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February 2-4, 2012

18th Annual **Space Exploration Educators Conference**



## EXPLORING NEW HORIZONS



**Session Descriptions**  
**Friday February 3rd**

**10:00AM– 11:30AM**

## **A Space Smorgasbord**

*Curt Kornhaus, McPherson Middle School*

*Mary Lara, Flagstaff Unified School District*

This session will provide a feast of hands-on activities that demonstrate a little of everything concerning space science, using simple and inexpensive materials. Activities used incorporate science, math and technology standards. Perfect for the educator needing low cost, easy-to-use activities to teach challenging space exploration concepts.

Grades: 3-8     Subjects: Sci, Tech, Math

## **Astonishing Astronomy: Further Your Eyes Can See**

*Pamela Whiffen, NASA Educator Ambassador*

*Douglas Howard, Dunbar School*

NASA's Space-based telescope detected radiation billions of times more energetic and hundreds of thousands of times weaker than the light visible to the human eye. Come discover the most exotic objects in our Universe including: super massive black holes, supernovae, dark matter, dark planets, and the astonishing power of a gamma-ray burst. NASA CD-ROM included.

Grades: 6-12     Subjects: Sci, Tech, LA, Math

## **Build and Explore the Future of Space with LEGO Education**

*Debra Smith, LEGO Education*

*Teresa Sindelar, Teaching From Space*

Investigate the use of simple machines and forces in microgravity using LEGO Education models and the scientific method! Participants will follow the LEGO 4C process: Connect, Construct, Contemplate, and Continue. They will be told a story and asked to solve a problem. They will construct a LEGO hammer, conduct experiments, record data, compare results with data from the ISS, and answer questions. To complete the session, a design challenge will be issued.

Grades:3-8     Subject: Sci, Tech, LA, Math

## **Exploring the Year of the Solar System**

*Christine Shupla, Lunar and Planetary Institute*

*Jackie Allen, JSC Astromaterials Research and Exploration Science (ARES) Education*

NASA's Year of the Solar System is a celebration that continues through August 2012. NASA's missions in this period creates an opportunity to engage students in new worlds and new discoveries!

Activities, events, and resources will be shared.

Grades: K-12     Subjects: Sci, Tech

## **Gravity: The Invisible Force (NEW)**

*Margaret Biguio, Texas Space Grant*

*Susana Ramirez, Rio Grande Valley Science*

Gravity! You can't see it, touch it, or feel it. Yet, It's everywhere. Participants will conduct experiments, learn how NASA is mapping earth's gravity field. Earth's Gravity Field maps are assisting with climate change studies. Curriculum and DVD with animations.

Grades: 3-8     Subjects: Sci, Math, Tech

## **Houston, We Have Tech Integration**

*Jennifer Crowe, Fort Bend ISD*

Help your students understand more about the Earth and the universe it's a part of through the use of technology! Teachers will be given projects and ideas that they can immediately use in the classroom to help integrate technology into their science curriculum.

Grades: 3-5     Subjects: Science, Technology

## **International Space Station Live!**

*Monica Trevathan, NASA/ International Space Station*

*Tonya York, NASA/ International Space Station*

Wouldn't it be amazing to have access to activities happening on the International Space Station right this very second, and be able to incorporate that into a classroom lesson? Well NASA has made that possible with ISS Live!, Educators are provided lessons for math and science to enhance classroom concepts with real-world application.

Grades: 9-12     Subjects: Sci, Tech, Math

## **Interactive Models for Exploring Planet Discovery and Extraterrestrial Life**

*Daniel Damelin, The Concord Consortium*

Explore freely available interactive models that allow students to deeply engage in scientific methods used for planet hunting and searching for life outside our solar system. Bring your own laptop to experience models embedded within an assessment structure that provides formative feedback to teachers about student progress and learning.

Grades: 6-12     Subjects: Science, Technology

## **It's A Matter Of TASTE**

*Laura Teatsworth, Houston Independent School District*

*Nikki Skinner, Houston Independent School District*

Introduce your primary classes to Matter and learn how to relate it to how food makes its way into Space! We will also have a variety of hand-outs, and a power point presentation to share with our group.

