

BEST FROM SCIENCE JOURNALS: TINY INJECTABLE CHIPS

Relevant for: Science & Technology | Topic: Science and Technology- developments and their applications and effects in everyday life

Chips shown in the tip of a hypodermic needle. CREDIT: Chen Shi/Columbia Engineering

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[Published in *Science Advances*](#)

Researchers at Columbia Engineering have built what they say is the world's smallest single-chip system. The chip is less than 0.1 cubic millimetre in volume, about the size of a dust mite. Study leader Ken Shepard said in a release that the chip can be used for developing wireless and miniaturised implantable medical devices.

[Published in *Nature Communications*](#)

Tepary beans (*Phaseolus acutifolius* A. Gray) found in the United States and Mexico are known to survive in harsh conditions. By studying the genome, researchers have now decoded the possible mechanisms behind its resilience to heat stress. They noticed that in tepary bean, specific genes sensitive to heat stress get activated and protect the plant.

[Published in *Current Biology*](#)

Increasing ocean temperatures may kill off many species of marine animals in the coming centuries, notes a new study. It adds that most of the survivors would shift away from the equator. One of the authors Richard Stockey said in a release, "Our analyses indicate that many equatorial marine animals are living close to their thermal limits in the modern ocean and are unlikely to be able to adapt to warming oceans over the coming centuries."

[Published in *Nature Communications*](#)

Under conditions of intense heat and pressure, diamonds are formed deep within the Earth at about 150 to 200 kilometers under the surface. Now by studying these diamonds researchers are trying to trace the past geologic events and evolution of our planet. They studied 10 diamonds mined from South Africa and noted that the diamond-formation phase spanned a possible time frame of 550 million to 300 million years ago.

[Published in *PNAS*](#)

A new study found that "bats encode the world in terms of time and do not translate time into distance." This means that when a bat locates an insect, it perceives the prey as being at a distance of nine milliseconds, and not one and a half meters. The team also found that bats have this ability to know the speed of sound from birth and is not an acquired or learned talent.

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Animal remains have also been found, including the aurochs, a large extinct bovine.

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