

SCIENCE BRIEFS

Scientists find source of hunger

BOSTON (AP) — Texas scientists have found the brain's hunger hormone, the stuff that triggers the overwhelming urge to say, "Another helping of mashed potatoes, please. And lots of gravy!"

The discovery is likely to start a stampede of research intended to find medicines that can rein in this substance and help people say no to food.

The researchers were led by Dr. Masashi Yanagisawa of Howard Hughes Medical Institute at the University of Texas Southwestern Medical Center. They reported the finding in Friday's issue of the journal *Cell*.

The scientists called their discovery "orexin," a play on "orexis," the Greek word for hunger.

Female physicians report harassment

CHICAGO (AP) — More than one-third of female doctors say they have been sexually harassed, according to a survey that suggests the problem isn't disappearing from the medical profession.

Overall, 47.7 percent reported having been targets of gender-based harassment, and 36.9 percent reported having been sexually harassed, researchers said in Monday's issue of the *Archives of Internal Medicine*, released Sunday.

The 1993-94 nationwide survey did not ask women to specify what behavior they thought constituted harassment, only whether they believed it had occurred.

Younger physicians reported higher rates of sexual harassment than older ones, and medical schools were the most common site, said researchers led by Dr. Erica Frank of Emory University in Atlanta.

Study: war between sexes begins early

NEW YORK (AP) — Two genes lock in a tug-of-war to determine whether a mammal embryo will become a boy or a girl, a new study suggests.

One of the genes, called Sry, has long been known as the master switch that makes an embryo become male. The new work suggests that a second gene, Dax1, tries to block its effect.

It almost always fails. So embryos with one Y chromosome, which carries the Sry gene, and one X chromosome, which carries Dax1, normally develop as males.

In rare cases, the new study suggests, such embryos get an extra copy of the Dax1 gene. And when two Dax1 genes gang up on the single Sry gene, the competition goes the other way, and the embryo becomes a female.

Correction

On Page 2 of Friday's *Battalion*, there was an error in a headline. The headline should have read, "Grad student indicted in sexual assault case."

American Association for the Advancement of Science 1998

New learning style raises questions

By LISA BROWN
Special to The Battalion

A chemistry student asked her professor to tell her what was wrong with her experiment, but the professor instead asked her questions to guide her to the conclusion. The student became angry and upset, turning the professor in to the dean.

Alexandra Hilosky, a professor at Harcum College, shared this example of inquiry-based laboratory instruction at the American Association for the Advancement of Science annual meeting on Feb. 14.

Hilosky, Joseph S. Schmuckler, a professor at Temple University, and William McComas, a professor at University of Southern California, said that most American high school and college teachers lecture students and then have them do cookbook science labs.

However, the National Academy of Sciences, AAAS and the National Science Foundation encourage more inquiry-based science instruction in their 1996 National Science Education Standards.

Schmuckler said, "The potential has not been fully realized to include inquiry and lab."

Hilosky, Schmuckler and Frank X. Sutman, a professor at Temple University, compared American and German college chemistry classrooms in their study published in the January 1998 *Journal of Chemical Education*.

Hilosky said that the German classrooms were student-controlled, lab-driven and low technology with a pleasant laboratory environment.

McComas surveyed professors and students in Western, Midwestern and East Coast colleges to compare their desires for changes in laboratory instruction. He found that students and instructors want the same changes, including more team laboratory work, more evaluation and practical laboratory experience.

However, McComas said that students did not want more long-term labs, challenge questions or indirect questioning, but professors did.

Morrisville, Pa. middle/high school teachers William and Holly Priestly said that science teachers enrolled in Temple University's science education classes practiced more inquiry-based science instruction in their classrooms after they completed the courses.

Robert K. James, director of the Texas Alliance for Science, Technology and Mathematics Education and a Texas A&M professor, said that the University has similar programs, including coursework, workshops, Internet projects and research internships.

"The lab is central to science teaching," James said. "Over the course of the high school year, the lab should grow in emphasis, but the teacher should teach the students how to do lab and how to deal with the inquiry environment first."

Cathleen Loving, a Texas A&M assistant professor, echoed James' caution.

"Inquiry-based instruction can be tricky," Loving said. "If the activities are too unstructured, the students flounder. Teachers provide more structure when they provide the problem and students find the best solution."

Loving said that the best form of inquiry-based instruction deals with the students' conception of how the world works and leads them to better explanations.

Dr. Richard Setlow, senior biophysicist and associate director for life sciences at the Brookhaven National Laboratories, said exposure to UVA does not cause sunburns, but it is a strong factor in melanoma development.

"Our research shows that about 90 percent of sunlight's melanoma-causing effect may come from UVA and only 10 percent from UVB," he said.

People have the misconception that by wearing sunscreen, they can stay out in the sun for hours without harm, Setlow said.

"Most of the presently-used sunscreens, which protect against UVB, do not protect against UVA," he said.

By using fish as a research model, Setlow found that even though sunscreen is applied, the likelihood of getting a melanoma is increased by multiple hours of exposure.

The effects of depleting ozone on human health have been a concern for many years. However, Setlow said that the ozone does not filter out UVA and therefore has little effect on melanoma skin cancer.

For various reasons, some people use tanning beds as an alternative to the sun.

There is much more UVA in a tanning bed than in natural sunlight, Setlow said.

Berwick said, "The death rate for melanoma cancer is much more dramatic than for nonmelanoma skin cancer."

It is estimated that over 7,000 people will die this year from melanoma skin cancer in the United States, according to the American Cancer Society.

Skin cancer may not be deterred by sunscreen

Different types of ultraviolet light cause burns, cancer

By TIFFANY INBODY
Editor in Chief

PHILADELPHIA—Using sunscreen every day may not keep the deadly melanomas away.