Grades: K-2     Subjects: Sci, LA, Math

## Microgravity, Weightless, STEM, and Free-Fall in your Classroom

*Richard DeLombard, Mr. Microgravity*

*Nancy Hall, NASA Glenn Research Center*

An ISS astronaut 'floating' is not a mystery. In this session, hold microgravity in your hands! Play with it; investigate it. Your students can do the same with demos for Physics and Forces & Motion. Learn the simple reasons behind weightless conditions. National NASA student competitions will also be described.

Grades: 6-12 Subjects: Science, Technology

## Modeling the Process of Science to Design a Research Investigation

*Paige Graff, NASA JSC/ Jacobs ESCG*

*Jean Pounder, Westhill High School*

Design your own research investigation using inquiry-based materials developed through NASA's Expedition Earth and Beyond Program. Participants will model the process of science - initiate questions, make observations, collect, display, and analyze data, draw conclusions, and share research. Get tips from a teacher who implemented this process with her students.

Grades: 6-12 Subjects: Sci, Tech, Math

## Space Weather: The Sun's Impact on the Earth Atmosphere System

*John Hehr, University of Arkansas*

*Lynne Hehr, University of Arkansas*

The Sun is the driving force for Earth light, energy, and life. However, discussions concerning the Sun's energy output and its impact on the Earth are rare. Join this interactive session on the electromagnetic spectrum and the impact from the Sun's energy or "space weather" on the Earth atmosphere system.

Grades: 6-12 Subjects: Sci, Tech, Math

## Switched on Physics

*Alexander S Graham*

Explore creating dynamic and useful physics projects for your students. Topics explored will range from robotics to digital pipe organs, expeditions to the Philippines and Electric BMW's. If you can dream it, you can do it!

Grades: 9-12 Subjects: Sci, LA, Math, His, FA, SS

## The Scale of the Universe

*Jeffery Bennett, Big Kid Science*

Imagine yourself as a cosmic giant, able to walk (or float!) among planets small enough to hold in your hand. You'd then be able to see what our solar system really looks like, giving meaning to the word "astronomical." Well, now you can be that giant, by walking through the Voyage Scale Model Solar System at Space Center Houston.

Jeffrey Bennett, who started the Voyage project, will lead you on a tour of the Voyage model and then discuss what we learn by viewing the solar system to scale.

Grades: K-12 Subjects: Science

## Weightless Wonder Water Fleas

*Crystal Heiberger, AWTY International School*

*Suzanne Phillips, Elgin Public School.*

Learn about teaching through space opportunities from teachers who have flown experiments on the 0-G plane. In this informational session you will explore technique for teaching experimental design, compare and contrast data, graphing, and engineering mechanisms needed in 0-G.

Grade: K-12 Subjects: Sci, Tech, Math

## STEM-ulating instruction with Robotics-Professional Learning with NASA ePDN

*Norman Storm, Robinson III, CEISMC/Ga Tech*

Come experience the future of Professional Learning, the NASA Electronic Professional Development Network. Engage in a hands-on activity that simulates Professional Learning using the NASA ePDN and receive resources focused on STEM-ulating instruction and learning using LEGO Mindstorms Robotics. Also, obtain information about other NASA ePDN courses.

Grades: 6-8 Subjects: Sci, Tech, Math

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Follow us on [Facebook](#) or [Twitter](#) #SEECatSCH to stay updated on conference news and schedule changes.

**12:45PM– 2:15PM**

## **Expedition Earth and Beyond: Using Earth For Planetary Comparisons (Double Session)**

*Paige Graff, NASA/JSC Jacobs ESCG*

*Jaclyn Allen, NASA/ JSC Jacobs ESCG*

Build an image wall and conduct hands-on experiments to learn about geologic processes that have sculpted the surface of Earth and other worlds in our solar system. Learn how your students can conduct research investigations, work with scientists, and request images from astronauts onboard the ISS. NASA resources provided.

