



MARSHALL STAR

Serving the Marshall Space Flight Center Community

April 22, 2010

Remarks of Obama on space exploration in 21st century



President Barack Obama discusses his plans and ambitions for NASA during an address at the Kennedy Space Center on April 15.

Editor's note: On April 15, President Barack Obama discussed his plans for NASA at the Kennedy Space Center in Florida. Below are his remarks to 200 senior officials, space and industry leaders, and academic experts.

I want to thank Senator Bill Nelson and NASA Administrator Charlie Bolden for their leadership. And I want to recognize Doctor Buzz Aldrin as well. Four decades ago, Buzz became a legend. But in the four decades since he has also been one of America's leading visionaries and authorities on human space flight.

Few people – present company excluded – can claim the expertise of

See Obama on page 8

External tank production line completing last two tanks scheduled for shuttle launches

By Sanda Martel

Now with the final production of the last two space shuttle external tanks in the final stages, “there’s a lot of pride and excitement that we are completing our mission,” said John Chapman, External Tank Project Office manager at the Marshall Space Flight Center.

“But there’s also an element of sadness,” added Chapman. “When you’ve been doing something this complex for this long, you grow into a family.”

See External tank on page 4

Marshall team sets payload record as part of parachute development test

By Craig Dunn

Chalk up another success for the team lead by Marshall Space Flight Center and industry engineers conducting a drogue parachute drop test on April 14 at the U.S. Army's Yuma Proving Ground near Yuma, Ariz.



The 68-foot-diameter drogue parachute and jumbo dart functioned properly and landed safely.

See Parachute on page 5

Flying high with NASA Student Launch Projects



Student rocketeers from Tuskegee University in Tuskegee, Ala., were among 32 teams to participate in the Marshall Space Flight Center's annual rocket fair April 16 – the kickoff event for the 2009-2010 NASA Student Launch Projects rocketry challenge. The fair gave students the opportunity to show off their hard work and talk rockets with hundreds of Marshall team members.

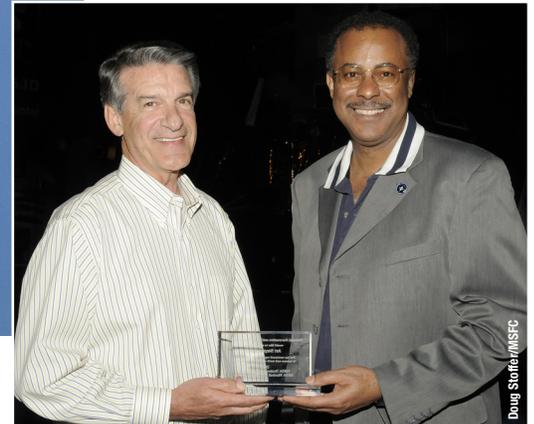
The red, white and blue rocket designed and built by the student team from Presidio High School in Presidio, Texas, roars skyward over Bragg Farms in Toney, Ala., home to the "launchfest" since 2008. The rocket was among 31 successful launches April 17-18. Each team vies to come closest to the 1-mile altitude goal, and to recover their onboard, working science payload. The weekend's altitude winner was the University of South Alabama in Mobile, which flew to 5,307 feet – just 27 feet off the 1-mile mark.



Among spectators at the student launch activities April 17-18 were former space shuttle astronaut James Halsell, center, his wife Kathy, right, and their daughter Kate. Halsell, a five-time mission veteran, is vice president of space exploration systems at ATK Aerospace Systems of Magna, Utah. The company sponsored the Student Launch Projects, organized by the Marshall Center's Academic Affairs Office.



A wowed crowd watches another rocket hurtle skyward during the rocketry challenge. Student teams represented middle schools, high schools, colleges and universities from 17 states, from North Carolina to Hawaii. Complete launch results, including a list of award winners, are available at <http://www.facebook.com/NASASStudentLaunch>. To watch all the launches on Ustream, visit <http://www.ustream.tv/channel/marshall-space-flight-center>.



During the launch banquet April 17, Dr. Charles Scales, right, NASA associate deputy administrator at NASA Headquarters in Washington, presents a special award to former Marshall Center Director Art Stephenson for his contributions to NASA's education mission. Stephenson played a key role in boosting the national profile of NASA education projects at the Marshall Center, including the Student Launch Projects, now in its 10th year, and the Great Moonbuggy Race, which concluded its 17th run April 9-10.

