National Aeronautics and Space Administration

Roundup

Lyndon B. Johnson Space Center

March | 2010

Blazing new paths

JSC Director

PHOTO/Chris Thompson/SpaceX

On the cover:

Early pad interface test with SpaceX development Falcon 9 at Kennedy Space Center's Launch Complex 40.

NASA/BILL INGALLS

Photo of the month:

President Obama, congressional leaders and middle school students spoke with the astronaut crews of the International Space Station and the Space Shuttle* Endeavour *on Feb. 17 to congratulate them on their successful, ongoing mission.

As NASA sets its course into a new future, one question I've continued to receive since the 2011 budget rollout is whether there are any guarantees that our next program(s) will be safe from a future cancellation. In order to answer that question, we need to step back a bit and look at the difference between policy and program(s).

NASA's policy direction is established by the president. That policy is supported through the budget submission that each administration develops and presents to Congress. The funding that returns to NASA, as well as every other government agency, then supports the development and implementation of the program(s) that support the policy direction.

Since each administration develops an annual budget that is presented to Congress, and each Congress votes on and determines the final result or funding, no absolute guarantee can be given. Constellation is, indeed, the latest in a long line of cancelled programs, including: OSP, SLI, RLV, 2GRLV, CRV, ACRV, X-33 and X-38 as examples.

We've been fortunate to have flown the space shuttle for almost 30 years. Completing assembly of the International Space Station is not only a technological marvel, but also an example of the political process that funds our program. I'm sure many folks remember that station came within one vote of being cancelled as well.

This reality lesson is tough. Since we pour so much of our energy and hopes and dreams into each program, it's not just loss of jobs when a program is cancelled—it's an emotional loss, too.

So what can we do? First and foremost is **mission success.** We have to continue to perform at the high level the nation has come to expect and that we expect from each other as space professionals. We must continue to support the remaining shuttle missions with the same dedication and commitment. Spaceflight will never be easy or routine, and we can't become complacent. The safe operation of the station requires around-the-clock attention.

Working as an international team with our partners on station is a real core competency at Johnson Space Center, and we need to build on that. The rationale for resuming shuttle flights after the *Columbia* tragedy was to "complete assembly of the International Space Station in order to meet our international commitments." Our administrator has stated it is time to put our partners "in the critical path" of our space initiatives. International partnerships in space and more "non-traditional" partnerships are priorities for our agency.

We must fully support the utilization of the station. The 2011 budget extends the life of the International Space Station, likely to 2020 or beyond, keeping our commitment to our international partners to develop the full potential of this orbiting laboratory. Educators and educational entities, science institutions and other government agencies will be able to use the station for research. NASA will fly Earth observation instruments aboard and use this platform as a test bed for future exploration technologies that support biological, materials and combustion research to advance our spaceflight capabilities.

Our challenge is to seek ways that JSC can continue to be an **engine of innovation** and the catalyst for the new space programs. The president's 2011 budget provides new investments in technology development and other programs, which include:

- $7.8 billion over five years to invent and demonstrate large-scale approaches such as in-orbit fuel depots, rendezvous and docking technologies and closed-loop life support.
- $3.1 billion over five years for an original heavy-lift research and development program for new engines, propellants, materials and combustion processes.
- $4.9 billion over five years for a broad space technology program, including investments in very early-stage and game-changing approaches, cross-cutting technologies such as communications, sensors and robotics, and a flight demonstration program for these game-changing technologies.
- $3 billion over five years for robotic exploration precursor missions for later human exploration of the moon, Mars and nearby asteroids.
- More than $2 billion to accelerate the development of new missions to observe the Earth and its processes, development of crucial satellites to improve our forecasting of climate change, new carbon-monitoring capabilities and observation of changing ice sheets.

PHOTO/Chris Thompson/SpaceX

The fully integrated Falcon 9 vehicle in the SpaceX hangar, Space Launch Complex 40, Cape Canaveral, Florida. Photo taken Feb. 16 just prior to transferring the vehicle to the mobile transporter in preparation for rollout to the launch pad and static test firing.