Grades: 6-12    Subjects: Sci, Tech, Math

## **Folding Space: The Geometry Of Origami**

*Sandra Miller, Lamar High School*

*Stephanie Smith, Sam Houston High School*

Origami is more than paper animals—from heart stents to space telescopes, origami principles and the underlying geometry have applications far beyond handicrafts. What can origami teach us about geometry and vice versa? What does origami have to do with space telescopes? Find out in a hands-on exploration of geometry.

Grades: 6-12    Subjects: Math

## **Food For Thought**

*Steve Culivan, NASA Aerospace Education Service Project (*

*Lisa Brown, NASA Aerospace Education Service Project*

Space food, MMMMM good! What educational concepts can we learn from these space-based culinary delights? Food for Thought is a new NASA curriculum designed to explore space food and the nutritional needs of the astronauts with a menu of inquiry activities and other resources to address this exciting topic.

Grades: 6-8    Subjects: Sci, Tech, Math, PE

## **Inquire! Ignite! Inspire! Using Rocketry in Elementary Science!**

*Tammy Lundy, Forest Lake Elementary School*

*Denise Duke, Forest Lake Elementary School*

Come Explore with us as we demonstrate how we used collaboration among a first grade and fifth grade classroom to build excitement and foster space enthusiasm among elementary students. Using NASA resources your students will be engaged in scientific inquire and real world engineering processes.

Grades: K-5    Subject: Sci, Tech, Math

## **ISS CONSTRUCTION SIMULATION (Dive Session) (Double Session)**

*Craig Shannon,*

Train like astronauts in this exciting session! You will participate in underwater training exercises using SCUBA gear in a local indoor pool. No previous experience necessary. Bring a swimsuit and towel. Participants must attend the mandatory meeting on Thursday, February 3rd at 7:15 AM. Additional \$35 charge for this session.

Grades k-12

## **Launching Learners Into The Future**

*Colleen Howard, Mesa Public Schools*

*Karri West, Mesa Public Schools*

Launch your learners into the 21<sup>st</sup> Century! Celebrate science as you take part in an inquiry-based, collaborative, interdisciplinary simulation. Every teacher will leave with strategies and activities to energize the classroom. Set the stage for lifelong learning with this amazing journey!

Grades: 3-8    Subjects: Sci, Tech, LA, Math, SS, Hist

## **Multiple Wavelengths; real telescope data in your classroom!**

*Diane Cole Sartore, Pine Ridge High School/NEAT*

Would you like lessons in spectroscopy, radio and infrared wavelengths that you can use with students tomorrow? Distilling information gathered during workshops at RBSE (NOAO/Kitt Peak), GAVRT (Goldstone, CA), and NITARP (CalTech/JPL), these labs have real data from a variety of telescope sources. Energize your students with authentic astronomy investigations.

Grades: 9-12    Subjects: Science, Technology

## **NASA's Digital Learning Network Presents "My Big Book About Space"**

*Erin McKinley, NASA Goddard Space Flight Center DLN*

*Patricia Moore, NASA Johnson Space Center DLN*

Enhance your lessons with FREE live connections to NASA's Digital Learning Network (DLN). Give your students the amazing opportunity to speak LIVE with NASA engineers, scientists and education specialists! Session participants will travel onsite to the Johnson Space Center DLN studios to connect live with a NASA Education specialist at Goddard Space Flight Center and learn how students in grades Kindergarten through 2<sup>nd</sup> grade can participate with the DLN in a brand new module series, My Big Book About Space!

Grades: K-2    Subjects: Sci, Tech, LA, Math

## **NASA's Educator Resource Center and You! (repeat session)**

*Elaine Lapka, NASA, Educators Resource Center*

ERC staff is your guide to NASA educational programs and standards-aligned K-18 teaching resources on line, on paper, on tape, and on disc. Bring your laptop to this session to explore lessons, activities, simulations, and inter-actives for all disciplines, emphasizing STEM. You will also create and share your own slide show of NASA images using Luna software online.

Grades: K-12    Subjects: Cross Curriculum

## **Out of the Classroom; Into the Sky! Civil Air Patrol's Teacher Orientation Program (TOP) Flight! (Double Session)**

*Susan Mallett, Civil Air Patrol*

*Debbie Dahl, Civil Air Patrol*

K-12 teachers! Come join "ground school" and free flight over Houston! This double session will include hands-on activities and free materials. Cameras encouraged!!!