High schools and universities tune in to Ustream live broadcast of 17th annual NASA Great Moonbuggy Race

More than 32,000 people tuned in to a live broadcast on Ustream of moonbuggies twisting and turning – and sometimes toppling – over a half-mile simulated moon surface in the 17th annual NASA Great Moonbuggy Race.

The broadcast – streamed live on the Web April 9 from the U.S. Space & Rocket Center – highlighted the adventures of more than 70 high school and college teams from around the world.

Organized by the Marshall Space Flight Center, the competition's high school and college students were challenged to design, build and race lightweight, human-powered moonbuggies that tackle many of the same engineering challenges dealt with by Apollo-era lunar rover developers at Marshall in the late 1960s.

Marshall Television Services produced and aired the race using Ustream – a live, interactive broadcast platform that enables anyone with an Internet connection and a camera to engage their audience.

More than 600 drivers, engineers and mechanics converged on the Space & Rocket Center to put the moonbuggies to the test, while many of their families, friends and teachers watched the race unfold live from back home.

In Erie, Kan., the entire community was able to see the Erie High School team's performance via a channel on the



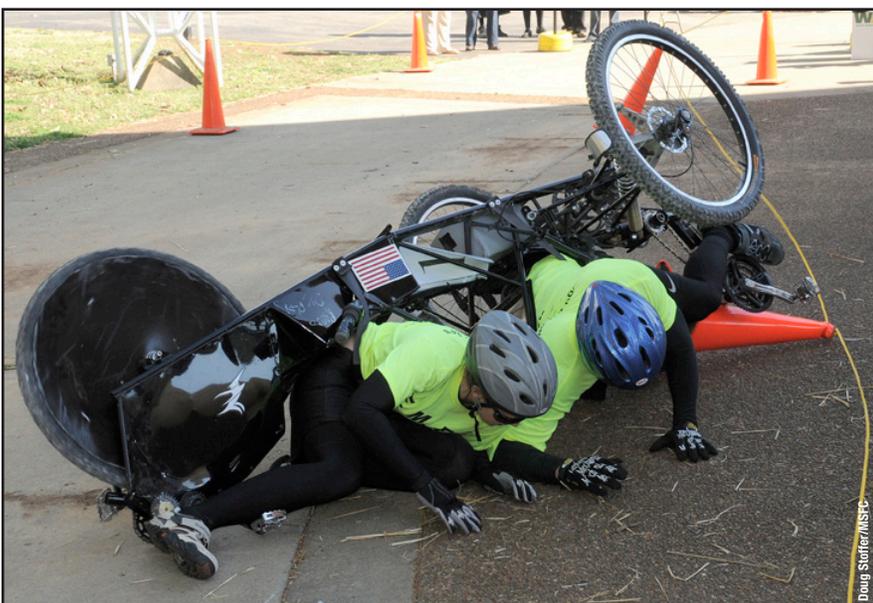
For the Ustream broadcast of the Moonbuggy Race, Cassie Mauer, a student at the Rhode Island School of Design in Providence, is interviewed by Lori Meggs, an AI Signal Research Inc. employee supporting Marshall's Public and Employee Communications Office; and Carver Myhand, a Dynetics videographer supporting Marshall Television Services.

local cable company, which carried the race live using the Ustream video. According to Erie High's moonbuggy advisor, Eric Craft, the high school students tuned in to the TV channel and the elementary students watched their hometown heroes via the Web, using overhead projectors to broadcast the Ustream video in each classroom. The school's broadcast of the UStream represented a new milestone in sharing the excitement and hometown pride of the competing teams.

Although the defending moonbuggy champs from Erie didn't finish on top this year, they did bring home the Crash and Burn Award – given to the team that endures the most spectacular vehicle breakdown. In both races, one of Erie's buggies was on record pace to finish. Yet both times, the vehicles crashed just before the finish line. But because the students were able to upright one of the buggies and finish one of the races, they were able to finish 11th overall.

The team representing the International Space Education Institute of Leipzig, Germany, won the Great Moonbuggy high school division; and racers from the University of Puerto Rico in Humacao took first place in the college division.

For a Ustream archive of the race, visit <http://www.ustream.tv/discovery/live/all?q=moonbuggy>.



The Erie High School team from Erie, Kan., recovers from a mid-course mishap to win the Crash and Burn Award in the 17th annual NASA Great Moonbuggy Race.

External tank *Continued from page 1*

After nearly four decades of assembling and delivering external tanks to NASA, the assembly line at NASA's Michoud Assembly Facility in New Orleans will soon complete work on ET-137 and ET-138. Those final tanks are scheduled to launch astronauts to the International Space Station. Lockheed Martin workers at Michoud will have delivered 134 flight tanks during the course of the Space Shuttle Program.