NASA PHOTO

- In aeronautics, NASA will focus on technologies and applications to reduce aircraft fuel needs, noise and emissions.
- Science, Technology, Engineering and Math education through new outreach programs and the Summer of Innovation project this year.

Last, we need to work together to **raise public awareness** of the value of the U. S. space program to every single American. It is not just the technology spinoffs, although the medical, recycling and energy research we need for a spacecraft to explore the solar system have a direct correlation and benefit to "spaceship Earth." A strong, safe and successful space program also creates new technologies, industries, jobs and a growing economy, as manifested during the first 50 years of space exploration.

Mike

In this edition …

The people have spoken

By Catherine E. Williams

Winners announced in Space Shuttle Program Commemorative Patch Contest

It was a prospect many could not pass up: to create a patch that would be a part of the Space Shuttle Program's special legacy.

"For the past 30 years, crews have been designing patches. It is one of the things that the shuttle program and astronauts are famous for," said Debbie Byerly, technical assistant to the Space Shuttle Program manager. "We came up with the idea that it would be fun to let our current and past employees, and people that have participated in the Space Shuttle Program for the past 30 years, be a part of designing this commemorative end-of-program patch."

The response was overwhelming. Many toiled in this labor of love and submitted their ideas. One such person was Blake Dumesnil, a Shuttle Record Retention project engineer for Hamilton Sundstrand.

"I'm 25 and grew up in the Clear Lake area, so needless to say, NASA has been an enormously exciting part of my life here over the years," Dumesnil said. "The Space Shuttle has become such an iconic achievement in American history. When the opportunity came about to design an emblem for the end of the program—an emblem that would close out an unforgettable era in spaceflight—I felt like it was an incredible opportunity I could not miss participating in."

Thousands got involved by voting online for their favorite design—the winner of which would receive the People's Choice Award.

Space Shuttle Program Manager John Shannon was impressed by the number and quality of the submittals received.

"It was really inspiring to me that it meant so much for the team members to take the time to do that," Shannon said. "It has really caught the imagination of a lot of people—to be able to artistically display what the program has meant to them."

In early February and an incredible 7,606 votes later, Dumesnil was crowned the People's Choice winner, his patch receiving 29 percent of the votes.

Dumesnil said that he was "completely ecstatic" when he learned the results.

"When I saw the 85 entries in December and then the top 15 in early January, I could clearly see there were other artists out there who were just as passionate about the program as I was, and their designs represented that. From that point, I knew it was going to be a very competitive contest," Dumesnil said.

The outpouring of support he received for his patch design was one of the most meaningful and memorable experiences in Dumesnil's career at Johnson Space Center.

The artwork for the winning patch will be flown and awarded to Dumesnil in a presentation by Shannon at the STS-130 Crew Debrief at Space Center Houston. Second- and third-place winners were also invited to receive their awards there. All entries have been manifested and will be flown aboard *Atlantis* on STS-132, which is scheduled to fly in May. Contest participants will receive a CD that contains all of the flown designs.

But, as Shannon pointed out, it's not just about what the winner will receive—"it's a pride deal."

"Although it seems sort of surreal, people are realizing that this program they have tirelessly committed to for decades is coming to an end. With the uncertainty of where we are now headed, we're all grasping onto this last year of the Space Shuttle Program and really cherishing what it has accomplished," Dumesnil said. "All of the positive feedback and words of appreciation I have received over the course of this contest made me realize how much this program means to everyone. This has been an unimaginable honor for me."

Blake Dumesnil said of his winning patch design, "What I ultimately intended for this patch to signify was that the possibilities are limitless, and the Space Shuttle Program has given us an unforgettable step forward in reaching out into space as we journey even further."