NOTE: Need CAP ID# to participate. After registering for this SEEC session, get your CAP ID# by going to [www.capmembers.com/joinaem](http://www.capmembers.com/joinaem) and use Coupon Code SEEC12 for a special 1/2 price (\$17.50) offer.

Grades: K-12    Subjects: Sci, Tech, LA, SS, Math, His

## **Robotics Without Electronics**

*Angelo Casaburri, AESP/NASA- JSC*

Learn about the robots NASA has developed for exploring the solar system, and robots that assist astronauts onboard the International Space Station. Using inexpensive, locally obtainable materials, design a craft stick robot arm, build a cardboard robot hand, make a 3-D robot finger, and

construct a coffee cup end effector.

Grades: K-12    Subjects: Sci, Tech, Math

## **Rovers, Robotics arms and Remote Control**

*Daniel John Loewen, Fresno County Office Of Education*

*Veronica Seyl, CEP Program Manager JSC*

Remote control rovers and robotic arms will challenge your communication, engineering, and creative skills as well as your patience. Collaborate with colleagues and learn about the world of remote sensing. Whether it's across the hall or across the nation you will be preparing your students for continued planetary and asteroid exploration with NASA.

Grades: 3-12    Subjects: Sci, LA, Math, History

## **Second Life in your Classroom!**

*Suzanne Foxworth, Solar System Educator/liftoff*

*Michael Myers Liftoff/D McRae Elem.*

Teachers will explore all the possibilities of Second Life, an online virtual world. Teachers will create their own avatars and explore JPL Island, NASA Education Island, and NOAA Island. Teachers will be shown how to incorporate Second life field trips into their classes. They will also be shown how to create videos and share them through different media venues such as YouTube, Teacher tube, or personal websites.

Grades: K-12    Subjects: Sci, Tech

## **Small Bodies In The Solar System (NEW)**

*Joyce Hill, Highlands Middle School*

*Rebecca Moreland, Highland Middle School*

The Solar System consists of the Sun; the eight official planets, at least three dwarf planets, more than 130 satellites of the planets, a large number of small bodies, and the interplanetary medium. Take a tour of the solar system and learn more about comets, meteorites, and asteroids.

Grades: 3-8    Subjects: Sci, Math, Tech, FA

## **Teaching STEM using Microgravity and NASA**

*Teresa Sindelar, NASA*

*Dynae Fullwood, NASA*

NASA Educators will provide an overview of the resources and opportunities available thru the Teaching From Space office. Teachers will be introduced to the Microgravity website. This site houses the International Toys in Space videos and resources. Teachers will learn new ways to incorporate these education resources into their classrooms.

Grades: K-12    Subjects: Sci, Tech, Math

## **Teaching Physics by Inquiry and Conceptual Challenge Model**

*Usha Devothosh, Houston ISD*

This session explores ways to improve overall science instruction and achievement in physics by addressing the student misconceptions about simple circuits using a 6 step conceptual change model. Participants will experience a student-centered inquiry-based hands-on activity on electricity that is framed in the research based 5E instruction model and technology.

Grades: 6-12    Subject: Science

## Tiny Moon Adventures

*Raquel Jenkins, Independent Space Education Specialist*

Get ready to blast off on the “tiniest” adventure to the moon. If you are looking for current information on NASA’s moon missions and great all-around interdisciplinary resources for your classroom sign up for this tiny adventure that will have a big bang! The journey is filled with word families, rhyming games, graphing, fractions, flags, making asteroid craters, looking back at the moon’s history through photography, singing, and of course edible phases of the moon!

Grades: K-2    Subject: Sci, LA, Math, FA, SS, His

## A Long Way Down: Design a Parachute

*Marilyn M. Ortiz, Webb Elementary*

*Mary Vaughn, Hillsborough County School*

Participants will explore astronomy and aerospace engineering by designing a parachute. Participants will draw an imaginary spacecraft that will travel on a mission to another celestial body. They will test various materials to design a canopy and a parachute that will successfully land. Finally they will improve on their design based on experiments and final parachute launch.

