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Embry-Riddle Aeronautical University

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SPACE TECHNOLOGY

SpaceWeek will feature student interest in aerospace

Aerospace Society shows four-day space exhibit

By Brian Gamage
Space Technology Editor

The Embry-Riddle Aerospace Society (ERAS), a student group dedicated to the peaceful exploration of space, will present space-related

events and exhibits next week. This year's effort will be joined by the newly formed Embry-Riddle Future Space Explorers and Developers Society (ERFSEDS), a student group dedicated to the active pursuit of space exploration. Every day starting Monday,

March 8 and ending Thursday, March 11, the conference room, located in the John Paul Riddle Student Center, will house a display of various space memorabilia, publications and pictures open for public view. The display will include items such as NASA photos, mission patches, models and other items on loan from faculty and students. The two aerospace interest groups invite all students to visit their display, which will be located across from the information desk.

The conference room will be open from 8 a.m. to 5 p.m. on Monday and Thursday, 8 a.m. to 3 p.m. on Tuesday and 9 a.m. to 5 p.m. on Wednesday.

Also each day, the two groups plan to give presentations by their speakers bureaus from 11 a.m. to 1:30 p.m. One of the topics to be presented is the Space Station Freedom, including its development and recent events concerning its redesign.

The SpaceWeek events will not be limited to the conference room, however.

Everyday from 11 a.m. to 2 p.m. on the flight deck, there will be a space trivia contest where students can answer questions about the space program and win various prizes, including posters and NASA shuttle photos.



During a recent trip to Space Camp in Titusville, members of the Embry-Riddle Aerospace Society toured the facilities and experienced the many simulators used for early astronaut training. A Society member is harnessed into an apparatus used to simulate the sensations of performing a spacewalk.

Wednesday's SpaceWeek events will culminate with a presentation by Dr. Robert Fleck, professor of astronomy here at Embry-Riddle, who will speak on the topic of astronomy. Dr. Fleck's presentation is scheduled for 7 p.m. in room E-611 and is open to everyone who wishes to attend.

During SpaceWeek, Student Activities will hold a glass case contest where the various clubs and organizations will decorate their cases. The cases will be judged on attractiveness and the extent to which a positive message is conveyed. The winning club will receive a prize.

SpaceWeek's purpose is the celebration of mankind's achievements in the fields of space exploration.

Everyone is invited to visit the various activities presented by ERAS and ERFSEDS to learn about the space program and possibly catch a glimpse of where tomorrow may bring us.



An Aerospace Society member runs around a circular track simulating the running exercises performed on Spacelab, the only American space station to orbit Earth.

ORBITER UPDATE

Columbia - Columbia is at Launch Pad 39A where the three main engine turbo pumps have been replaced. Launch of STS-55 is set for 10 a.m. Sunday March 14.

Discovery - Discovery is in OPF Bay 3 being inspected for structural leaks and fitted with new tiles. The orbiter is scheduled for rollover to the VAB on Wednesday.

Endeavour - The Space Shuttle Endeavour is in OPF Bay 1 undergoing installation of the Spacehab module, remote arm testing and tile waterproofing.

Atlantis - The orbiter Atlantis is in California for modifications at the Rockwell International plant. Over the next several months Atlantis will be inspected and upgraded.

NASA study may reduce space dizziness in astronauts

By Mike Dienhart
Staff Reporter

A study at NASA's Ames Research Center in Mountain View, California may lead to a remedy for one of the difficulties inherent in sending manned vehicles into space.

Dr. Joan Vernikos, the study's principal investigator, is researching methods to combat the lightheadedness felt by astronauts returning to Earth-normal gravity.

She believes the dizziness is caused by a reduced level of blood plasma. Plasma is the fluid part of the blood, without red blood cells.

"The primary purpose of this study is to compare the effectiveness of two procedures that expand plasma volume," said Vernikos, Chief of Ames' Life Science Division.

Without the pull of Earth's gravity astronauts' body fluids shift upward. The body responds to what it perceives as excess fluid and reduces the amount of circulating fluid volume by excreting more urine.

When the astronaut then returns to the gravity of Earth, fluids again shift to the lower extremities. This shift increases the chance of lightheadedness immediately after land-

ing, Vernikos stated. She hopes to prevent this feeling by finding a reliable and acceptable way to increase plasma volume in volunteers.

Although space shuttle crews routinely take water and salt tablets just prior to re-entry in hopes of negating the dizziness, the exact effects have never been measured.

Vernikos' study involves six women and six men ages 30 to 50 years. Plasma volume is measured in each person under three conditions: after taking water and salt tablets, after taking a synthetic steroid and after taking no medication.

They have had promising results with the synthetic steroid similar to steroids normally found in the body. This steroid may provide a more reliable alternative to salt tablets, especially as mission lengths increase.

Clinically, the steroid is used to treat people that experience sudden

bouts of low blood pressure when they stand.

Responses to the treatments may vary not only by sex, but also with the time of day, Vernikos added. She plans to measure the effectiveness of the treatments during the day and at night.

In addition, Vernikos hopes that the study will add to the limited data about how women adapt to space flight. Although women also serve as astronauts, all data from ground-based simulation studies are derived almost exclusively from men. The studies that have been done on women suggest that they tolerate the lightheadedness as well as men.

"Our purpose is to find the most effective treatment and the minimum effective dose, with the least side effects, for both sexes," she said. "It is very important that we have this information before we test drugs of any kind on astronauts in space."

"It is very important that we have this information before we test drugs of any kind on astronauts in space."

Dr. Joan Vernikos

NASA readies space technology transfer

AUSTIN, Texas (AP) - Launching a three-year experiment to commercialize its technology, NASA has hired an Austin business think tank to help it take innovations from the laboratory to the marketplace.

The IC2 Institute at the University of Texas will oversee a \$5.4 million grant that will pay for setting up and operating technology commercialization centers at the Johnson Space Center in Houston and the Ames Research Center in Mountain View, Calif.

The centers are expected to be modeled after the Austin Technology Incubator, which IC2 established three years ago.

The two National Aeronautics and Space Administration commercialization centers are expected to provide space and services to companies that market products and services based on the space agency's research work.

The centers will attempt to accelerate the technology commercialization process and bolster entrepreneurial activity at the space agency.