First Place:
Blake Dumesnil, Hamilton Sundstrand, Johnson Space Center

Second Place:
Jennifer Franzo, Michoud Assembly Facility

Third Place:
Tim Gagnon, Kennedy Space Center

International Space Station scores an 'A'

90 percent complete—after STS-130 visit

Space Shuttle *Endeavour* and the STS-130 crew zoomed off to visit the International Space Station on Feb. 8 at 3:14 a.m. CST, possibly concluding the last night launch of the Space Shuttle Program.

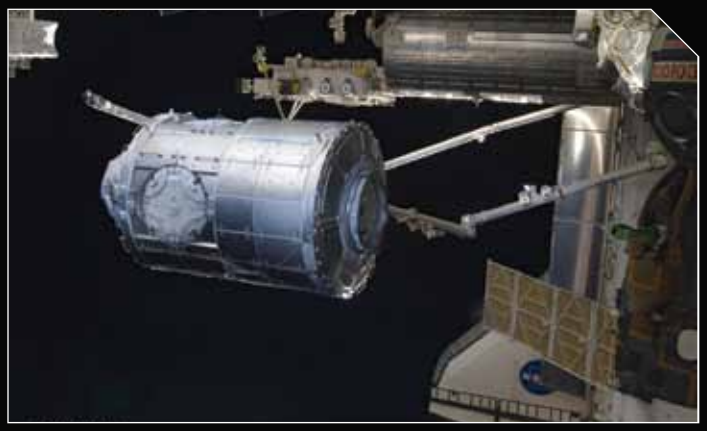
Commander George Zamka commanded the action-packed mission aboard *Endeavour*, while Terry Virts served as pilot. The mission specialists rounding out the crew were Nicholas Patrick, Robert Behnken, Stephen Robinson and Kathryn Hire. This was Virts' first excursion to space.

Endeavour's flight included three spacewalks and the delivery of a connecting module that increased the station's interior space. Node 3, known as Tranquility, will provide additional room for crew members and many of the space station's life support and environmental control systems. Attached to the node is a cupola, a robotic control station with six windows around its sides and another in the center that will provide a panoramic view of Earth, celestial objects and visiting spacecrafts. With the addition of the node and cupola, the space station is about 90 percent complete.

STS-130 was the 32nd shuttle mission to the station.

NASA/PAUL E. ALERS

Guests look on from the terrace of Operations Support Building II as Space Shuttle *Endeavour* launches the STS-130 mission early on Feb. 8.



NASA/PHOTO ISS022E062777

In the grasp of the station's Canadarm2, the Tranquility module is transferred from *Endeavour's* payload bay to the port side of the Unity node of the station. Tranquility was locked in place with 16 remotely controlled bolts.

NASA/PHOTO S130E009606

STS-130 Mission Specialist Stephen Robinson in front of the newly installed cupola, which will give station residents a 360-degree window to the stars.

NASA/PHOTO ISS022E062904

Robert Behnken, STS-130 mission specialist, participates in the mission's first spacewalk. During the almost seven-hour-long spacewalk, Behnken and Mission Specialist Nicholas Patrick (out of frame) relocated a temporary platform from the Special Purpose Dexterous Manipulator, or Dextre, to the station's truss structure and installed two handles on the robot.

The Commercial Crew and Ca

Investing in our future

On Feb. 1, President Obama released his plans for the Fiscal Year 2011 budget. With that announcement, NASA was given a new direction that includes developing a bold approach that invests in the building blocks of a novel path to space exploration. NASA's Commercial Crew and Cargo Program (C3PO) is rising to the challenge by creating innovative partnerships with U.S. companies—both big and small—and blazing trails in how NASA does business.

By investing financial and technical resources, the program is working with the private sector to develop and demonstrate safe, reliable and cost-effective space transportation capabilities through multiphase Commercial Orbital Transportation Services (COTS) projects. Begun in 2006, the C3PO is investing in two companies, Space Exploration Technologies (SpaceX) and Orbital, which are both working to develop cargo delivery services to the International Space Station. This investment is a revolutionary approach for NASA because it leverages the agency's history and expertise while promoting growth in the private sector.

