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The Space Shuttle and You: How the End of the Space Shuttle Era Affects Students

AARON SNODDY
Staff Writer

In the early hours of July 21, 2011, space shuttle Atlantis returned to solid Earth and effectively ended another era in manned space flight. In 2008, becoming out-dated, costly and ever more hazardous to launch and pilot, NASA chose to end the program by 2010 (eventually extended to 2011) and begin charting a new path in manned space flight. However, the newly trodden path has yet to take form, and an American symbol for progress is seemingly missing.

"Unlike the gap between the Apollo and Space Shuttle programs, the transition between the shuttle and future projects will not be as smooth or fast due to tight budgets, economic problems and an overall lack of communication with the American community," Dr. Richard Miller, associate professor of physics and faculty senate president of UAH, said. "It creates uncertainty for students and begins taking the dream of space flight away from us.

This transition, or lack there of, is a reason for major concern.

NASA Has No Plans to Slow Down: What’s Next?

JONATHAN KEENUM
Staff Writer

On July 21, the space shuttle Atlantis returned to Earth, officially ending the Space Shuttle era for NASA. It was a bittersweet moment as the crew and shuttle workers celebrated another successful mission, but left a large shadow of doubt as to what was next for the American space program. Many wondered if it was the beginning of the end for NASA.

NASA Administrator Charles Bolden is determined to keep the program alive and ensure America maintains a continued role in space for years to come.

"As a former astronaut and the current NASA administrator, I’m here to tell you that American leadership in space will continue for at least the next half-century because we have laid the foundation for success, and failure is not an option," he said.

NASA already has new plans in programs of exploration, technology development and scientific research. Perhaps the most exciting work right now is the Multi Purpose Crew Vehicle, based on the designs for the Orion capsule. The MPCV will have the capability to take four astronauts on 21-day missions and will be 10 times safer during reentry than a space shuttle. Plans are already underway to find out if this vehicle could accomplish the now not-so-crazy idea of landing on an asteroid.

The current plan is to land a team safely on an asteroid in 2025. A lot more research and development is needed before this can be a possibility, due to the distance of asteroids. As a comparison, the moon is approximately 240,000 miles away, and the closest asteroid astronauts could conceivably land on is on about 5 million miles away.

It is a lofty goal, but then again so was President Kennedy’s mission of sending a man to the moon “before this decade is out.”

Also in the testing phase is a new solid rocket motor that can help engineers draw closer to completing the design of a next-generation booster that will help propel astronauts on journeys deeper in space. The recent successful test of the Demonstration Motor-3 was the third test firing of the five-segment motor by ATK, which provided optimism that a design may be coming complete in the near future.

"Given the great success we’ve had on these three tests, I think we are close to calling the design for nearly complete," Charlie Precourt, vice president of physics and engineering majors for NASA. It was a bittersweet moment as the crew and shuttle work

Pair of UAH Students Win STRI Fellowship

CLAUDE BRIDGES
Staff Writer

Two UAH students were named recipients of the Smithsonian-Tropical Research Fellowship for a research proposal they submitted this summer.

Casey Calamico, an earth system sciences and German double major, and Zach Langford, a UAH alumnus in earth system science, both learned that they had been granted the award as they were wrapping up a research excursion in Panama this summer with the UAH CATHALAC Study Abroad Program.

I was shocked and relieved once I heard about the fellowship," Langford said. "UAH put a lot of time and effort for sending Casey and me down twice to build an educational relationship with the Smithsonian. I’m grateful we can continue to work with the Smithsonian and possibly bring something new to the table."

The STRI fellowship is awarded annually through NASA to perform biological research in the tropics. Applicants are required to submit a research proposal as well as a timetable and budget for their
NASA’s GRAIL Mission to Map Out Moon
JONATHAN KEENUM
Staff Writer

It went through two delays and narrowly avoided a third one, but NASA sent off its solar-powered twin lunar Gravity Recovery and Interior Laboratory (GRAIL) spacecraft into space to explore the moon’s gravitational field. If all goes as planned, the mission will provide the most accurate global gravity field to date for any planet, including our own.