In Houston, the center is expected to tap the Johnson Space Center's heavy support of medical

research in space. For Ames, the focus is expected to be on computer hardware and software, the *Austin American-Statesman* reported Friday.

IC2 is a 15-year-old think tank headed by George Kozmetsky, co-founder of Teledyne Inc. and former dean of the UT College of Business Administration.

Kozmetsky said the success of the Incubator was a key factor in the selection of IC2 for the project.

"NASA considered the lab-to-market model we developed and currently operate as a pivotal selling point," he said.

The Austin incubator has been cited as an innovator in tapping industry, government and university resources to assist promising technology companies.

"NASA considered the lab-to-market model we developed..."

George Kozmetsky
 Co-founder of Teledyne

Shuttle Columbia launch date set

By Brian Gamage
Space Technology Editor

Sunday March 14, 1993 has been set as the new launch date for STS-55, the next mission for the Space Shuttle Columbia. The launch window extends from 10 a.m. until 12:30 p.m. EST.

The new date was announced after engineers removed, inspected and replaced the high pressure oxidizer turbopumps on Columbia's main engines.

The pumps were changed after a search of paperwork could not determine that the pumps were equipped with the newer version of the turbine tip seal retainers. The newer seals have more lenient requirements.

STS-55 will carry into orbit the Spacelab-D2, where a seven-member crew will perform a wide range of experiments in the microgravity of space. The mission is dedicated to the German Space Agency.

Once in orbit, the crew will divide into two teams. Each team will work a 12-hour shift so that experiments can be performed around the clock.

The mission is planned to last nine days and will end with a landing at Kennedy Space Center's Shuttle Landing Facility.



The orbiter Columbia, attached behind the external tank and solid rocket boosters, sits on pad 39A. The three main engine turbopumps have been replaced with new ones and the launch is now back on track.

The edges of science...

Wormholes could one day lead to time travel

By Arie Moller
Staff Reporter

In last week's installment of *The edges of science...* wormholes as transportation were discussed. In this final installment, wormholes as time passages are explored.

Time travel could be accomplished by moving the entrance of a wormhole rapidly. When I mean rapidly, I mean close to the speed of light. How could this be done?

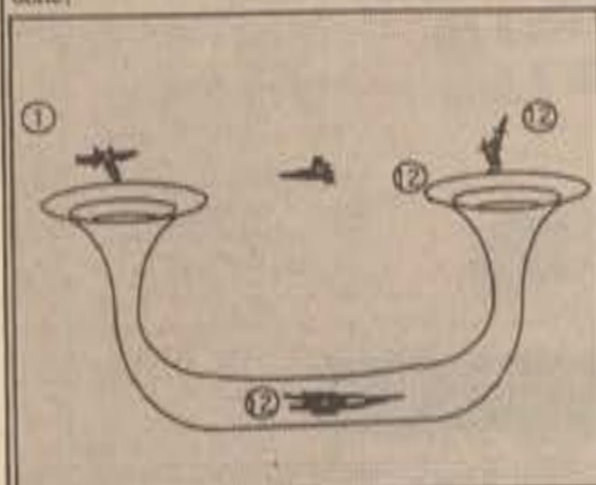


Figure 1

Well it could be accomplished by using a large mass in an orbit around the hole. If sufficiently massive, the object would start the wormhole entrance rotating about a point. If rotated fast enough, say 99 percent of the speed of light, the interior of the wormhole and its entrance would experience a time-dilation. In other words, the time inside the wormhole would proceed forward at a slower rate than the non-accelerated universe.

In fact, if the jump between the entrance and exit of the wormhole is not far, say fifty-five minutes cruising in your spaceship, you could theoretically pass through the wormhole, arrive at the other end and make it back to the entrance in time to witness yourself pass through the entrance. How could this be? Good question.

Let me explain. The wormhole entrance is accelerated from rest. For demonstration purposes, let us assume that this acceleration starts at twelve o'clock. The wormhole mouth is kept rotating at 99 percent of the speed of light for one hour.

According to Einstein's Theory of Special Relativity, an object moving near the speed of light would experience time dilation. Time would progress at a slower rate for the accelerated object relative to a non-accelerated object.

If the wormhole is accelerated for an hour, the time inside the wormhole would barely budge past noon while the time outside the entrance would read one o'clock, as shown in Figure 1.

747-400F cargo freighter in final assembly

Boeing's latest new-technology aircraft, the 747-400 Freighter, has entered the final production phase at the manufacturer's huge plant near Everett, Washington.

In final assembly, winglets, engines and dorsal fin are added to the joined fuselage. Functional tests of the aircraft's systems also are carried out there.

The airplane will emerge from the factory in late February. Following cargo-loading demonstrations, pre-flight activities will begin, such as airplane fueling and thorough electronic systems and engine checks.

In early May, this most productive of cargo carriers will take off from nearby Paine Field to begin a three-month certification flight test program. Initial deliveries are scheduled for this fall.

Orders for 16 airplanes have been received from six airlines: Cargolux, Air France, Asiana, Cathay Pacific, KLM and Singapore Airlines.

With the same fuselage dimen-

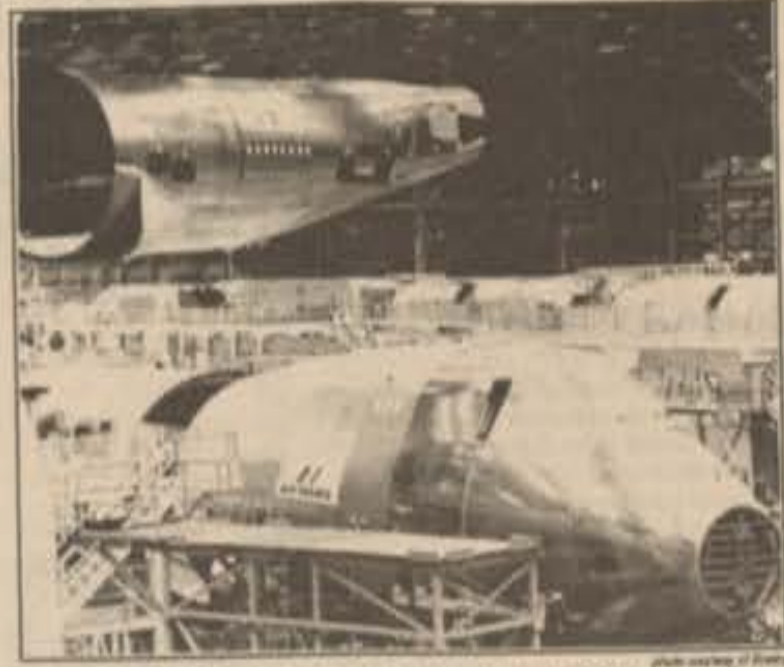
sions as the 747-200 Freighter, the new derivative will carry more payload at longer ranges, with better fuel economy and lower operating costs.