"We share the cost and risk and we become a consultant and advisor to the companies, because that is NASA's strength," said Alan Lindenmoyer, C3PO manager. "We have expertise in 50 years of human spaceflight that we have agreed to share with these companies."

During Phase 1 of COTS, each company must contribute non-NASA funds to the project, and NASA payments are made based only upon successful completion of pre-negotiated milestones. The Phase 1 COTS partnerships are different than traditional contracts, not just in funding, but also because NASA allows the companies to set their own requirements to pursue them.

"We established broad goals and objectives so that the companies could innovate in the design and development of their systems for the most optimum approach," Lindenmoyer said.

Companies competing under Phase 1 were given information on the types of transportation capabilities needed, but NASA didn't define specifics other than requirements for safety and interfaces to the space station.

When the program is confident enough that the capabilities will be available for use, the next phase begins and services are procured through traditional government contracts. This is when NASA

PHOTO/SpaceX

Artist rendering of Orbital's Taurus II launch.

Artist rendering of Cygnus spacecraft approaching the International Space Station.

Image Courtesy of Orbital Sciences Corporation

rgo Program

By Sean Elizabeth Wilson

becomes a customer and more specific service requirements are levied.

"Once the technology is available and the trail is blazed, industry should be able to operate these capabilities in a more efficient manner," Lindenmoyer said. "Since we blazed those trails in low-Earth orbit, there's no reason private companies shouldn't be able to provide this capability. NASA can then apply its resources to the more difficult challenges and leave the routine services to industry."

What started out as an experiment in a new way of doing business with the private sector is working well so far. The companies are making progress, and contracts have already been issued for station cargo resupply services projected to begin in 2011.

"NASA should be pioneering the most difficult challenges in human spaceflight," Lindenmoyer said. "Our next quest is to go beyond Earth orbit and explore the solar system. I'm hoping that relying on commercial services will help us go beyond sooner."

While these initiatives are helping to increase the means and reduce the cost of future exploration activities, commercial participation in space transportation offers benefits beyond dollar values. A focus of these efforts is to stimulate markets that could lead to increased flight rates and lower prices. Dennis Stone, assistant program integration manager, likens the emergence of this new industry to the beginnings of U.S. air mail in the 1920s.

"It stabilized the fledgling airline industry and made flights more affordable, routine and reliable," Stone said. "Now, 90 years later, we are putting our cargo on new spacecraft. In addition to meeting NASA needs, potentially it could have far-reaching economic impacts."

PHOTO/SpaceX

Falcon 9 first stage arriving in the hangar at Space Launch Complex 40, Cape Canaveral, Florida.

Industry competitions were held in 2006 and 2008 for funding demonstrations of pressurized and unpressurized cargo transportation to low-Earth orbit. NASA currently has funded Space Act Agreements totaling nearly $500 million with SpaceX and Orbital Sciences Corporation.

Through an open competition for funds from the American Recovery and Reinvestment Act of 2009, NASA has awarded $50 million in funded Space Act Agreements for the development of crew concepts and technology demonstrations and investigations for future commercial support of human spaceflight.

- **Blue Origin - $3.7 million**
- **The Boeing Company - $18 million**
- **Paragon Space Development Corporation - $1.4 million**
- **Sierra Nevada Corporation - $20 million**
- **United Launch Alliance - $6.7 million**

Music and majesty meet

By Dan Huot

Grammy award-winning jazz vocalist Steve Tyrell is no stranger to hearing his music in unique venues. Singing for U.S. presidents, major motion pictures and many prominent TV shows, the International Space Station was just one majestic addition to his extensive résumé.

In January, Tyrell made a trip to Johnson Space Center to get an exclusive tour of the facilities and meet with astronaut Chris Cassidy. The visit was set up after Tyrell heard that his song, "On the Sunny Side of the Street," was played as a wake-up call during STS-127 for Commander Mark Polansky.

"I was very excited to hear that they picked one of my songs to be played up in space," Tyrell said. He then joked that he wanted to call Mission Control and "see what royalties were like up on the moon."