In the weeks before departing Michoud, both external tanks are receiving final touches to their thermal protection system, or foam, coatings; hardware installations; system checkouts; and inspections.

"We are very near completion of the last tanks at Michoud and preparing them for delivery to NASA," said Mark Bryant, Lockheed Martin's external tank manager at Michoud. "We all are proud to have been part of this great and highly successful program."

ET-138, scheduled to depart Michoud in late June, will make its six-day, 900-mile, sea voyage to NASA's Kennedy Space Center in Florida to be mated with twin solid-rocket boosters and space shuttle Discovery. It will fly the last scheduled space shuttle mission now on the books, STS-133, targeted to launch in September. ET-137 is scheduled to ship from Michoud no later than May 5 to Kennedy, where it will undergo processing to fly with space shuttle Endeavour on the STS-134 mission, targeted to launch in late July.

One additional external tank, ET-122, also will be completed at Michoud. It was at Michoud during Hurricane Katrina in August 2005 and was damaged by falling debris. It is being restored to flight configuration and is scheduled for delivery to Kennedy in late September to serve as the Launch on Need tank for STS-133.

Chapman, who plans to retire from NASA at the end of April, was named External Tank Project manager in 2005. He began his NASA career in 1980 but has been involved with the Space Shuttle Program for almost four decades. He has held nearly every post within the Marshall shuttle propulsion elements, including chief engineer, manager, deputy manager and business manager.

"Everyone at Michoud will miss 'Chap,'" Bryant said. "A true consensus builder, he has been a steady hand in the aftermath of Hurricane Katrina, during the second Return to Flight mission in 2006 and through the challenges of the hail-damaged tank and engine cut-off sensors – to name just a few of the hurdles that we crossed under his leadership."

Chapman has received numerous NASA honors and awards during his NASA career, including the Presidential Rank Award in 2008, one of the highest honors given to career federal employees.

Prior to joining NASA, Chapman spent almost seven years in private industry, involved in space shuttle related work. He performed engineering studies during the early development phases of the space shuttle, including technical and project management software development for the shuttle's solid rocket boosters while working at Northrop Aircraft in Huntsville, from 1973 to 1977. From 1977 to 1979 he was a project manager at D.P. Associates, also of Huntsville, where he continued the development of specialized software tools for the shuttle program.

Martel, an AI Signal Inc. employee, supports the Office of Strategic Analysis & Communications.



John Chapman, left, and Sherman Avans, Systems Team Lead in the External Tank Project office, in front of external tank ET-129 as it rolls to a barge at the Michoud docks in 2008 for its sea journey to Kennedy Space Center.



External tank ET-138 during processing at Michoud in February. It is undergoing final checkouts before its scheduled shipment from Michoud to Kennedy in late June to fly with space shuttle Discovery on the last scheduled shuttle mission – STS-133 – targeted to launch in September.



External tank ET-137 moves to the final test and checkout building at Michoud in March. It will be shipped to the Kennedy Space Center no later than May 5 to fly with space shuttle Endeavour on the STS-134 mission, targeted to launch in late July.

Parachute *Continued from page 1*

Under a brilliant, early morning Arizona sky, in what was called a "near perfect test" by engineers, NASA conducted a record-breaking test of a drogue parachute being designed to return next-generation space vehicles safely to Earth.

The 77,000-pound payload used in the test was dropped from the back of a U.S. Air Force C-17 at an altitude of 25,000 feet, setting a record for the heaviest single load ever extracted out of a C-17 during flight.

The design load limit test will provide engineers with a better understanding of the full structural capabilities of the drogue parachute,

currently under development for the Ares launch vehicles. The 68-foot-diameter drogue and all test hardware functioned properly and landed safely.

"Testing of a deceleration system is a very complicated process," said Ron King, Ares I first stage deceleration subsystem manager for the Ares Projects at the Marshall Center. "All elements must work together in a carefully timed sequence to ensure a successful test. Through continued development and fine-tuning of the recovery system, our team is establishing a solid foundation for safe, reliable payload recovery."

The test team, managed by the Marshall Center, included engineers with ATK Space Systems near Promontory, Utah, the prime contractor for the first stage booster; and United Space Alliance – ATK's subcontractor, responsible for design, development and testing of the parachutes at its facilities at NASA's Kennedy Space Center, Fla.