At a given payload, for example, the 747-400F will fly up to 920 statute miles (1,482 km) farther than the 200F or, at a given range, carry up to 40,000 lbs. (18,000 kg) more cargo.

This enhanced capability, thanks to more powerful engines and a larger wing, is complemented by improvements in cargo handling system components.

The new freighter has the same upper deck as the 200F. However, the upper-deck floor was revised to make room for two additional ten-foot (3m) high pallets. By relocating the upper-deck access ladder and revising guide rails and tie-down equipment, an additional pallet position was created in the nose of the airplane. These changes resulted in 774 cubic feet (21.9 cubic meters) more cargo space on the main deck than on the 200F.

Two additional LD-1 or LD-3



This 747-400F, once completed, will be delivered to Air France. The Freighter begins flight testing in May.

containers will fit into the aft lower hold and, depending upon the pallet and container mix in the forward lower hold, two additional contain-

ers forward, adding up to 700 cubic feet (19.8 cubic meters) of additional containerized cargo volume in the lower hold.

McDonnell Douglas names vice president of manned space

McDonnell Douglas Press Release

McDonnell Douglas Aerospace has named Seymour Z. (Sy) Rubenstein to the newly created position of vice president-manned space. In his new position, Rubenstein will report to Charles A. Ordahl, senior vice president-Space Systems and will support him in execution of manned space programs.

Rubenstein will focus on McDonnell Douglas' Space Station Freedom activities and will be responsible for full integration and implementation of space station activities at Huntington Beach, Houston, Texas and Kennedy Space Center, Fla.

"We are very pleased to have a person with Sy's experience in manned space programs join our team," Ordahl said.

For more than 25 years, Rubenstein was employed at Rockwell International.

Rubenstein was assigned to Rockwell's Space Division in 1973 and led the development of the Space Shuttle orbiter. Rubenstein later served as president of Rockwell's Space Transportation Systems Division.

In addition to directing design, development and production of the orbiter, he was responsible for space flight operations support for space shuttle missions. Rubenstein earned a bachelor of science degree in electrical engineering from Massachusetts Institute of Technology and a master of science degree in electrical engineering from New York University. He later received an MBA from California State University-Fullerton and has completed the Stanford Executive program.

HF data link flight testing begins this spring

United Press Release

United Airlines is teaming with the Collins Air Transport Division, a division of Rockwell International Corporation, to conduct HF (High Frequency) data link flight testing later this spring.

Data transmission capability via HF is an automated function, allowing airlines the advantages of alternative digital communications paths to meet future ATC requirements, as well as the reliability of redundant information transfer routes.

Initial flight testing will use an external modem to verify modulation and frequency management designs.

Modem and communications processor functions will then be embedded in the new Collins HFS-900D transceiver and, via service bulletin, into the HFS-700 transceiver.

Ground facilities will be provided by the Collins Communications



The HF data link system will be placed into United aircraft. It will provide air crews with up to the minute flight information.

Central HF station, located in Cedar Rapids, Iowa. Collins Air Transport Division

has begun preliminary HF voice testing with flights in South America, northern Canada and the

North Atlantic regions. Deliveries of Collins HF Data Link products will begin in 1994.

Air Inter selects Honeywell to provide avionics for Airbus

Honeywell Press Release

French domestic carrier Air Inter (Lignes Aeriennes Interieures) has selected Honeywell to provide advanced-technology Global Positioning/Air Data Inertial Reference Systems (GP/ADIRS) for the 15 Airbus A321s (seven firm, eight option) the airline has on order.

First flight of the A321 type is scheduled for 1993 with deliveries to Air Inter scheduled to begin in 1994.

The Advanced GP/ADIRS uses a 4-MCU-size Air Data Inertial Reference Unit which is 60 percent smaller, 40 percent lighter and uses 50 percent less power than Honeywell's successful 10-MCU system while offering the same performance.

The Honeywell global navigation sensor, being developed by Canadian Marconi Company, is the first 12-channel receiver specifically designed for the aviation market.

The receiver tracks all Global Positioning System satellites in view to provide better than 25-meter position accuracies.

With the selection of Honeywell's integrated system, Air Inter is positioned to take advantage of precision landing procedures currently being developed for the air transport industry.

The airline had previously selected Honeywell's 4-MCU ADIRS for their A330 widebody twinjets on order.

Combining the air data function with the inertial reference system provides enhanced performance in less space. This configuration eliminates the need for static and total pressure tubing, drain valves and space for two separate air data computers.

The system also includes a fault reporting capability to the on-board maintenance system.

Air Inter, formed in 1954, operates an extensive network of routes radiating from Paris as well as trans-regional services.



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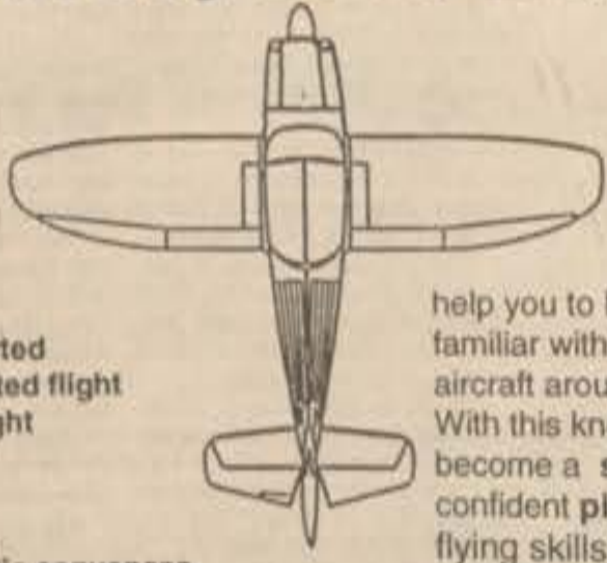


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The Lemonheads have plenty of funk for all

By Jaylin Billig
Diversions Editor



If you thought the latest rage of grunge rock wasn't enough for you, then you'll love the newest offshoot of this hybrid style - bubblepunk. This new breed of alternative music has sprung up and boasts bands like the Lemonheads, with their new release entitled *It's a Shame About Ray*.