“As the spacecraft move over the surface features of the moon, the distance between the two spacecraft will change as a result of the attraction of material on the moon, thus providing the acceleration of gravity everywhere over the lunar surface,” said Dr. David E. Smith, MIT research scientist and deputy principal investigator for the GRAIL Discovery Mission, said. “The variation in gravity measurement is a measure of the variation in density within the moon.”

Amazingly accurate, the measurements will record the distance between the two spacecraft at any given point in time to about a micron. As a comparison, a human hair is between 40 and 120 microns in diameter and a red blood cell is about 7 microns in diameter. These measurements will not only tell us about the gravity field but what lulls beneath the surface as well.

“We’ll use the moon’s gravity to tell us what’s inside the moon, all the way down to the core,” principal investigator Maria Zuber of MIT said.

By knowing where the moon’s gravity is strongest, NASA will be able to better pinpoint landing locations for future missions. This will eliminate dangerous scenarios like the Apollo 11 landing by Neil Armstrong and Buzz Aldrin in 1969. The astronauts overshoot the touchdown site in part because of the small gravity changes in the moon’s surface. The spacecraft was uncomfortably close to running out of fuel before it landed safely.

The reason for these “spots” on the moon of higher gravitational pull is due to a large number of mass concentrations (called mascons) under its surface. The mascons were formed from the colossal number of asteroids impacting the moon has over its life, making the moon the most gravitationally lumpy major body in the solar system. An astronaut in a full spacesuit who weighs 50 pounds at the edge of a mascon would weigh 50 pounds and 4 ounces when standing at the mascon’s center.

A job seeker to the moon typically takes fewer than three days, but the GRAIL ships will not be arriving until New Year’s Eve for Grail-A and New Year’s Day for Grail-B. They will also be covering a much longer path, travelling a looping 2.5 million miles rather than a straight-line shot of about 230,000 miles. The slower travel time and longer path allow the spacecraft to carry less fuel and ensure that once they arrive they can be precisely put into place, since precision is vital in this mission.

The spacecraft will start actively studying the moon in early March of 2012 and finish in late May. Once all is said and done, this is expected to be the most successful lunar mission ever.

“We will learn more about the interior of the moon with GRAIL than all previous lunar missions

Navy Launches Career Opportunities at UAH Job Fair

DAVID RICKARDS
Staff Writer

The Faculty Senate recently elected Dr. Richard Miller, an associate professor of physics here at UAHuntsville, as president starting next year.

The responsibilities of the Faculty Senate president entail setting the agenda for meetings and developing bills set forth by members of the Faculty Senate to be sent to the Provost. Dr. Miller wants to also reach out and include the voices of the students.

“Most students do not know bills to the Faculty Senate for consideration,” says Dr. Miller. “This gives students a chance to make a direct impact on the direction of the university.”

The Faculty Senate is a representative body that serves as the voice of the faculty. The Faculty Senate meets once a month to discuss topics ranging from the possibility of PASS grading to the merging of colleges.

“The Faculty Senate’s purpose is to communicate the needs of the faculty to the university,” he said. “We, essentially, try to set the tone and direction of UAHuntsville.”

Dr. Miller obtained his Bachelor’s Degree at the University of California-Irvine in Physics. He later received his Master’s Degree from Louisiana State University and then achieved his Ph.D. at the University of New Hampshire. He went on to work at the Los Alamos National Laboratory and as an Assistant Research Professor at the University of New Hampshire. In 2003, he joined the UAHuntsville faculty as Assistant Professor.

Dr. Miller is in the process of creating a Twitter account for the Faculty Senate so interested students can stay up-to-date with topics and discussions pertaining to the meetings.

“Now Hiring For the Fall Semester!”

The UAH student newspaper is looking for motivated students who need a part-time job and want to take part in creating the only student-run news service on campus. Here’s a couple of reasons why you should join:

It's fun! Flexible Hours.
Get paid to write.
Be on top of all the fresh news.
Good experience & great for your resume!

