

## Tipsheet, Science feature ideas from UCSD

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### SCIENCE FEATURE IDEAS FROM UCSD

#### MUSIC: IN THE MIND OF THE LISTENER

Just as beauty is in the eye of the beholder, some aspects of music now appear to be in the mind of the listener. Experimental psychologist Diana Deutsch finds people can have very different perceptions of the same sounds. A pair of tones, a half octave apart, are heard by some as ascending, by others as descending. And right- and left-handed people often perceive musical sounds differently. (NS)

#### COSMIC RAY TRACKS DATE GLACIERS, LANDSLIDES

Radioisotopes created by cosmic rays bombarding the moon have been used for 20 years to date the lunar surface. Thanks to our atmosphere, the Earth takes a thousand-fold fewer cosmic hits, making it hard to detect the isotopic tracks that show how long ago a rock was brought to the surface by erosion, glaciers, landslides or earthquakes. Now, using granite from the Sierra Nevada, cosmochemist James Arnold has proven it can be done. (YB)

#### WHERE IN THE BRAIN DO MEMORIES FORM?

The amygdala, a brain structure once thought to be crucial in memory formation, may not be, according to research psychologist Stuart Zola-Morgan, who with colleagues at UCSD and the Salk Institute is mapping the complex brain circuitry underlying memory. Carefully circumscribed damage to the amygdala has no effect on memory. This points to a possible surprising role for the neighboring cortex, an area largely ignored in memory studies. (LF)

#### DARK MATTER: EXOTIC WIMPS OR ORDINARY BARYONS?

Prevailing theory says 90 percent of the mass in the universe is missing, lurking as unseen dark matter in places like black holes. If such matter exists, what is it made of? Some have proposed exotic new particles called WIMPS. But astrophysicist George Fuller believes it is just ordinary matter--baryons--too dark to be seen. This would raise new questions about how the Big Bang formed the universe. (YB)

#### LOOKING INSIDE THE EYE WITH LASERS

A new device called a laser scanning ophthalmoscope is providing doctors with spectacular color images from inside the eye. Developed at UCSD and the University of Heidelberg, the instrument zaps the inner eye with a harmless laser beam, taking a comprehensive reading of the size and shape of the optic nerve. Glaucoma specialist Robert Weinreb, who helped develop the device, is using it for early diagnosis of eye disease. (LF)

#### WHAT TO DO WITH MUNICIPAL WASTE

The safe disposal of waste is a critical problem in this country. Should it be buried? Dumped at sea? Recycled? Combustion expert Stanford S. Penner says: "Burn it." Most municipal wastes and virtually all hospital wastes can be safely burned in clean, effective incinerators similar to those now used in Europe but rarely built in the U.S. (PL)

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