This album, which is the Lemonheads' first record was the Album of the Year in the 1992 College Media Journal's New Music Awards, and has shot up from number 85 to number 68 in Billboard's Top LP and Tapes chart.

It's a Shame About Ray features the MTV hit "Mrs. Robinson," which is a cover of Paul Simon's original tune as well as the title hit and other songs just as fun and easy to listen to.

"Mrs. Robinson" is probably the best song on the album, but the other songs including "Buddy" and "Bit Part" - are also representative of the Lemonheads' toe-tapping sound.

The Lemonheads consists of - right to left - Nic Dalton, Evan Dando and Dave Ryan.

This album is chock full of light and fun sounds that anyone will like. The Lemonheads exhibit a variety of dynamics, which can range from the gritty to the gentle and soothing.

The Lemonheads have a kind of sound that promises to stick with the listener and entertain them. The songs are energetic without being

grating, and the style is different without being strange.

Evan Dando is the only original member of the seven-year-old band. He has picked up several different additions over the years, including drummer David Ryan, Nic Dalton and Juliana Hatfield on this album. They form a band that should be reckoned with, because they have the potential to become a steady contributor to alternative music in years to come.

Be sure to check out *It's a Shame About Ray*. You'll find the style suitable to almost any taste, and the songs a welcome change from the usual grunge scene.

Current top ten singles in the nation

1. "I Will Always Love You" - Whitney Houston
2. "A Whole New World" - Peabo Bryson
3. "Ordinary World" - Duran Duran
4. "I'm Every Woman" - Whitney Houston
5. "Nuthin' but a 'G' Thang" - Dr. Dre
6. "Mr. Wendal" - Arrested Development
7. "7" - Prince and the New Power Generation
8. "Saving Forever for You" - Shanice
9. "Hip Hop Hooray" - Naughty By Nature
10. "Informer" - Snow

Source: Billboard magazine

Ned's Atomic Dustbin releases a worthy new album

By Greg Rezendes
Avion Editor

Are you normal? That's the question that Ned's Atomic Dustbin is asking on their newest album titled *Are You Normal?*

This new array of alternative music by the five-man band shows that not everybody needs to be normal to produce good songs.

I never heard of this band before I listened to their album. I may have seen their advertisement for their new release in CMJ magazine, but I never took it seriously. I figured that it was the usual street group trying to get their start in music.

Sony, the record company that produced the album, really did a good job making their boys visible in the music community. Although the advertisements did get my attention, they did not sell the group to me.

What did sell this select group of individuals was the first song on this

album entitled "Suave and Suffocated." The title does not do justice to the quality of music I was hearing. I was surprised at how good this song really was.

I ventured forward to find twelve more tracks equally satisfying. This is not normal for most bands in the industry. Most bands have one or two hits, with the other songs being merely mediocre.

This group reminded me very much of Nirvana, who also had previous albums but did not get my attention until *Nevermind*.

"Legoland," "Tantrum," "Intact" and "Fracture" are just some of the hits that will catch any music lover's attention. These are all worth checking out.

Although much of the background music may sound a little repetitious to some at first, after many more listening sessions the music will stand out in your mind.

I look forward to listening to some of their previous music. You should try it, too.



Ned's Atomic Dustbin has many songs worth sampling.

Current best-selling albums in the nation

1. "The BodyGuard" Soundtrack
2. *Breathless* - Kenny G
3. *The Chronic* - Dr. Dre
4. *Unplugged* - Eric Clapton
5. *Some Gave All* - Billy Ray Cyrus
6. "Aladdin" Soundtrack
7. *Pocket Full of Kryptonite* - Spin Doctors
8. *Timeless (The Classics)* - Michael Bolton
9. *If I Ever Fall in Love* - Shal
10. *It's Your Call* - Reba McEntire

Source: Billboard magazine

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- Monday: 8:00 a.m. - 5:00 p.m.
- Tuesday: 8:00 a.m. - 3:00 p.m.
- Wednesday: 8:00 a.m. - 5:00 p.m.
- Thursday: 8:00 a.m. - 5:00 p.m.



On display will be various memorabilia from the space program, including the past, present and future.

Co-sponsored by the Embry-Riddle Aerospace Society and ERFSEDS

SPACE TECHNOLOGY

Be a part of the space program.



Man freaks and shoots jukebox

DODGE CENTER, Minn. (AP) — A Byron man apparently took to heart the words of the hit country song "Bubba Shot the Jukebox."

Mark Cranston, 30, is charged with assault and criminal damage to property for allegedly firing three shots into a barroom jukebox and another at a table where people were playing pool.

"He just flipped out," said Mark Dierkhising, a co-owner of Harold's Club, who was working when the shots were fired Monday night. "It was a miracle nobody got hurt."

Dierkhising said Cranston was drinking coffee when he got up, pulled a handgun and fired the shots.

He then laid the gun down and began reading to himself from a Bible, according to the co-owner and sheriff's reports.

Cranston gave no explanation and was arrested without incident, authorities said. No one was injured.

Deputies also discovered a loaded shotgun in Cranston's pickup truck parked outside the bar, Sheriff William Weber said.

Dierkhising said the jukebox was playing at the time but he didn't remember what song.

The song by country star Mark Chestnutt includes the lyrics, "Bubba shot the jukebox last night



Photo by Jaye Howard

Innocent jukeboxes like this one are in danger from crazy cowboys who hate sad songs and own guns.

... Said it played a sad song, and made him cry ... Went to his truck and got a 45 ... Bubba shot the jukebox last night."