His tour began in Building 9, where he was amazed at the size and scope of the mockups, especially the full fuselage trainer. He was shown around the floor of the facility and jumped at the opportunity to take pictures with all of the astronaut training equipment.

"It's like seeing Roger Clemens throw a pitch on TV and then seeing it in real life," Tyrell said. "There is no comparison for seeing it in person."

On his way over to Mission Control, Tyrell took some time to greet a group of JSC fans that were waiting in the Building 30 lobby. He signed autographs, took photos and had the crowd laughing after a few stories.

After visiting both the Space Shuttle and International Space Station Mission Control rooms, the tour continued to the historic Mission Control Center. STS-127 Mission Specialist Cassidy spoke about the famous events and history that had been made within its walls. Afterward, Cassidy presented Tyrell with a plaque signed by the STS-127 crew and a blue flight jacket with his name embroidered on the patch.

"This had to be my favorite part, meeting Chris," Tyrell said. "It's amazing to meet someone that has actually 'done it' and gone up into space."

Following the small presentation ceremony, Tyrell ended his tour at Rocket Park, where he was again taken aback at the magnitude of towering spaceflight vehicles, namely the Saturn V. He looked on with respect as he read the displays chronicling the Apollo Program, remarking on the courage and determination the astronauts must have possessed to carry out such daring missions.

Tyrell is a Grammy-winning and Emmy-nominated recording artist who also has extensive credentials in production and songwriting work with other performers. He has worked alongside artists Rod Stewart, Ray Charles, Burt Bacharach, Bonnie Raitt, Stevie Wonder, and even Elvis, from whom Tyrell received a Christmas card that still hangs on his wall. Born in Houston, Tyrell is no stranger to the area, and even worked as an aviation mechanic for a year at Ellington Field before his music career took off.

NASA/STAFFORD JSC2010E013989

Jazz vocalist Steve Tyrell (left) and astronaut Chris Cassidy in the historic Mission Control Center.

Building better (space) business with **Enterprise Architecture**

By Bob Hennan and Catherine E. Williams

Johnson Space Center is in the business of navigating unknown territories—especially in the cosmos. But as the agency faces one of the biggest transformations in its history, the JSC Enterprise Architecture Program is poised to help the agency efficiently redirect its Information Technology (IT) resources to meet the challenges ahead.

"It's really about business transformation and everything you do aligning with the strategic goals of the business," said JSC Chief Enterprise Architect Bob Hennan. "We're in the business of space, so we ensure that everything we do, all the money we spend, all the components we buy, match the strategic goals of the agency."

So how does Enterprise Architecture do this? After capturing the as-is and to-be organizing logic for processes and IT infrastructure, architects produce "blueprints" to define the current and desired operating environment, along with a sequencing plan.

"You model what you have for an architecture now. You decide where you really want to be, what your goals are, and you create a transition plan to get you from where you are to where you want to be," said Ric Slater, Project Management and Technical Integration Office chief for the Information Resources Directorate. "The bottom line is you're looking at the business aspects of how it works."

NASA/PHOTO

As the center molds to meet updated program requirements, the JSC Enterprise Architecture Program is committed to helping with the center's evolution. JSC recently certified 25 new Enterprise Architects in a three-month class to make this happen. The certification program was a collaborative, centerwide endeavor that combined participants from several organizations, along with contractors, culminating in a practicum presented to center and NASA Headquarters management. The JSC Human Resources Training and Development Office was paramount in getting the class brought on site and acquiring the training funding for a substantial portion of the attendees.

The duties of the Enterprise Architects will include performing IT project architecture assessments and service reviews throughout the center. Architects will strive to add value by ensuring alignment with the center and agency goals and by helping to establish a strong business case for all major investments. They will emphasize reuse, interoperability and the elimination of redundancy to improve business performance and productivity.

"One of the big purposes of this is system business agility," Hennan said. "Right now we need to be agile, because we're getting ready to change gears drastically with the Space Shuttle Program ending and now with Constellation ending. We're going to be starting a lot of new programs."