Interested? Here's how to apply:

Submit your writing sample and/or questions to exponent.editor@gmail.com.
Solar Bottles Light Homes for Cheap

Because of these bottle lights, the people of San Pedro no longer have to turn on their electric lights during the day, thereby lowering their electric bills. In the past, Diaz and his family had to sometimes go without electricity because they could not afford their bill. The new solar lights have changed that. People like Diaz can now save money or spend it toward food or education.

Not only are solar bottle lights new ways to illuminate homes in the Philippines, but they are also a recycling project that creates "green jobs." Before these lights were installed in homes, plastic soda bottles would have ended up in a landfill somewhere. Now the bottles are repurposed into a cheap, useful energy source.

Thanks to Iliac Diaz, a hardworking man, as well as his son and some simple components, the people of the Philippines have a great way to light their homes, recycle and save money all at the same time.

Making a solar bottle light is simple:

First, fill a 1.5 liter clear soda bottle with purified water. The water needs to be purified so mold and other things won’t grow in it.

Add three capfuls of chlorine and a dash of salt. The salt also helps keep growth away.

Next, cut a hole the size of the bottle in a 1-foot square sheet of roof material and insert the bottle into the hole so that only the top one-third of the bottle shows. Attach the bottle and the material together.

The recipe works because the chlorine refracts the water and the salt keeps the bacteria from turning into mold and clouding the water.

From NASA on Pg. 1

While many NASA workers are excited for this new mission, many are also still upset that the president shot down their original plans to further explore and return to the moon. These workers feel disappointed that the president has his own ideas for missions rather than letting the NASA engineers continue with what they started and then figure out what should be done next.

Despite some hiccup, NASA is far from gone. These next few years may not see a lot of action but plans for the next several years...
How to Manage Stress During the Middle of the Semester

GARY FRAZIER
Staff Writer

Students often find themselves overwhelmed in the middle of the semester. Many students come to the UAH counseling center for school-related stress around this time.

"Stress during this time is a normal experience and encourages students to reach out to counselors, friends and family for support," Dr. Larry Cantor said. "Often, students are worried about their grades, their future, living up to their parents' expectations, and financial concerns."

But Cantor acknowledges that there are concerns that most people experience throughout their lives, and we usually learn to cope pretty effectively.

Cantor offers some common sense advice for students:

The best course of action is to study every day to help retain more of the information, and you won't be so stressed out the night before the exam. Get a calendar and block out your classes and the times you are going to study. Time blocking and sticking to your calendar will help you stay focused. Also arrange study times with others on your calendar. Having a plan will lower your anxiety.

When you study don't just commit information to memory, but ask yourself questions about why that information is true. Often tests are more than just memory. Good teachers want you to be able to apply information, and application is seen as a higher order of learning.

Understanding how memory works can help you develop better study habits.

An individual can generally hold about seven items in short-term memory, with a range of five to nine items depending on the type of information. Items in short-term memory last around 18 seconds, but can be extended to keep them longer by repeating information several times.

In order to recall information later, we need to move it from short-term to long-term memory, where it can last anywhere from days to decades. How do we facilitate the transfer of information from short-term to long-term memory?

It helps to focus on only a few items at a time. This is one reason cramming doesn't work well—because you're trying to learn a lot of information at once, it is encoded only weakly and thus lasts for only a few days. Focusing on one area at a time allows for a better encoding. Additionally, we tend to recall things by association, so understanding how various elements fit together makes it easier to recall them later; this is also the basis for memory tricks that help us recall information.

Sleep. Because much of the work of permanently encoding memories is done while sleeping, not getting enough sleep can make it harder to remember things later. Letting your brain rest will actually improve recall, so someone who gets plenty of sleep will often do better than someone else who spends the night cramming for the test.

A word of warning: it does take some time for information to be encoded into long-term memory, and falling asleep can interrupt the process, causing you to lose the information you just studied. As a result, it's a good idea to wait at least half an hour after your study session before going to sleep.

Remember, you still have time to organize your time, study smart, sleep, exercise and have fun with your study group after a study session.

There is a great story by Anne LaMott about her little brother, who was cramming for a big test on bird identification that he hadn't prepared for. He began to cry at the kitchen table; his father sat down by him and said in a sympathetic voice, "Son, just take it bird by bird."

That's great advice for students.

Get a plan and then just take it "Bird by Bird."