As the test series progresses, engineers perform three classifications of testing:



As a grand finale to the successful drogue parachute test, the jumbo dart landed perfectly – sticking upright in the ground, as the main parachute deflated.

development, design load and overload. Each level of testing is intended to test the performance of the new parachute design with payloads of different size and weight, under varying conditions.

This latest test was the second in a series of three planned load limit tests designed to place the loads expected in flight on the parachute canopy.

The next test series – the overload tests – will subject the parachute canopy to loads greater than what typically would be experienced in flight, to prove the parachute is strong enough to survive some degree of unexpected events.

A load limit test, as the name implies, pushes the parachute's canopy to its designed limit – supporting a 450,000-pound opening dynamic load, or force in pounds exerted on the parachute generated by the drag and pull of the parachute when it opens. The primary test objective was to deploy or open the parachute at a dynamic pressure of 420 pounds per square foot, simulating the opening load conditions the drogue parachute

will experience when it is deployed to slow the rapid descent of the rocket's spent first-stage motor.

The complete motor recovery system consists of the pilot parachute, drogue parachute and three main parachutes. Similar to those used for the space shuttle boosters, these parachutes have been redesigned to accommodate larger, more powerful motors that will travel faster and fall from a higher altitude than the shuttle boosters.

The drogue parachute is the workhorse of the parachute recovery system, providing the initial deceleration and taking the brunt of impact as it slows the rapid descent of the rocket's spent first-stage motor.

The U.S. Army's Yuma Proving Ground provides the test range, support facilities and equipment to NASA for parachute testing. The U.S. Air Force Flight Test Center at Edwards Air Force Base, Calif., provided the C-17 test aircraft and crew.

Dunn, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Forty-one honored with Space Flight Awareness awards

Forty-one Marshall Space Flight Center team members received Space Flight Awareness awards April 2 for their outstanding contributions to the space program. They participated in a number of events planned in their honor at the Kennedy Space

Center, Fla., on April 2-5, including meeting with NASA's executive management and astronauts, and touring the center. During their visit, the honorees watched the launch of space shuttle Discovery on April 5 to the International Space Station.



Russell S. Abrams
Shuttle Propulsion Office



David M. Anderson
Ares Projects



Heather Brooks
Jacobs



Brian D. Caden
Office of Center Operations



Paula J. Garden
Office of the Chief Information Officer



Andre Charbonnet
Jacobs



Eric L. Corder
Ares Projects



Jerry W. Crook
Jacobs



Mary K. Duncan
Office of Strategic Analysis & Communications



Micah Embry
Engineering Directorate



Mark L. Estes
Teledyne Brown Engineering



Nadra T. Hatchett
Engineering Directorate



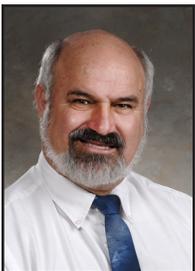
Amy Hemken
Engineering Directorate



Cynthia W. House
AI Signal Research Inc.



Thomas G. Howsman
Dynamic Concepts



Doug Hubbard
Unites-SAIC



Timothy Jett
Engineering Directorate



Danny Jones
Bastion



Meta S. Latham
Office of Center Operations



Timothy W. Lawrence
Engineering Directorate

See Space Flight Awareness on page 7



Ernestine L. Lockhart
Delta Critique



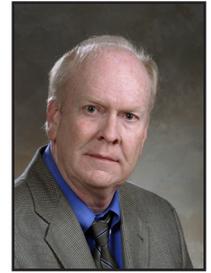
Jose J. Matienzo
Office of the Director



Robert A. McClain
Jacobs



James L. McEuen
Shuttle Propulsion Office



Steve Morris
Office of Procurement



Ronda P. Moyers
Engineering Directorate



Brian Heath Mullins
Yang Enterprises



Eric D. Odden
Boeing



John Reaves
DESE Research Inc.



David W. Reynolds
Engineering Directorate



Mark Roberts
Colsa Corp.



Norman M. Schmoeker
Boeing



Teresa D. Scogin
Engineering Directorate



Keith Smith
Engineering Directorate



Peter A. Smith
Jacobs



Susan Spencer
Science & Mission Systems Office



Sandra Such
Safety & Mission Assurance Directorate



Huu P. Trinh
Engineering Directorate



Richard G. Turner
Science & Mission Systems Office



Peggy J. Williamson
Office of the Chief Financial Officer



Libby Youmans
Engineering Directorate

Buzz, Bill, and Charlie when it comes to space exploration. And few people are as singularly unimpressed by Air Force One. Sure, it's comfortable. But it can't even reach low Earth orbit. That is in striking contrast to the Falcon 9 rocket we just saw on the launch pad, which will be tested for the first time in the coming weeks.