Enterprise Architecture will be a major player as the center acclimates to different exploration goals.

"Knowing what you have now, where all your services are and the capabilities you have is real important, so we can quickly align those with the new programs and save the center knowledge and resources we have here," Hennan said. "It's a real critical time, and Enterprise Architecture will play a big part in that transition."

The JSC Enterprise Architecture Program falls under the Project Management and Integration Office within the Information Resources Directorate. It operates under the authority of the Chief Information Officer at both the center and agency levels. The Enterprise Architecture Program works closely with Capital Planning and Investment Control to support executive decision making. And while Enterprise Architecture works to provide quick solutions, it is no silver bullet; it requires hard work from dedicated teams at all levels.

The JSC Enterprise Architecture Working Group meets regularly to share information and lessons learned about Enterprise Architecture. Of particular interest is the dissemination of knowledge about new center, agency and federal programs and projects that affect our target architecture. For further information, contact Bob Hennan at bob.hennan@nasa.gov.

Spotlight Judy Reustle

Web site Developer, Jacobs Technology

Q: Coolest part of your job?
A: The coolest part of my job has to be working with the people. I love being able to sit down with them to brainstorm ideas, designs and possibilities, and then being able to go back and make those dreams into a reality. I JUST LOVE IT.

Q: Favorite movie and why?
A: I don't know that I could name just one, but it would have to be a romantic comedy. I am always up for a good love story that has a nice sense of humor mixed in. Best of both worlds.

Q: Who are your heroes and why?
A: This list is too long to name and not leave someone off. It's everyone who has ever stood up for what they believed in regardless of the outcome or the consequences of that action.

Q: What quality do you most admire in people?
A: Integrity. It's more than just being honest. It's honor, reliability and uprightness that makes an admirable person. My dad used to say it wasn't what you did when people were watching that counts, it's what you do when they're not.

Q: What does Johnson Space Center mean to you?
A: JSC is a community that includes generations of people who have dedicated their lives to the exploration of space. My dad has been out here for over 37 years, and I have been out here for 10. It's not just something you do, it's something you believe in.

Q: Favorite hobbies or interesting things you do away from the office?
A: My favorite thing to do is travel. It is a great way to regroup and relieve stress. My favorites are New York, Florida, Las Vegas and Colorado.

Q: What would you be doing if you weren't in your current job at JSC?
A: Probably organizing something. I have a knack for organizing … it's just the way my brain works. If something is in disarray, my mind has worked out the solution before I can blink twice.

Q: What did you want to grow up to be when you were a child?
A: An architect or interior designer. I was in love with graph paper and loved to draw outlines and layouts of houses.

Q: What would people be surprised to know about you?
A: Probably that I spent 11 years in the Air Force and spent several years in Germany, Turkey and Japan.

Q: What is your favorite sport?
A: Probably football. Love the Texans! Reminds me of Friday night football from high school. I used to spin a rifle in the Color Guard, and I love the feel of being in the stands.

Q: Last good book you read?
A: The "Twilight" series (thanks to my friend Summer). I couldn't put it down, and yes, I was one of those people stuck in the midst of the sea of teenage girls on opening day at the theater.

PHOTOS/JUDY REUSTLE

WANTED!

Do you know a JSC colleague or team that does something extraordinary on or off the job? Whether it's a unique skill, interesting work, special professional accomplishment, remarkable second career, hobby or volunteerism, your nominee(s) may deserve the spotlight!

The Roundup shines the light on one special person or team each month, chosen from a cross section of the JSC workforce. To suggest "Spotlight" candidates, send your nomination to the JSC Roundup Office mailbox at jsc-roundup@mail.nasa.gov. Please include contact information and a brief description of why your nominee(s) should be considered.

Save the date!