The middle of any semester can be a stressful time. But by learning good habits now, students can put themselves in a great position to cope with stress for the rest of their lives.

From GUITAR on Pg. 3

fantastic company to work for, and I really look forward to making a career out of my time with Guitar Center.

GC offers a wide range of items and services and provides excellent customer service, which is something music lovers can't beat. Musicians with an itch to learn something new or purchase another instrument should head over to the Guitar Center where Lauren Alexander and company will gladly assist.

From FELLOWSHIP on Pg. 1

study abroad. Winners are selected based on the scientific value of their proposals and STRI's assessment of the students' ability to perform their proposed research.

The focus of the two UAH research partners will be swamp grass and invasive plants common in areas of the Panama Canal Watershed. For the pair of students, the fellowship means another exciting opportunity to study abroad next summer. This time, however, their personal expenses will be covered by the fellowship.

Calamaio views the fellowship as not only an endowment to further his education but also a vehicle that will allow him to return to an environment in Panama he has grown to love.

"After the initial ecstatic confirmation that I would have a chance to return to Panama, I needed to finish the research I started [this summer]," he said.

Calamaio and Langford intend to study swamp grass in depth with STRI next summer in Panama.

Calamaio is currently involved in a student exchange program with Universitat Rostock in Rostock, Germany. He will remain there for his senior year, after which he plans to return to the U.S. to attend graduate school.

Langford is a graduate student at Penn State University, where he is pursuing a master's degree in water resources engineering.

STRI is a branch of the Smithsonian Institution that is based in Panama City, Panama. Studying biological phenomenon in 14 tropical countries in the Americas, Africa and Asia, STRI's purpose is to "better understand tropical habitats."

"It was established in 1923 and has since grown into one of the world's most prestigious research institutes.

Fall 2011 Meeting Dates:

- Friday, September 23
- Friday, October 21
- Friday, November 11

All at BAB 114 from 1-2 p.m.

Learn more about the organization at http://mis.uah.edu/bap.
Volleyball Splits Weekend; Set to Open Conference Play This Weekend

JONATHAN KEENUM
Staff Writer

The Lady Chargers volleyball squad split a two-game series in Montevallo this past weekend and is now heading in to the most important games of the year: conference play.

UAH began its double-header over the weekend with a win against Augusta State. The Lady Chargers fell behind 19-11 in the first set but put together an impressive rally to pull into a tie and eventually going up 22-21. After a short back-and-forth battle UAH took the first set 25-23. The Lady Chargers kept that momentum through the rest of the match as they went on to sweep the Falcons 3-0. Kelsey Williams put together an impressive game with 18 kills and a .500 hitting percentage.

The Lady Chargers put together a solid effort against Montevallo in the second contest, but just couldn’t keep up with the Falcons towards the end of the contest. UAH found itself down 20-9 in the third set of the match and tried to put together another rally like they did against the Jaguars. The valiant attempt fell short as the deficit proved to be too much to climb and Montevallo went on to take the set 25-19 and go up 2-1. The fourth set was up for grabs late in to the set but unfortunately it was the Falcons who would take it by scoring the final four points and clinching the match.

UAH has already shown improvement over last year and is hoping to continue to get better as the year goes on. The Lady Chargers have been steadily showing improvement over the last several years, going from 1-31 in 2008 to only a game away from the Gulf South Conference tournament last season.

The first true test for the Lady Chargers begins this weekend at home as conference play opens. UAH kicks off a three-game home stand against a tough Valdosta State team Friday at 7:00 pm. Play continues the next day at 2:00 pm against West Georgia, and then UAH wraps things up at home for a while on Sept. 27 against West Alabama. The team then hits the road for nearly a month with 12 straight away games, including the GSC Crossover tournament at West Florida, The odd schedule pays off at the end of the season as UAH will close the year with six straight home games before hopefully heading to the GSC Tournament in November.

Photos courtesy of UAH Athletics

UAH Cross Country Charges Past Competition

JONATHAN KEENUM
Staff Writer

It was a very successful day for the UAH cross country team this past weekend at the 2011 Fleet Feet/Earl Jacoby Memorial Invitational. The men’s team charged its way to first place while the women finished a solid fourth.

