGHLIGHTS

Clones of the dead

Proc. Natl Acad. Sci. USA doi:10.1073/pnas.0806166105 (2008)

Mice stored at -20°C for 16 years have been cloned, purportedly raising the possibility that extinct animals could be 'resurrected' from frozen tissue samples.

Researchers had previously cloned mice from frozen cells stored in chemicals that protect against the damaging effects of freezing. In the new study, Teruhiko Wakayama at RIKEN in Kobe, Japan, and his colleagues generated embryonic stem cells using nuclei harvested from mice that were frozen whole and without protective chemicals. They then transferred nuclei from the stem cells into unfertilized eggs that had had their nuclei removed. Surrogate mothers implanted with these eggs went on to produce several healthy offspring.

The finding paves the way for cloning extinct species such as the woolly mammoth, the authors claim.



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ASTRONOMY

Star birth

Astrophys. J. **687**, 1004–1018 (2008)

Star formation in galaxies is a tug-of-war between opposing forces. Clouds of gas collapse, feeding fledgling stars. These can, in turn, prevent new stars from forming by blowing away the nurturing gas with their stellar winds. Star clusters are thus expected to lie at the centre of gas voids.

Yet in a nearby dwarf galaxy called IC 2574 there is little correlation between the locations of stars and observed gas voids, according to observations made with the Large Binocular Telescope on Mount Graham, Arizona, by Anna Pasquali of the Max Planck Institute for Astronomy in Heidelberg, Germany, and her colleagues. The energy balances between the expanding gas voids are consistent with recent bouts of star formation, suggesting that this tug-of-war is not well understood.

METEOROLOGY

Prediction with plants

Water Resour. Res.

doi:10.1029/2007WR006514 (2008)

Monsoons are driven in large part by contrasts between land and sea temperatures, which are key to their prediction. However, other factors are also at play, such as soil moisture; higher moisture makes the transfer of heat from the land to the air through evaporation easier.

Eungul Lee, at the University of

Wisconsin, Madison, and his colleagues show through analysis of satellite and other records that including this effect can improve monsoon forecasts. Taking into account the vegetation growth — which has a strong influence on soil moisture — in the months preceding the northern and southern East Asian summer monsoons allowed them to improve the reliability of forecasts by a factor of two for the northern and three for the southern monsoon.

ANIMAL BEHAVIOUR

Got the scent

Naturwissenschaften doi:10.1007/s00114-008-0465-x (2008)

Honeybees that find nectar tell the rest of the hive about it by dancing. But bumblebees instruct nestmates through smell, find Mathieu Molet and his colleagues at Queen Mary, University of London.

They exposed bumblebees (*Bombus terrestris*; pictured below) to anise flower

scent, in some cases combined with a pheromone that has been linked to bee foraging. Bees leaving home to find food followed the anise odour whether or not the pheromone was present in the nest.

Foraging bumblebees, the authors argue, bring pollen and nectar into the nest and their peers thus learn what to search for by the target's scent. The pheromone the finders release has no specific teaching role; instead it increases the foraging behaviour of nestmates. Co-author Nigel Raine suggests dosing bumblebee nests with it and specific fragrances to improve commercial crop pollination.

MOLECULAR BIOLOGY

Micro-conspirator

Cell **135**, 437–448 (2008)

An existing cancer drug may be effective against a specific type of nerve tumour because of its ability to block a particular metabolic pathway.

Wade Clapp at the Indiana University School of Medicine in Indianapolis, Luis Parada at the University of Texas Southwestern Medical Center in Dallas and their colleagues studied mice with tumours that derived their cancerous nature from a mutation in a gene called *Nf1*. For the tumours to grow, a biochemical pathway, c-kit, must be activated in bone-marrow cells with only one healthy copy of the gene, and immune cells called 'mast' cells from the bone marrow must have



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