This April is the 40th anniversary of Apollo 13. Join us on April 6 as we celebrate this historic milestone. Activities will include a storytelling event in the Teague Auditorium with Apollo alumni, featuring Apollo 13 Commander Jim Lovell and Lunar Module Pilot Fred Haise, an Open House in historic Mission Control and an Apollo 13 celebration in the evening.

Stay tuned to JSC Today for more updates.

NASA/PHOTO S70-24010.

Two crew members of Apollo 13 stand by to participate in water egress training at the Manned Spacecraft Center (now Johnson Space Center). They are Commander Jim Lovell (left) and Lunar Module Pilot Fred Haise. Lovell and Haise will also participate in the Apollo 13 anniversary at JSC in April.

Space Exploration Educator Conference

Teachers from across the United States, Japan, United Kingdom and Canada came together in early February to the Space Exploration Educator Conference that was held at Space Center Houston. For 691 educators, this conference was more than taking a couple days off from teaching. It was to learn more about NASA and space exploration so they could motivate their students to be more inspired about Science, Technology, Engineering and Math (STEM) careers.

This was the 16th year of the conference. During those few days, teachers attended sessions like "Rock 'N' Roll with NASA," Robotics Education and "Take a Trip to Mars Without Ever Leaving the Classroom." They also got a behind-the-scenes tour of JSC, which included visits to Ellington Field, the food lab, Neutral Buoyancy Laboratory, Mission Control Center, the robotics lab and Space Vehicle Mockup Facility. As an educator at the conference said at one of the sessions, "I can't believe I have never been to this conference before. I am so excited and will come back next year!"

NASA/DeHOYAS

From our hearts

While JSC team members were trying to figure out what to get their loved ones for Valentine's Day, they took a moment to sign Valentine's cards for deployed troops. Mailboxes and cards were placed around the center, and the outpouring was heartfelt. JSC employees signed 800 valentines and donated enough candy to fill eight boxes.

PHOTO/ELIZABETH MORALES

Roundup

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Hoop! There he is

'Flight Time' nets fans at JSC

By Laura Rochon

On Jan. 27, Herbert "Flight Time" Lang, from the legendary Harlem Globetrotters basketball team, made a fast break to the Gilruth Center to show off his skills to another team: Johnson Space Center team members and their families.

Named "Flight Time" for his high-flying slam-dunk ability (the first one during high school in Arkansas), Lang was in Houston to promote the Harlem Globetrotters' "Magical Memories" World Tour.

Lang started the event with a history lesson, asking kids: "Do you know in which city the Harlem Globetrotters got their start?" A riddle without an obvious answer: Chicago in 1927, although they were originally called the Savoy Big Five. The name later changed because Harlem was seen as the center of black culture at the time—but they did not actually play their first "home" game in Harlem until 1968.

Racial discrimination prevented the all-black Globetrotter team from competing against all-white professional teams. However, in 1948, they broke through this societal barrier and went on to defeat the Minneapolis Lakers. The Globetrotters gradually increased comedic antics and basketball wizardry into their game, eventually transitioning them from a competitive sports team to the popular entertainers they are today.

NASA/STAFFORD JSC2010E015352

A pint-sized volunteer attempts a backwards shot.

Lang scored laughs and applause as he wowed the young crowd with some awesome ball-handling, spinning, juggling, dribbling and trick shots, all the while making jokes with his fans to the iconic whistle of "Sweet Georgia Brown," the Globetrotters' signature song.

The crowd cheered knowingly when Lang told them about being a contestant on the "Amazing Race" with fellow Globetrotter "Big Easy" Lofton. Both battled 11 other teams to reach the final four. He also had another career in mind:

"I always wanted to be an astronaut—but I just had to settle for being 'Flight Time,'" Lang said, winking to the kids.

After bantering with the audience, Lang put his game face on and brought a few kids into the "Magic Circle" to teach them interactive, ball-passing moves around the leg and off the knee—even off the forehead.

Lang then signed autographs and posed for pictures with his fans. It was nothin' but net for the kids at Gilruth Center.

NASA/STAFFORD JSC2010E015353

"Flight Time" signs a basketball for a young fan.