Since the mid '70s people have been advised to wear sunscreen as a form of protection against the sun's damaging ultraviolet light.

Dr. Marianne Berwick, an epidemiologist at Memorial Sloan-Kettering Cancer Center, said this advice is misleading based on recent population-based studies.

"We can conclude from these studies that it is not safe to rely on sunscreen to protect you from skin cancer," she said.

A panel of experts addressed progress in the understanding of sunscreen and skin cancer at the American Association for the Advancement of Science annual meeting in Philadelphia Tuesday.

There are two main types of ultraviolet light that affect the skin. One is UVB and the other is UVA.

UVB is responsible for sunburns. When used properly, most sunscreens protect the skin from UVB.

Sunscreens absorb the energy from the sun's ultraviolet light, preventing UVB from burning the skin, Dr. John Knowland, from the University of Oxford, said.

"It is important to remember that they (sunscreens) cannot destroy that energy," he said.

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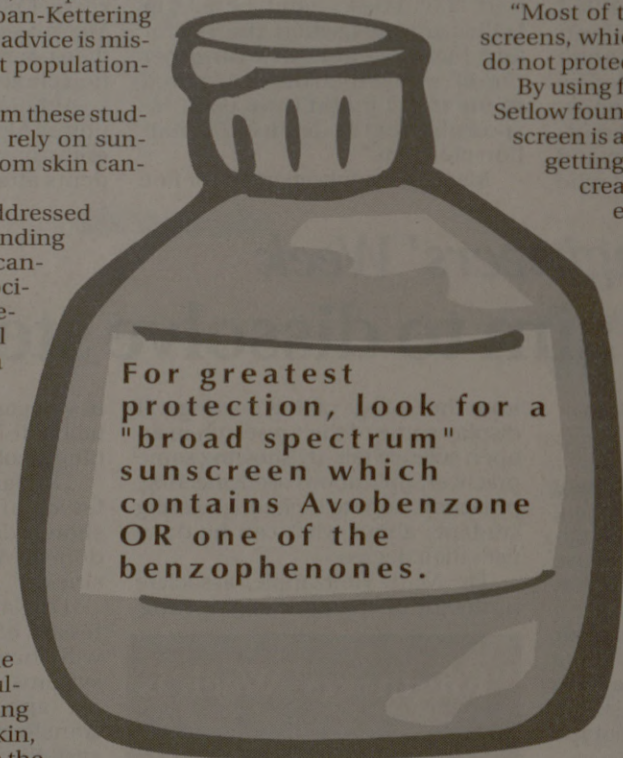
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Source: UC Berkeley

DNA databases handcuff criminals to crime scene

Researchers say that use of genetic records should only be for identification purposes, not research

By ANDREA POOL
Special to The Battalion

PHILADELPHIA — DNA databases are becoming a key to solving crimes.

The United Kingdom has a national DNA database and legislation exists in 47 states in the United States to have such databanks.

David Werrett, director of Research and DNA services for the Forensic Science Service in the UK, said their databank was established in 1995 because 20 percent of offenders commit 80 percent of crimes.

When a crime is committed, two tissue samples are taken from the criminal, and members of the community volunteer to give their samples.

Police then use the databank as a starting point to their investigation.

So far, said Werrett, the total number of samples for suspects and convicts is 260,931. There have been 16,754 matches reported.

Werrett is serving on a subcommittee of the Forensic Science Review Board in New York, which makes recommendations for the forensic labs.

Barry Scheck, a professor at the Benjamin N. Cardozo School of Law and known by many as one of O.J. Simpson's defense lawyers, helped draft the legislation establishing the review board and the subcommittee on which Werrett serves.

Scheck is also involved in a national commission established by Attorney General Janet Reno to plan the future of DNA testing. Their first report is due this year.

In the databanks in the United States, Scheck said, are DNA profiles of inmates, usually restricted to certain violent felonies and sex offenders; new cases, solved and unsolved, suspects in old unsolved cases and blood sample of inmates.

The benefits of having such a databank, he said, include generating suspects in new cases, solving old unsolved cases and exonerating those wrongly accused.

Scheck expressed some concerns about privacy, however. New York's data-

bank is to be used for identification purposes only.

"In virtually every other state, when you look at the operative language for the DNA databank, they talk about 'law enforcement purposes,'" Scheck said. "And I think that is, frankly, dangerous."

Scheck likened the phrase law enforcement to national security.

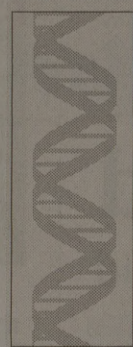
"National security was used by our government over the course of time for doing a whole lot of things which maybe had nothing to do with national security at all but just to prevent embarrassment to the government," Scheck said.

Scheck predicted that scientists will want access to databanks or blood samples of criminals for genetic research on pedophiles in the future unless the language for these databanks is changed.

"Unless we clean up the statutory language in terms of law enforcement purposes, I think that we're going to have some problems," Scheck said.

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Benjamin N. Cardozo School of Law



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News: The Battalion news department is managed by students at Texas A&M University in the Division of Student Publications, a unit of the Department of Journalism. News offices are in 013 Reed McDonald Building, Newsroom phone: 845-3313; Fax: 845-2682; Email: battalion@tamu.edu; Website: http://battalion.tamu.edu

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The Battalion (ISSN #1055-4726) is published daily, Monday through Friday during the fall spring semesters and Monday through Thursday during the summer session (except University holidays and exam periods) at Texas A&M University Second class postage paid at College Station, TX.

Postmaster: Send address changes to The Battalion, 015 Reed McDonald Building, Texas A&M University, College Station, TX 77843-1111.