Cranston was charged in Dodge County District Court with two

counts of second degree assault and two counts of first degree criminal damage to property. He's being held in the Olmsted County jail on \$15,000 bail pending a Feb. 24 court appearance.

Marky Mark apologizes for his racism

NEW YORK (AP) — Rapper and underwear model Marky Mark apologized for harassing black and Asian people in the past and promised an ad campaign to denounce all forms of bigotry.

"I know there are kids out there doing the same stuff now and I just want to tell them, don't do it," the 21-year-old rapper whose real name is Mark Wahlberg said Thursday.

Mark's apology and the ad agreement were announced just hours before the Gay & Lesbian Alliance Against Defamation, the Committee Against Anti-Asian Violence and other groups were to condemn the rapper at a Times Square rally under a giant billboard of Mark modeling Calvin Klein underwear.

Instead, the groups held a news conference to praise Mark and decry

bias throughout the music industry.

In a statement issued jointly by GLAAD and Mark's California publicist, Gary Stromberg, Mark, who is white, said:

"In 1986 I harassed a group of school kids on a field trip, many of them African-American. And in 1988, I assaulted two Vietnamese men over a case of beer. I used racist language during these encounters and people were seriously hurt by what I did."

Mark spent a month in jail after the April 8, 1988, attack on the Vietnamese men in Dorchester, Mass.

"I am truly sorry. I was a teenager and intoxicated when I did these things. But that's no excuse. Nor is it OK to beat people up because your friends are doing it,"

said Mark. "Asian-Pacific Americans, African-Americans and all people have the right to live free of violence and harassment."

The groups also had faulted Mark for failing to denounce anti-homosexual remarks by reggae singer Shabba Ranks during a joint appearance earlier this year.

"I want to make it clear that I condemn anti-gay hatred and violence," said Mark.

"We really applaud him for being able to realize the errors of his ways ... saying to kids, 'Look, I've been there, don't go there,'" said GLAAD spokesman Donald Suggs.

Mark said the ads would "help spread the word that bigotry and violence are wrong." Stromberg said details of the campaign haven't been worked out.

Critic's Corner:

Falling Down is a great thing to do



Mike McGrath
Movie Critic

hours in front of a slow computer; stub my toe on a smashed car parked in front of the student center; take a four-page test only to find out later that there were five pages and upon returning to my room, I get an impromptu concert of water sprinklers.

I have achieved my boiling point in every sense of the word. This is the same problem that is addressed in the movie *Falling Down*.

Falling Down stars Michael Douglas as a defense employee who is recently divorced, gets fired, drives a Chevette, has a hole in his shoe and the list goes on.

On one fine hot and baking morning, he gets stuck in a traffic jam just like the ones during race week. He snaps and decides to walk to his daughter's birthday party.

This begins his journey through a city full of problems. His solutions to the problems and how he views the world is the premise of the movie.

Robert Duvall plays the cop who is trying to catch him. Duvall's character is on his last day on the force. His wife is nagging him, the captain hates him, most of the other detectives ignore him, and his list goes on and on. He too, is approaching the boiling point fast. We see how two people handle the same problem.

Honorable mentions go to Tuesday Weld, Barbara Hershey and especially Rachel Ticotin. Weld is the disgruntled wife of Duvall, while Hershey is the ex-wife of Douglas. Both have limited screen time, but their characters add to the overall mood of the movie.

Ticotin played Duvall's partner. She was the ice cube that cooled Duvall. Her presence filled in the missing emotions from the other characters. Her coolness in portraying her character meshed wonderfully with the two veterans, Duvall and Douglas.

The camera work, direction, writing and even the soundtrack captured the mood quite effectively. Very few movies capture the whole

experience, but this one did. At no time did I feel that the movie was filmed in a studio or in front of a blue screen. The streets were the sets.

A lot of people say that there are many messages in the story. Could this be a message to Clinton? A defense worker getting fired might be a hint of things to come. Even the title itself might be taken as a message.

There are a bunch of other messages that are included, too. I don't think that one should get caught up in trying to read too deeply into the movie, though. If you do, you may miss the great acting and the whole storyline.

I enjoyed the movie tremendously. Michael Douglas took a journey much like that of Little Red Riding Hood, except his basket was a gym bag full of automatic weapons.

His constant encounter with conflict provides for a great movie. Duvall and the rest of the supporting cast provide wonderful performances that add to the overall success.

If you want to see a great movie with or without hidden messages, *Falling Down* is the answer. If you don't want to see a good movie but want the hidden message aspect, try *Toxic Avenger* while listening to the Beatles' *White* album backward.

If you just want to relax in a sauna-like atmosphere, watch moss grow on the walls or just possibly need to steam your fern, come to my room. I'll be the dehydrated shape in front of the television waiting to see what personality has lowered their standards enough to do a Taco Bell commercial.

Falling Down	
Starring:	Michael Douglas Robert Duvall Rachel Ticotin
Rated:	R
Rating:	★★★★
Length:	1 hour, 35 minutes
Playing:	Volusia Square 8

- ★★★★ - Can't miss!
- ★★★ - Worth watching.
- ★★ - Wait until dollar theatre.
- ★ - Read a book instead.

THE AVION

Things get a little tense in the office.
 What can be expected? We aren't paid,
 though we are
 compensated in several ways. Getting
 the paper ready for the printer can be quite
 pressured...

But this is college. We're all here for the extra points and experiences to help us in the real world. You get a lot of that at the Avion. There's no membership fee, you can finally get a picture of what's really going on in this place, and you grow to resent apathy in most of its forms.

We need volunteers to write, take pictures, and help produce the newspaper!