I also want to thank everyone for participating in today's conference. Gathered here are scientists and engineers, business leaders and public servants, and a few more astronauts as well. And last but not least, I want to thank the men and women of NASA for welcoming me to the Kennedy Space Center, and for your contributions not only to America, but to the world.

Here at the Kennedy Space Center we are surrounded by monuments and milestones to those contributions. It was from here that NASA launched the missions of Mercury, Gemini, and Apollo. It was from here that Space Shuttle Discovery, piloted by Charlie Bolden, carried the Hubble Telescope into orbit, allowing us to plumb the deepest recesses of our galaxy. It was from here that men and women, propelled by sheer nerve and talent, set about pushing the boundaries of humanity's reach.

That is the story of NASA. And it's a story that started a little more than half a century ago, far from the Space Coast, in a remote and desolate region of what is now Kazakhstan. It was from there that the Soviet Union launched Sputnik, the first artificial satellite to orbit the Earth, which was little more than a few pieces of metal with a transmitter and battery strapped to the top of a missile. The world was stunned. Americans were dumbfounded. The Soviets had taken the lead in a race for which we were not yet fully prepared.

But soon, we would be. President Eisenhower signed legislation to create NASA and to invest in science and math education, from grade school to graduate school. In 1961, President

Kennedy boldly declared before a joint session of Congress that the United States would send a man to the Moon and return him safely to the Earth within the decade. And as a nation, we set about meeting that goal, reaping rewards that have in the decades since touched every facet of our lives. NASA was at the forefront. Many gave their careers to the effort. Some have given far more.

In the years that have followed, the Space Race inspired a generation of scientists and innovators, including – I'm sure – many of you. It has contributed to immeasurable technological advances that have improved our health and well-being, from satellite navigation to water purification, from aerospace manufacturing to medical imaging. And leading the world to space helped America achieve new heights of prosperity here on Earth, while demonstrating the power of a free and open society to harness the ingenuity of its people.

I have been part of that generation so inspired by the space program. One of my earliest memories is sitting on my grandfather's shoulders, waving a flag as astronauts arrived in Hawaii. For me, the space program has always captured an essential part of what it means to be American – reaching for new heights, stretching beyond what previously did not seem possible. And so, as President, I believe that space exploration is not a luxury or an afterthought in America's quest for a brighter future – it is an essential part of that quest.

Today, I'd like to talk about the next chapter in this story. Now, the challenges facing our space program are different, and our imperatives for this program are different, than in decades past. We are no longer racing against an adversary. We are no longer

competing to achieve a singular goal like reaching the Moon. In fact, what was once a global competition has long since become a global collaboration. But while the measure of our achievements has changed a great deal over the past

fifty years, what we do – or fail to do – in seeking new frontiers is no less consequential for our future in space and here on Earth.

So let me start by saying this: I am 100 percent committed to the mission of NASA and its future. Because

broadening our capabilities in space will continue to serve our society in ways we can scarcely imagine. Because exploration will once more inspire wonder in a new generation: sparking passions, launching careers. And because, ultimately, if we fail to press forward in the pursuit of discovery, we are ceding our future.

I know there have been a number of questions raised about my administration's plan for space exploration, especially in this part of Florida where so many rely on NASA as a source of income as well as a source of pride and community. And these questions come at a time of transition, as the Space Shuttle nears its scheduled retirement after almost thirty years of service. This adds to the worry of folks concerned not only about their own futures, but about the future of a space program to which they have devoted their lives.

But I also know that underlying these concerns is a deeper worry, one that precedes not only this plan but this administration. It stems from the sense that folks in Washington – driven less by vision than by politics – have for years neglected NASA's mission and undermined the work of the professionals who fulfill it. We can see that in NASA's budget, which has risen and fallen with

"So let me start by saying this: I am 100 percent committed to the mission of NASA and its future."

-President Obama

See Obama on page 9

the political winds. But we can also see it in other ways: in the reluctance of those who hold office to set clear and achievable objectives; to provide the resources to meet those objectives; and to justify not just these plans but the larger purpose of space exploration in the 21st century.

That has to change. And with the strategy I'm outlining today, it will. We start by increasing NASA's budget by \$6 billion over the next five years, even as we have instituted a freeze on discretionary spending and sought to make cuts elsewhere in the budget.

We will ramp up robotic exploration of the solar system, including a probe of the Sun's atmosphere, new scouting missions to Mars and other destinations, and an advanced telescope to follow Hubble, allowing us to peer deeper into the universe than ever before.