Grades: 3-5    Subjects: Sci, Tech, Math

**2:45PM-4:15PM**

## Airplanes: The STEM of the plant

*Karla Wright, MTSU*

*Phyl Taylor, MTSU*

Airplanes are here and now and they are kid friendly! Learn how to teach your little ones about the forces of flight and the parts of an airplane using science, technology, engineering, and Math. We even throw in some language arts and social studies! Come fly with us.

Grades: K-2    Subjects: see description

## Beyond UFOs: The Search for Extraterrestrial Life and its Astonishing Implications for Our Future

*Jeffrey Bennett, Big Kid Science*

Is there life beyond Earth? Jeffrey Bennett, author of Beyond UFOs, will talk about why this question has become a hot topic of scientific research, and discuss how scientists are searching for life in the universe. Along the way, we'll also see why the possibility of life beyond Earth has profound implications to the future of our species, even in the unlikely event that we are alone in the universe.

Grades: 6-12    Subjects: Science

## Copernican Mathematics (Yes, There Was Math Involved)

*Sandra Miller, Lamar High School*

*Stephanie Smith, Sam Houston High School*

The Copernican Revolution could not have occurred without mathematics, particularly the work done by Copernicus and Kepler. How long is Mars’ year? How far away is Mars? Take home some “real(ly-out-of-this-) world” problems for Algebra and Geometry. **Important: Please bring a scientific calculator.**

Grades: 9-12    Subjects: Math

## Digital Ink

*Javier Montiel, Velasco Elementary, Brazosport ISD*

NASA enthusiasts, bring your own laptop computer with PowerPoint and discover an exciting way to create and customize space related, personal, digital, thematic units with resources you might already have in your classroom! Engage your students by making fun and interactive learning experiences, based on exploration. Dabble in everything from graphic design and even learn how to make your own electronic board and document camera. Come, fly high with space inspired ingenuity...the limit is your unique imagination!

Grades: K-12    Subjects: Sci, Tech, LA, Math, SS

## NEW! Engineering Excitement with Space Life Science

*Kevin Rosenquist, JSC Space Life Science/Wyle IS&E*

Challenge your students by combining Biology, Engineering, Space, and Technology with hands-on activities. NASA JSC’s Space Life Science Education and Outreach created lessons that using Life Science concepts to spur engineering activities using LEGO NXT Mindstorms. Teach how these fields mesh to support NASA's Human Space Flight program.

Grades: 3-5    Subject: Sci & Tech

## Living On The ISS

*Brian Erwenson, [www.brianerwenson.com](http://www.brianerwenson.com)*

*Brian Jackson, Ralph McCall School*

What do the astronauts go through on the ISS? What do their bodies go through? What do they eat? Do they have any fun? What do they do with their time? Find out in this hands-on, minds-on session!

Grades: 8-12    Subjects: Sci, Tech, Math, PE, His

**TOURS LISTED ON PAGE 8**

## **L.U.N.A.R. Eggs-Prize (Landing Unique Navigable Astronaut-controlled Rover)**

*Marian Gilmore, U.S. Space & Rocket Center  
Amy Bartlett, Raymond S. Kellis High School*

Are you up for a challenge...a lunar landing challenge? Learn the history of payload protection and be the first to design a lunar lander that will descend to the moon and deploy a rover and astronaut safely. Groups will apply STEM practices and be judged on budget, safety, and workmanship.

Grades: 6-12    Subjects: Sci, Math, History

## **Houston: We Are Go for Exploration**

*Heather Paul, NASA Crew and Thermal Systems Division  
Strategic Communications Lead*

Capturing the imagination of future explorers, this presentation and activity takes the audience on a journey through spaceflight history. The interactive event highlights past, current and future technologies that are important for crewed exploration missions, including space suits. Presenters will share details on the challenges of engineering, design, and testing. **NEW THIS YEAR** -- participants will learn how to properly pack a space suit life support system with our activity, "Packing the PLSS." Participants will also learn how to request engineers from our fantastic team to present to their students and inspire the next generation of space explorers.