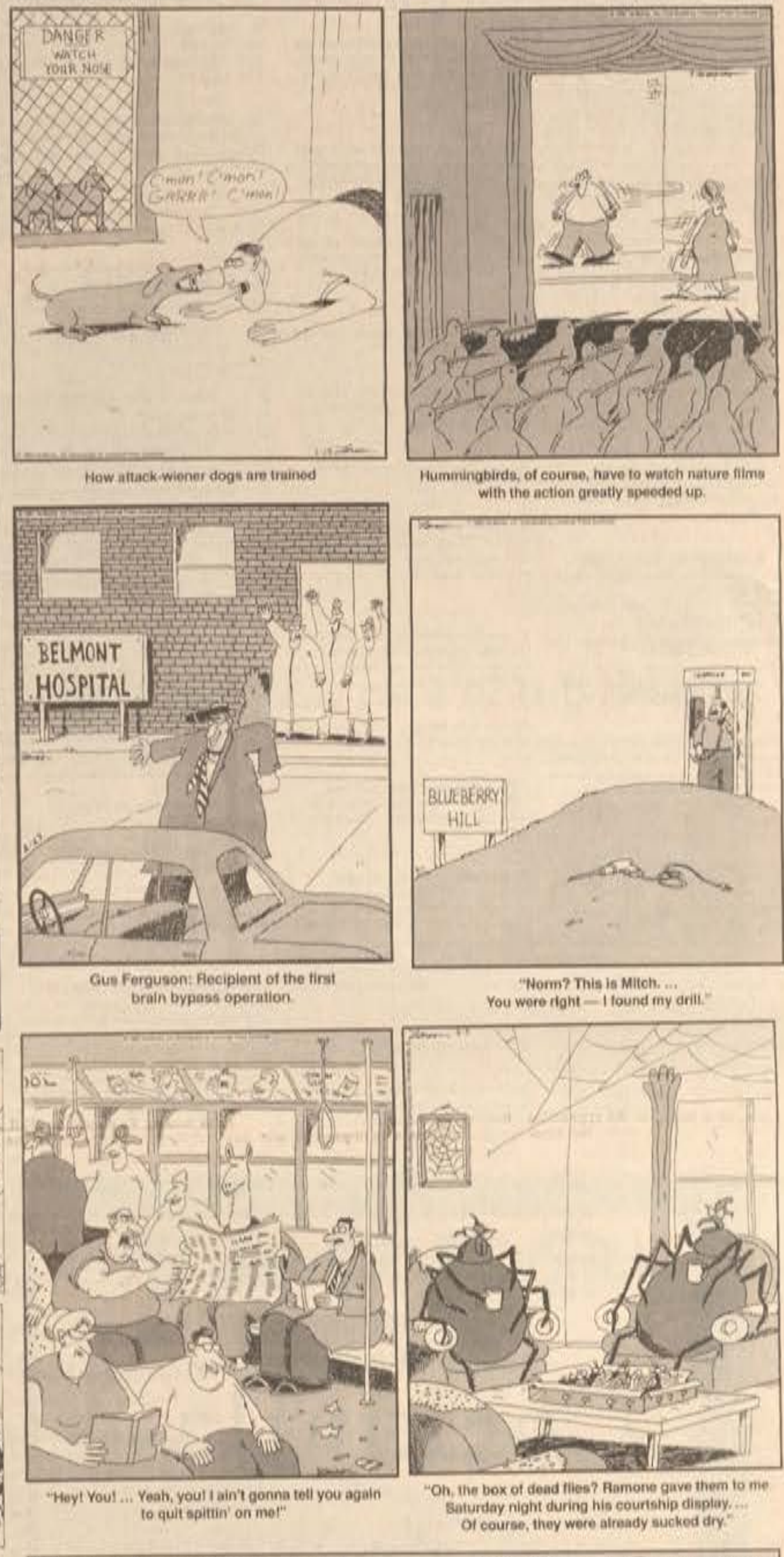
Calvin and Hobbes

by Bill Waterson



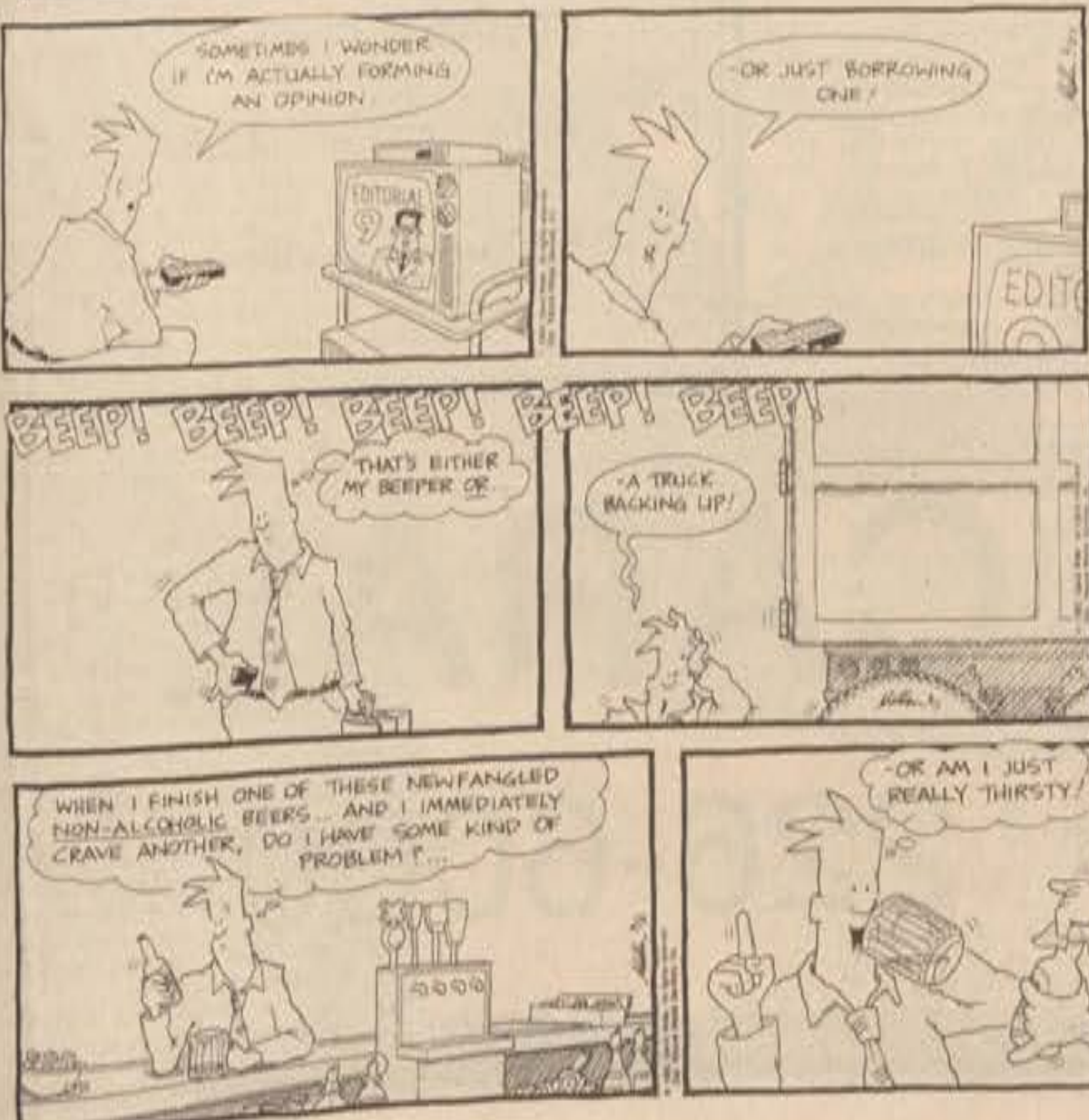
Far Side

by Gary Larson



Dave

by David Miller



Bound and Gagged

by Dana Summers



Autos for sale

Buying a vehicle? Buy from a Riddle alumni. New and used cars and trucks/program cars. Contact Mark P. Moreno at Gary Yeaman's Ford executive car sales. 947-4455. Bring this ad!!!

For sale: '93 Suzuki GS 550L. Low mileage, excellent condition, runs great. \$1100. Includes two helmets and saddle bags. Call Paul at 253-8809.

Car repairs - if you need help with your car, give me a call. ASE certified mechanic. Call Patrick @ 255-2132

1974 VW Thing. Low miles, completely rebuilt, too much like new to list, you must see it. This is the ultimate Florida vehicle \$5000 w/ 1835 cc engine 1/8 mi. \$3000 without engine. Call Jerry @ 756-7965 or box 5595.

'89 Camaro. Not a showcar, but a good driver. 127-484, M-21 4 spd. \$2000 as is. Call Ken or leave a message. 760-9265.

For sale. 1987 Mazda RX-7. Excellent condition. 3 spd, sun-roof, new tires (Michelin), lt. blue exterior, navy interior (like new). \$5700 obo. Call 257-2625. 8:00 am to 5:30 pm.

'91 Honda Civic. 3 dr., white, air, AM/FM cassette. Factory warranty for \$7500. Contact Shoabs at 756-6524.

Roommates

Female seeking roommate for summer, fall, etc. Quiet, clean, non-smoker. Can move in mid-April. Call Melinda. 322-2747.

Female(s) needed to share 2 bdrm 1 + 1/2 bath townhouse with male. Rent \$450.00 divided by # of roommates move in May 1st (Summer A) for one year. Call Doug S. 322-1936. Leave message. Voice you hear will not be mine.

For sale or rent. 2 bed / 2 bath Towaloun. Two levels, full appliances. Pool, Cable TV, Water and Trash Removal all included. Located only 2.5 miles from ERAU. Call today for more details 788-4343.

Cheap, clean place to stay during summer! \$135/month + 1/4 util. Ocean Oaks apt. 6 miles. Female only. Box 5694, 756-8941, Esther.

Misc. for sale

DOWNTOWN USED FURNITURE 9000 sq ft. showroom. Tues.-Sat. 10-5:30 406 N. Beach St. Daytona 239-9884. Buy and Sell.

Radio Control P-51 for sale. Great planes brand, untouched, includes fuel tank and some accessories. Also, K&B .45 R/C model engine. Fresh in box, never run. Make offer on all items. J.P. Walsh, ext. 6800 or 761-7337.