We will increase Earth-based observation to improve our understanding of our climate and our world: science that will garner tangible benefits, helping us to protect our environment for future generations.

And we will extend the life of the International Space Station likely by more than five years, while actually using it for its intended purpose: conducting advanced research that can help improve daily life on Earth, as well as testing and improving upon our capabilities in space. This includes technologies like more efficient life support systems that will help reduce the cost of future missions. And in order to reach the Space Station, we will work with a growing array of private companies competing to make getting to space easier and more affordable.

I recognize that some have said it is unfeasible or unwise to work with the private sector in this way. But the truth is, NASA has always relied on private industry to help design and build the vehicles that carry astronauts to space, from the Mercury capsule that carried John Glenn into orbit nearly fifty years ago, to the Space Shuttle Discovery

currently orbiting overhead. By buying the service of space transportation – rather than the vehicles themselves – we can continue to ensure rigorous safety standards are met. But we will also accelerate the pace of innovation as companies – from young start-ups to established leaders – compete to design, build, and launch new means of carrying people and materials out of our atmosphere.

In addition, as part of this effort, we will build on the good work already done on the Orion crew capsule. I have directed Charlie Bolden to immediately begin developing a rescue vehicle using this technology, so we are not forced to rely on foreign providers if it becomes necessary to quickly bring our people home from the International Space Station. And this Orion effort will be part of the technological foundation for advanced spacecraft to be used in future deep space missions. In fact, Orion will be readied for flight right here in this room.

Next, we will invest more than \$3 billion to conduct research on an advanced "heavy lift rocket" – a vehicle to efficiently send into orbit the crew capsules, propulsion systems, and large quantities of supplies needed to reach deep space. In developing this new vehicle, we will not only look at revising or modifying older models. We will also look at new designs, new materials, and new technologies that will transform not just where we can go but what we can do when we get there. And we will finalize a rocket design no later than 2015 and then begin to build it. That's at least two years earlier than previously planned – and that's conservative, given that the previous program was behind schedule and over-budget.

At the same time, after decades of neglect, we will increase investment – right away – in other groundbreaking technologies that will allow astronauts to reach space sooner and more often, to travel farther and faster for less cost, and to live and work in space for longer

periods of time more safely. That means tackling major scientific and technological challenges. How do we shield astronauts from radiation on longer missions? How do we harness resources on distant worlds? How do we supply spacecraft with the energy needed for these far-reaching journeys? These are questions we can and will answer. And these are questions whose answers will no doubt reap untold benefits right here on Earth.

Yes, pursuing this new strategy will require that we revise the old strategy. In part, this is because the old strategy – including the Constellation program – was not fulfilling its promise in many ways. That's not just my assessment; that's also the assessment of a panel of respected non-partisan experts charged with looking at these issues closely. Despite this, some have had harsh words for the decisions we've made, including individuals for whom I have enormous respect and admiration. But what I hope is that these folks will take another look, consider the details we've laid out, and see the merits as I've described them today.

Some have said, for instance, that this plan gives up on our leadership in space by failing to produce plans within NASA to reach low Earth orbit, relying instead on companies and other countries. But we will actually reach space faster and more often under this new plan, in ways that will help us improve our technological capacity and lower our costs, which are both essential for the long-term sustainability of space flight. In fact, through our plan, we'll be sending many more astronauts to space over the next decade.

There are also those who have criticized our decision to end parts of Constellation as one that will hinder space exploration beyond low Earth orbit. But by investing in groundbreaking research and innovative companies, we have the potential to rapidly transform our capabilities – even as we build on the important work already completed,

See Obama on page 10

through projects like Orion, for future missions. And unlike the previous program, we are setting a course with specific and achievable milestones.

Early in the next decade, a set of crewed flights will test and prove the systems required for exploration beyond low Earth orbit. And by 2025, we expect new spacecraft designed for long journeys to allow us to begin the first-ever crewed missions beyond the moon into deep space. We'll start by sending astronauts to an asteroid for the first time in history. By the mid-2030s, I believe we can send humans to orbit Mars and return them safely to Earth. And a landing on Mars will follow. Now, critical to deep space

exploration will be the development of breakthrough propulsion systems and other advanced technologies. So I'm challenging NASA to break through these barriers. And I know you will – as always – with ingenuity and intensity.