The men were on fire during their performance, claiming four of the top five spots and finishing with 20 points. West Florida finished a distant second place with 49 points. Austin Peay, a Division I participant, finished third, while Birmingham Southern and Montevallo rounded out the top five.

Head coach David Cain was very pleased with the Chargers’ performance.

“We had a great day,” Cain said. “We had some quality competition out here, some division I schools, and several teams from our conference. We put our top seven guys in the top fourteen; that may be the best we have ever done in our home invitational.”

See COMPETITION on Pg. 6
Charger Hockey Ready to Begin Season, Still Looking for Conference JONATHAN KEENUM
Staff Writer

After an interesting offseason, the UAH hockey team will begin its 23rd season of play on Oct. 1.
Head coach Chris Luongo announced in late June that the Chargers have added 10 newcomers, seven forwards and three defensemen, to the team for the upcoming season. Luongo is very optimistic that the freshmen will quickly develop and make an immediate impact.

"I am very excited about the class of 2015," Luongo said. "This class has size, speed, skill and most importantly the character and academic background to be scholar athletes at UAH. Together with our returning players, we look forward to returning to the 2011-12 season with excitement."

This will be a critical season for the Chargers, who are hoping to impress the league in hopes of getting an invitation to a conference soon. The players know there will be added pressure to perform at a high level this year and convince the NCAA that UAH belongs in Division I.

"Like any season, the team's expectation is to win," senior forward James Easton said. "Attaining this expectation has never been more critical. Since the team has gotten back on campus there has been a real positive vibe among the guys, as well as a sense of anxiousness to get the season underway. We want to prove to all the naysayers that this team is just as good as any other Division I hockey team.

"It was tough to lose those games by just one goal, and I think each [player] was disappointed about those losses," Easton said. "The team has been working extremely hard this year on its conditioning so that we can outlast and out-play our opponents. We can't control the bounces of a game, but we can control how hard we work."

The Chargers begin the season at home Oct. 1 at 7 p.m. against Lake Superior State. The UAH Department of Athletics is looking to pack the house for opening night and is offering free upstairs general admission tickets on a first-come, first-served basis. Reserved downstairs tickets are still available for $10 and can be purchased in advance by calling (256) 551-2345 or by visiting www.ticketmaster.com.

The game marks the first time the Chargers will hit the ice since the multimillion-dollar renovations at the Propst Arena were completed.

From COMPETITION on Pg. 6

Freshman Blaise Blimms had a stellar race, finishing first with a time of 26:32 in the 8k run. He was followed by teammates Josh Mosher in second at 26:49, Entre Dorsei in third at 26:52 and Joey Bernowski in fifth at 27:06.

The women had a very solid day finishing fourth despite missing two of their top runners. Leah Sparks led the way for the Lady Chargers, placing seventh in the 7k event with a time of 20:09. Michelle Kruse, Haley Hancock and Amber Powell paced the Lady Chargers, finishing 11th, 12th and 13th, respectively.

"We are a little thin on the women's side, but I felt like we ran well today," Cain said. "Our top four girls ran fantastic. When we get everybody healthy I think we are going to be a really good team. I think we are on track to be where we need to be when that time rolls around."

Both squads get a little rest before heading to Tallahassee for the Florida State Invitational on Sept. 23. UAH must then travel to Chicago on the first of October before heading back to Alabama to finish out the regular season at Oakville and Hoover on Oct. 15 and 22, respectively. The NCAA Division II South Regional kicks off Nov. 5 in Tampa, followed by the NCAA Division II National Championship Nov. 19 in Spokane, Wash.

The Chargers last qualified for the NCAA Division II Nationals in 2007, while the Lady Chargers advanced to Nationals last year.

PHOTO COURTESY OF UAH ATHLETICS
**XKCD**

**The Problem With YouTube Parties:**

This video is blowing their minds.

Oh man, I know what video we should watch once this is over.

But fight club isn't really about fighting. It's about the way society—

Nope, don't wanna hear it.

But it says consumers are—

This conversation is over.