Computer software for sale. Novel software for Macintosh. Includes all disks, manuals, registration. Never used. This fell into my hands. Make me an offer for it. J.P. Walsh, ext. 6800 or 761-7337.

Neon Lights. Wide variety of colors. Will install in and/or under your automobile. Low price! Limited amount! Call Dwayne 226-7492. Klenon 255-6379.

For sale: 14 ct. gold ring with one ruby and 8 diamonds, paid \$500 in July asking \$250. Must see. Call Greg at 767-6389. Leave message!

New Flightcom headsets for sale. Contact Sean @ 226-7534 or box 6798.

For sale: G.E. Washer and Dryer, excellent condition, full size. Selling pair for \$325. Charlie eves. 767-7378.

For sale - Dorm size refrigerator. \$65 obo. Call 253-1678.

Windurfer \$200. 12' Kerma Beginner's Board. 16' 1-piece mast clamp-on boom. 2 sails: 5m starter sail and 7m speed sail. Learn to windurf cheap! Jerry 756-7965 or box 6995.

TV and VCR for sale. 13" Sears color TV. HQ Mitsubishi; 4 head VCR. Both with remotes. \$200 for both, will separate. Jerry at 756-7965 or box 6995.

Won trip to the Bahamas. Can't go must sell. \$600 obo. Bryan @ 322-2701.

For sale: Soft-com headset \$100, small refrigerator \$75, dive gear regulator & BC \$100, bike rack for square type hitch \$25. Call 760-3966.

For sale: AD&D game system, many hardcover books, forgotten realms modules, 40 dragon mags, plus 4 other role-playing games, all for \$80. Call Brian @ 238-3396.

Micro-mite Microwave. It is small but the price is right \$40 obo. Call Doug @ 274-2876.

Queen size waterbed. Excellent condition must sell. \$75 Call Rob @ 673-7563.

For sale: realistic 800 MHz scanner 200 channel programmable, model 2022. Paid \$300, sell for \$250 obo. Less than 1 yr. old. Call Keith @ 255-9863.

For sale. Amiga A500 with 10845 monitor. Also Panasonic KX-P2123 printer and external 3.5" drive. Plenty of software included. \$650 takes it all. Call Matt @ 258-6877/leave message.

SoloFlex strength training system. \$400; min condition; a great way to keep that New Year's resolution; Call Russ or Carolyn after 7 pm at 257-9867.

Lifecycle aerobic trainer. \$400; great shape; just like the professional fitness models used in gyms; Call Russ or Carolyn after 7 pm at 257-9867.

For sale. Cannondale Bicycle; \$400. Cellular phone; \$100. RC cars and parts \$200. James: 255-9243.