I understand that some believe that we should attempt a return to the surface of the Moon first, as previously planned. But the simple fact is, we have been there before. There is a lot more space to explore, and a lot more to learn when we do. I believe it is more important to ramp up our capabilities to reach – and operate at – a series of increasingly demanding targets, while advancing our technological capabilities with each step outward. That is what this strategy does. And that is how we will ensure that our leadership in space is even stronger in this new century than it was in the last.

Finally, I want to say a word about jobs. Despite some reports to the contrary, my plan will add more than 2,500 jobs along the Space Coast in the next two years compared to the plan under the previous administration. We'll modernize

the Kennedy Space Center, creating jobs as we upgrade launch facilities. And there is potential for even more job creation as companies in Florida and across America compete to be part of a new

space transportation industry. This holds the promise of generating more than 10,000 jobs nationwide over the next few years. Many of these jobs will be created in Florida, an area primed to lead in this competition.

At the same time, there are Floridians who will see their work on the Shuttle end as the program winds down. And while this decision was made six years

ago, and not by my administration, it is no less painful for the families and communities affected as this decision becomes reality. So I am proposing a \$40 million initiative – led by a high-level team from the White House, NASA, and other agencies – to develop a plan for regional economic growth and job creation. And I expect this plan to reach my desk by August 15th. It's an effort that will help prepare this already skilled workforce for new opportunities in the space industry and beyond.

So that is the next chapter we can write here at NASA. We will partner with industry. We will invest in cutting edge research and technology. We will set far-reaching milestones – while providing the resources to pass them. And step by step, we will push the boundaries not only of where we can go but what we can do. In short, fifty years after the creation of NASA, our goal is no longer just a destination to reach. Our goal is the capacity for people to work and learn, operate and live safely beyond the Earth for extended periods of time, ultimately in

ways that are more sustainable and even indefinite. And in fulfilling this task, we will not only extend humanity's reach in space, we will strengthen America's leadership here on Earth.

I'll close by saying this. I know that some Americans have asked a question that's particularly apt on Tax Day: Why spend money on NASA at all? Why spend money solving problems in space when we do not lack for problems to solve here on the ground? Our country is still reeling from the worst economic turmoil we've known in generations. And we also have a massive structural deficit to close in the coming years.

But we know that this is a false choice. Yes, we need to fix our economy. Yes, we need to close our deficits. But for pennies on the dollar, the space program has fueled jobs and entire industries. For pennies on the dollar, the space program has improved our lives, advanced our society, strengthened our economy, and inspired generations of Americans. And I have no doubt that NASA can continue to fulfill this role. But that is why it is so essential that we pursue a new course and that we revitalize NASA and its mission – not just with dollars, but with clear aims, and a larger purpose.

Little more than 40 years ago, astronauts descended the nine-rung ladder of the Lunar Module called Eagle, and allowed their feet to touch the dusty surface of the Earth's only Moon. It was the culmination of a daring and perilous gambit, of an endeavor that pushed the boundaries of our knowledge; of our technological prowess; of our very capacity as human beings to solve problems. It was not just the greatest achievement in NASA's history. It was one of the greatest achievements in human history.

The question for us now is whether that was the beginning of something or the end of something. I choose to believe it was only the beginning.

Thank you. God bless you. And may God bless the United States of America.

"So that is the next chapter we can write here at NASA. We will partner with industry. We will invest in cutting edge research and technology. We will set far-reaching milestones – while providing the resources to pass them."

-President Obama

Golf tournament to benefit Marshall Association scholarships set for May 25

The Marshall Association and the Marshall Space Flight Center's NASA Exchange Council will co-sponsor a golf tournament from 9 a.m. to 3 p.m., May 25, at The Links on Goss Road on Redstone Arsenal. The tournament is open to everyone.

Proceeds from the tournament will support Marshall Association scholarships. The organization grants two scholarships annually to college-bound children of Marshall Association members.

To participate, sign up April 21-30 from 11 a.m. to noon outside the cafeterias in Building 4203 and 4471. The cost is \$45 and includes green fees, golf cart rental, and a burger or hotdog lunch with chips, cookies and drinks. Awards will be given to first-, second- and third-place golfers.

In the event of inclement weather, the tournament will be rescheduled for May 26.

For more information about the golf tournament, visit http://inside.msfc.nasa.gov/marshall_association/index.html, or call Melanie Stephenson at 961-1219 or Kiera Spann at 961-0970.

For more information about the scholarships, visit http://inside.msfc.nasa.gov/marshall_association/.



Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, April 29, is 4:30 p.m. Thursday, April 22.

