SCIENCE&TECHNOLOGY

Science Briefs

Tuesday, 12:30 p.m., Rumours Coffeehouse
Dr. Jim Wild, Texas A&M Dept. of Biochemistry & Biophysics
"Bioethical Issues in a Changing World"

Wednesday, 12:30 p.m., Rumours Coffeehouse
Dr. John Howard, CEO, ProdiGene, Inc.
Dr. Susanna Priest, Texas A&M Dept. of Journalism
"Genetically-Modified Foods: Fears and Facts"

Thursday, 5:00 p.m., Rumours Coffeehouse
Community religious leaders
"Biotechnology and our Religious Faith"

Friday, 5:00 p.m., Wehner 159 (Ray Auditorium)
Dr. Glenn McGee, University of Pennsylvania and
Editor-in-chief, American Journal of Bioethics
"A Little Prozac, a Fat Vacuum, and I Will Be Beautiful: Is it Ethical to Enhance Human Beings?"

Forum raises bioethics awareness

The Texas A&M Bioethics Forum s sponsoring "Bioethics Awareness Week," through Friday, with ectures and debates on topics such as cloning, genetically modified foods, gene therapy and the genetic enhancement of humans.

Spencer Davis, president of the orum and a junior genetics major, said the group encourages open discussion of ethical questions pertaining to genetics research. "We avoid endorsing any particular viewpoint on these issues," Davis said.

The Forum is also planning a two-day conference for Fall 2000 to look at religious perspectives about biotechnology issues. "It will examine arguments presented by major religious faiths against certain areas of biotechnology," Davis said.

Nobelist to speak on ozone loss

Dr. Sherwood Rowland, a chemist from the University of California- Irvine, will speak about "Ozone Depletion and Global Warming in the 21st Century," at 7:30 p.m. Thursday, as part of the Texas A&M Distinguished Lecture Series.

The lecture, which is free and open to the public, will be held in the Presidential Conference Center at the Bush School. Tickets are available at the Rudder Box Office.

Rowland and two other scientists shared the 1995 Nobel Prize in chemistry for their research on the deterioration of the stratospheric ozone layer and its role in global warming.

The stratospheric ozone layer protects the earth from solar rays by absorbing ultraviolet radiation before it reaches the ground.

In the 70s, Rowland and his colleagues showed that chlorofluorocarbons (CFCs), chemicals used for decades in refrigerators as a coolant and in aerosol cans as a propellant, destroy ozone molecules.

As a result, "ozone holes" developed that allowed more radiation to reach and warm the earth's surface.

Aboard the Vomit Comet

Zero gravity experiments test movement in space

BY BETH AHLQUIST
The Battalion

Armed with powdered donuts to prevent nausea, three Texas A&M students recently stepped aboard NASA's Vomit Comet.

The KC-135 airplane, used to simulate the zero-gravity conditions of space flight, earned its nickname for causing motion sickness in many of its passengers.

Last month, Susan Ramsey, a senior biomedical engineering major, Bo Beeman, a senior industrial engineering major, and Bowie Hand, a senior industrial engineering major, rode the KC-135 as part of the NASA Reduced Gravity program, in which they performed zero-gravity experiments.

Ramsey, Beeman and Hand performed tests of Fitts' law, which describes the amount of time it takes a person to make a specific movement. Movement time is affected by both distance from a target object and the size of the object, Hand said.

But the team wanted to find out if movements are slower or faster in zero gravity.

Fitts' law has been tested before, but not in a zero-gravity environment, Ramsey said.

To test the law, the students created a cockpit with 20 buttons of various sizes. They measured the time it took for the test subject's hand to leave a start button and touch the target button. They took the cockpit aboard the KC-135, which flew in a specific wave pattern to create the feeling of weightlessness.

The flight on the Vomit Comet was the culmination of months of work. Ramsey, Beeman and Hand submitted a 50-page proposal detailing their plans for the project. Hand said students from all over the country submitted proposals, but only 48 spots were available.

The team's project also had to get past A&M's Institutional Review Board to ensure no one would be harmed during the experiment.

"Even though we are our own subjects, they wanted to be sure it would be safe for us to do this," Beeman said.

Once past the review board, the team confronted a challenge facing many scientists. They had to raise enough money to finance the cockpit's construction.

And then they had to build it.

The cockpit contains a display screen to show the test subject which button to push, target buttons and a chair for the tester to sit in.

Ramsey, Beeman and Hand travelled to Houston in February to prepare for the flight. Beeman and Hand had to undergo physiological preparations to get their bodies used to the zero-gravity environment of the KC-135, Beeman said. Ramsey co-oped at NASA last year, so she was able to bypass the training.

Their cockpit also underwent last-minute readiness tests to be sure no one would be injured if someone bumped it during the flight, and NASA engineers scrutinized the electronics to make sure everything was functioning correctly.

The team flew on March 10 and 11 with Ramsey and Beeman flying the first day, and Ramsey and Hand the second day.

Ramsey and her teammates said their experiment may impact astronaut training by helping to describe the way zero-gravity affects astronauts' movements.

Most pilot research is done by the Air Force, and little information pertaining to astronauts is available, she said. Training might be more effective if scientists knew how astronauts are affected when they go into space.

Ramsey stressed their study will not be definitive.

But she said they expect their study of movement in zero-gravity will aid other researchers — with more time and money — to continue this line of research to enhance astronaut training.

PHOTO COURTESY OF NASA

Susan Ramsey, a senior biomedical engineering major, and **Bo Beeman**, a senior industrial engineering major, on board a NASA KC-135 airplane preparing the cockpit.

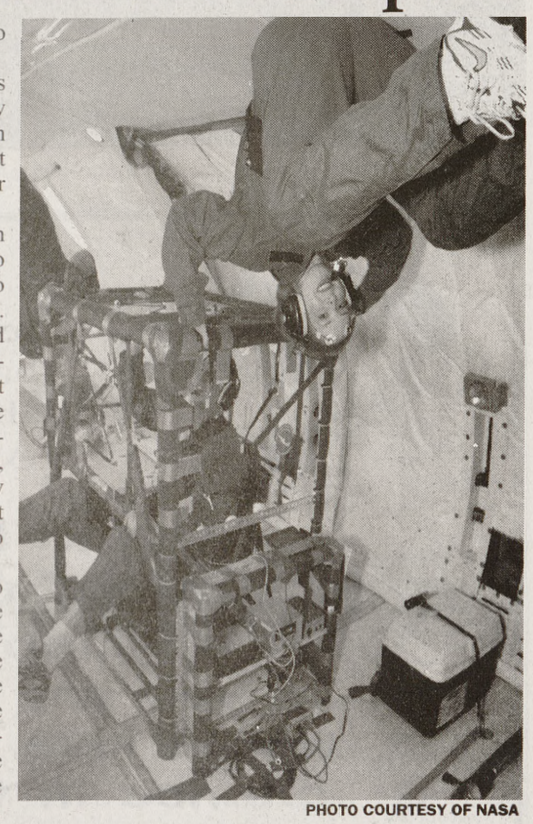

PHOTO COURTESY OF NASA

Susan Ramsey holds on to the cockpit where **Bo Beeman** performs an experiment to compare movements at zero gravity.