Miscellaneous

NEED MONEY FOR COLLEGE? Send SASE for details to: College Financial Planning Assoc. 4311 NW 53 Ct. Coconut Creek, FL 33073. Attn: Annetta Greco.

CLASSIFIED AD POLICY

- Non-commercial classified advertising and personals are free to the student body, faculty and staff of Embry-Riddle with a 35 word limit.
- All other non-commercial advertising is \$10 with a 35 word limit. Each additional word is 10 cents.
- Commercial advertising is available through the Avion advertising department, at 226-6051.
- Classified advertising is carried out by filling out a classified ad card in the Avion office.
- Only one classified ad per card. Name and address of advertiser must be included for the ad to run.
- Only paid ads will run for two issues and may be renewed by filling out another classified ad card.
- No classified ads will be accepted over the phone.
- For more information, stop by or call the Avion office at (904) 226-6049.

Scuba Diving. I have one gift certificate for sale. It's good for open water certification. Dive in indoor pool at adventure scuba. Retail at \$125. My price \$90. Call Steve at 248-2181 and leave message.

Quality flight instruction at a great price! Private, instrument, commercial, BFR's and ICC's. Call Phil @ 257-9658.

Multi-Engine instruction. MEI or initial rating. \$70 hr. block time. All other certificates and ratings available. Don @ 677-9730.

Anyone interested in SCUBA diving off Daytona on March 14th for \$35 call Tim @ 760-9218 or Bill @ 258-0143.

Looking for information on the aircraft dispatcher practical examination. If you have recently taken the practical and can provide some helpful information, please call Todd at 760-9265.

In conjunction with Jeppesen and Flight Training Magazine, Rod Machado presents "Handling Inflight Emergencies". Learn how to handle a wide variety of problems from the simple to the complex: aircraft fire, split flap situations, control failure and emergency landings. To receive your student discount call 1-800-966-9944.

Advanced open water PAD1 class starts March 6th. Now is the time to get the rating to give you experience and training to dive deep, at night and to become a good s/w navigator! Call Jan @ 761-2021. Nitrox class in March as well.

Get your CFI fast and cheap! 1200 hr. flight instructor. Fly out of Daytona. All other ratings available. Call Ken or leave message at 760-9265.

Any Embry-Riddle guy, lesbian, or bisexual student: There is a way to meet other students like yourself. Confidentiality and discretion assured. Write GALBA P.O. Box 11074. Daytona Beach, FL 32114.

Tailwheel instruction in Piper Super Cub at \$50 an hour including instructor. Instruction for private, commercial, BFR also available in C-152, C-172, Call Jim @ 760-1630.

Personals

MIKE, the world may never know. We may never know, but it sure will be fun trying to find out. B.

DELINQUENT BOY, Happy birthday! I hope it's a good one. -SQUISHY

THUMPER, Thanks for the jolting experience. THE CRASH CREW

The sanitary habits of certain dorm girls are truly disgusting. How can you roll out of bed, skip the shower, and go to class, five days a week? Jogging pants, boxer shorts and dirty sweat shirts are stummy and unattractive.

EMBRY-RIDDLE LADIES - Cellibacy stinks. Please give generously. BOX 6845

DAN F. What were you thinking?

I love you. Do you love me? Please, please! (I want to hold you) Someone made a million bucks off of this (exclamation point) Who is the real idiot (question mark).

It's finally time to go. So long, and thanks for all the fish. ROLAND

LOVER, Got enough chopsticks for that temple yet? By the way, we must do something about all those frogs and spiders... B.

PIETE, This will probably be the last personal to you for a long while. BUDDY

B.L., Our love signs are so true! And I have really fallen in love with you! Love always O.K.

Dave is a hozer.

Alpha Phi Delta. Watch for it.

Would you per chance have some goatmeat, perhaps a side of gerbil? AVION PRODUCTION MANAGER

TO THE 68th 99. Happy birthday, you Cr-8 gal! You're 1-derful! Hope you have a day free of 10-mon. Love you! MONTE PYTHON DRIVER

FUBARS, Cowboys from hell.

THUMPER, I can't BELIEVE you did that!! 1 of the crash dummies.

Why is it you never see bumper stickers like "My son is a terrible brat" or "My son flunked out of Tomoka Elementary?"

Way to go Wayne Newby! I'm sure you echo the feelings of many students. D. LAUGHLIN

TRUE COMPANION, Roses are red, Violets are blue, But YOU are PURPLE!! YOUR BIG LUG

Alpha Phi Delta, There's no stopping us now.

Alpha Phi Delta, The beginning of change.

ATTENTION DORKS!! The salt shakers are not toys!! If you can't find something else to play with you really need help!! OBSERVER

TO MY TRUE FRIENDS! You know who you are, I now realize the same. Thanks for sticking by me. Even when I denied your existence. That's the least I can say. LOVE YA, THE B. OF 2ND EAST

GREEKS & CLUBS

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PLUS \$1000 FOR THE MEMBER WHO CALLS!

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\$1.00 off
Any footlong sub
Any night after 5:00 pm offer good through Mar. 15

Not good in combination with any other offer

One order per coupon. One coupon per customer. Not good in combination with any other offer. Expires March 15

Not good in combination with any other offer

Wormholes
(continued from page B1)

If the hole is now stopped and a craft were to zoom through the hole to the other end, it would emerge at noon. This is due to the fact that the time in the wormhole is noon and hence the time the craft exits the wormhole is also noon.

The craft now has one hour to get back to the wormhole entrance if the crew wishes to see themselves enter. The craft speeds off and arrives at the entrance at twelve fifty-five, just in time to wave to themselves entering the wormhole.

Next week in *The edges of science...* Space Technology Editor Brian Gamage will discuss a theory of the genesis of the universe and how it predicts the existence of "Dark Matter."

The information contained in this article was gathered from the following sources available in the Jack R. Hunt Memorial Library:

Wormholes, time travel and quantum gravity by Redmount, Ian, New Scientist, 28 April, 1990, pg. 57-61.

Cosmic Time Travel by Freedman, David H., Discover, June 1989, pg. 58-64.

Maker of Worlds by Freedman, David H., Discover, July 1990, pg. 46-52.

SUBSTANCE AWARENESS = R&B

- Responsible Behavior
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