Miscellaneous

Rototiller, mini tiller/cultivator, chainsaw, rabbit cages, red cedar bird houses. 509-7907

Four-piece white furniture set for nursery, crib, mattress, changing table, dresser, \$200. 216-9282

Full-size ping pong table, four paddles, \$50; 26-inch console RCA TV, you pick up, \$25. 728-5768

Dell Optiplex fully loaded desktop, operating system, \$295. 418-5014

Ping ISI irons, steel shaft 3-PW, \$200. 452-8573

Child's captain's bed, \$75; glass computer desk, <http://jscottm.home.mchsi.com/bed.htm>, \$50. 828-9651

Parachutes, parachute cord, 100' and 60' canopies. 527-8116

Sofa and love seat, \$100; sofa, \$75. 739-2844

Trailer, golf cart/ATV, 5' x 8', metal mesh floor, full width ramp, new tires, \$350. 508-0691

Playstation 3 game, Little BIG Planet, Game of the Year edition, rated E, \$35. 828-1234

Pier One furniture, media stand, coffee table, desk, hi-top table, bar stools, \$50-\$125. 468-6016

Pedestal sink and stand, all fixtures, white, \$175 obo. 772-9629

Miniature Dachshund puppies, one male, one female, \$150 each. 233-5620

Vehicles

2007 Porsche Cayman, red, tan leather interior, less than 19k miles, \$34,000. 541-7795

2005 Honda Rebel motorcycle, 250cc, 1,700 miles, \$2,000 or make offer. 658-0327

2003 SeaDoo GTX DI, trailer, 130 HP, oil injection, 2/3 seater, \$4,500. 880-9171

2000 Chevy Impala, 25 MPG, 88k miles, \$3,900. 837-0559

1999 Dodge Neon, four door, silver, 132k miles, \$1,500. 885-2293

1997 Honda Civic EX, black, two door coupe, 255k miles, \$4,500 obo. 520-2199

1995 Chevy Lumina sedan, AC, auto, power windows, 150k miles, needs intake manifold gasket, \$600. 656-0572

1989 Volvo 760 wagon, 16-valve, nonturbo engine, automatic transmission, \$950. 227-0339

1994 KAW Bayou 400 four wheeler, 4x4, \$2,000. 830-4846

Free

Two female tabby cats, 3 and 6 years old, spayed, all shots, food, accessories. 642-6140

Lost

Golden diamond wedding band, around 4203, April 13. 508-5446

Space shuttle Discovery lands in Florida



Space shuttle Discovery landed at the Kennedy Space Center, Fla., April 20, completing the STS-131 mission to the International Space Station. Discovery launched April 5 from Kennedy and arrived at the space station April 7 to deliver more than seven tons of equipment and supplies. During the 10-day stay, Mission Specialists Rick Mastracchio and Clayton Anderson conducted three spacewalks. For more information about the STS-131 mission, visit http://www.nasa.gov/mission_pages/shuttle/main/index.html.

Obituaries

John O. Smith, 90, of Athens died March 9. He retired from the Marshall Center in 1978 as an aerospace engineering technician. He is survived by his wife, Hazel Robinson Smith.

Henning Krome, 68, of Huntsville died March 16. He retired from the Marshall Center in 1997 as an aerospace engineer. He is survived by his wife, Sopaporn Krome.

Herman Schrimsher, 80, of Huntsville died March 23. He retired from the Marshall Center in 1994 as a program analysis officer.

Russell Jay Alcott Sr., 88, of Huntsville died March 28. He retired from the Marshall Center in 1977 as a flight systems test engineer. He is survived by his wife, Lois Ray Alcott.

James Frank Conrad, 88, of Arab died March 31. He retired from the Marshall Center in 1964 as a machinist.

William McCampbell, 86, of Huntsville died March 31. He retired from the Marshall Center in 1972 as a control systems engineer.

MARSHALL STAR

Vol. 50/No. 30

Marshall Space Flight Center, Alabama 35812
256-544-0030
<http://www.nasa.gov/centers/marshall>

The Marshall Star is published every Thursday by the Public and Employee Communications Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. Classified ads must be submitted no later than 4:30 p.m. Thursday to the Marshall Public and Employee Communications Office (CS20), Bldg. 4200, Room 102. Submissions should be written legibly and include the originator's name. Send e-mail submissions to: intercom@msfc.nasa.gov
The Star does not publish commercial advertising of any kind.

Manager of Public and Employee Communications: Dom Amatore
Editor: Jessica Wallace Eagan

U.S. Government Printing Office 2010-623-044-00045

www.nasa.gov

PRE-SORT STANDARD
Postage & Fees PAID
NASA
Permit No. 298