**The First Rule Of Talking To Me About Movies Is Do Not Talk About Fight Club.**

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**Crossword**

**Across**

1. Strikes
5. Celestial body
10. Abbreviated abbreviation
14. Exclude
15. Alert
16. Function
17. Goo
18. Male name
19. Rake
20. Female name
22. Remote
23. Exchange
24. Fermented fruit juices
28. Document
30. Dice game
34. Slippery person
35. Tailless amphibians
37. Pleasing
38. No longer in existence
39. Acid, protein building-block
40. Hue
42. Primitive aquatic photosynthesizing organisms
43. Base of the decimal system
44. Haysseed
47. Walk (3,2)
52. Sideways
56. Secondary pipe
57. Vex
58. Horse harnessed alongside a vehicle's shaft
60. Hawaiian dance
61. Send forth
62. Female given name
63. Chinese gelatin
64. Debutantes
65. Elude
66. Borders

**Down**

1. Fowl shelter
2. Love affair
3. Open Italian pie
4. Place
5. City in NW France
6. Operating late at night
7. Afternoon performance
8. Near-Earth asteroid
9. Male voice
10. Marshall
11. Start
12. Low in spirits
13. Train again (2-7)
21. Paperboy
25. Destitute
26. Streamlined
27. Mortally
28. Manure
29. Grampus
30. Made a confusion of noises
31. Hoar
32. Consanguine
33. Greek god of forests
36. Naught
41. Sang by changing between falsetto and normal voice
45. Confronts
46. Effaced
48. Hebrew dry measure
49. Appraise
50. The Muslim world
51. Persons of great authority
53. 10-year prison sentence
54. Pat
55. Musical composition for one
56. Scottish slope
59. Engineer (abbrev)

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**Sudoku**

Complete the grid so that every row, column and 3x3 box contains every digit from 1 to 9 inclusive.

---

**Solutions to last issue's puzzles:**

***Crossword***

---

***Sudoku***

---

***KIND UNECE IRA***

---

***ALTAR WEELS JOC***

---

***POL YONE ATTIC***

---

***EAR R --- CH ENS***

---

***N S BID IDEAL***

---

***GUNT L ICE --- ER***

---

***G R 07 T E L E M E N B E***

---

***W A T E R A IL FL***

---

***Y E S T E M M E N G E N***

---

*Complete the grid so that every row, column and 3x3 box contains every digit from 1 to 9 inclusive.*
### NEW FALL 2011

**Charger Brew**

In the UC and NEW in the Salmon Library!

- **UC Location**
  - Monday - Thursday: 8:00 a.m. - 6:00 p.m.
  - Friday: 7:00 a.m. - 3:00 p.m.

- **Salmon Library**
  - Monday - Thursday: 8:00 a.m. - 7:00 p.m.
  - Friday: 8:00 a.m. - 4:00 p.m.

**Starbucks Coffee**

- **In the UC and NEW in the Salmon Library!**

**Ella's Café**

- **In the University Center**
  - Monday - Thursday: 10:00 a.m. - 9:00 p.m.
  - Friday: 10:00 a.m. - 5:00 p.m.

### Join us at the Charger Village Food Court

**Chick-fil-A**

- **Breakfast**
  - Chicken Biscuit • Chick-n-Minis • Butter Biscuit • Hasbrowns
- **Lunch/Dinner**
  - Chick-fil-A® Sandwich • Chargrilled Chicken Sandwich • Nuggets
  - Chargrilled Chicken Garden Salad • Fruit Cup • Waffle Fries
- **Beverages**
  - Freshly Squeezed Lemonade • Chick-fil-A® Tea
  - New Fall 2011 - Milkshakes and Ice Cream

**Boar's Head**

- **Blue's Convenience Store**

### Boar's Head Convenience Store

- **Monday - Friday:** 10:00 a.m. - 10:00 p.m.

- **Wings:**
  - Honey Chipotle • BBQ • Spicy Buffalo • Unsauced

- **Pizza*:**
  - Garden Fresh • Cheese • Pepperoni • The Works • Meat

- **Sides:**
  - Garlic Parmesan Breadsticks

*All pizza sold by slice - whole pizzas available upon request.*