Grades: 6-8

## **Move It - Move It with the FAB 5**

*Holly Mentillo, NASA NEAT, Ocean Breeze ES  
Betty Bigney, NASA NEAT, Dixon ES*

Fantastic Activities By 5 NEAT Teachers returns! We are back with another hands-on, make & take workshop. You will tumble, hover, levitate, accelerate, wave and vibrate as you "Move It - Move It" with the FAB 5.

Grades: 3-5    Subjects: Sci, Tech, LA, Math

## **NASA M.E.D.I.A (Media Enhances & Develops Instructional Activities)**

*Amanda Erwenson, Hoffmann Elementary/ Northside ISD  
Vanessa Villareal, Hoffmann Elementary/ Northside ISD*

It's time to bring worthwhile media into the classroom! NASA's website provides a wealth of media that can enhance and develop lessons to be more engaging for students. Through the use of various media lessons can be brought to life for students in new ways. Teachers will receive resources and lesson plans.

Grades: K-5    Subjects: Sci, Tech, LA, Math, SS, His

## **Podcasting In Your Classroom**

*Suzanne Foxworth, Solar System Educator  
Michael Myers, Liftoff & SEEC Alumni*

This session will be hands on with participants creating mp3's and mp4's. Participants will gain knowledge of audio and video casting for their classrooms, and will receive the tools to be successful. Although, this will be a beginners level course these tools can easily be used to create

impressive projects.

Grades: K-12    Subjects: Sci, Tech, Math

## **Space Exploration – The Journey Continues!**

*Dee Mock, Baylor College of Medicine, Center for Educational Outreach*

*Christine Graham, McKinney ISD*

Spark your student's interest in space exploration by participating in activities that promote collaboration and teamwork! Create simple rockets, grappling devices, Venn Diagrams, concept maps, and models. Get ready to experience out-of-your-seat fun that will encourage your students to continue space exploration!

Grades: 3-5    Subjects: Sci, Tech, LA, Math

## **SPACE PHYSIOLOGY; A FLIGHT SURGEONS TALE**

*Dr. Bill Tarver NASA's Johnson Space Center*

How does the human body behave in the space environment? The lead NASA Constellation Program Flight Surgeon will cover the typical problems faced by astronauts and some of the obstacles ahead of us for missions to the Moon and Mars.

Grades: K-12    Subjects: Science

## **Student Payloads for Near Space Exploration**

*Luther Richardson, Columbus High School*

Bringing space into the classroom is possible with high altitude balloons. This workshop will explore ways to prepare payloads and find rides to the edge of space. This extreme environment is difficult to create in the lab, and is a great motivator in the form of a class project.

Grades: 3-12    Subjects: Science, Technology

## **There's More To Light Than Meets The Eye**

*Bev Ketron, iSPACE*

*Jean Trusedell, MSD of Decatur Township*

Join in the fun as we shed new light on the science of light! Discover the critical role light plays in space exploration, investigate properties of light and the electromagnetic spectrum with engaging activities, see and hear evidence of light beyond the visible spectrum, "make and take" a spectroscopy, and more.

Grades: K-8    Subjects: Sci, Tech, LA, Math

## **TOURS:**

### **AIRCRAFT OPERATIONS TOUR**

A plane that creates free-fall, high altitude research aircraft, T-38's, and other NASA aircraft... Johnson Space Center's Aircraft Operations has it all! Hear how aeronautics is a part of the future of space exploration.

### **FOOD LAB TOUR**

Yummy...Astronaut Food! Have you ever wondered how space food is prepared and packaged? Visit the food laboratory at Johnson Space Center and see first hand. Learn how nutritionists, dieticians, and engineers prepare food for flight.

### **HUMAN SPACE FACTORS LAB (NEW)**

Come and see a variety of laboratories used to accommodate the human factor of spaceflight from physical aspects to engineering issues.

### **LUNAR LAB**

Be one of the few who get to see the Lunar Sample Laboratory. This laboratory is used to house and analyze over 800 pounds of geologic samples from the moon.

### **MISSION CONTROL TOUR**

Once the manned spacecraft have launched, Houston Mission Control takes over. Visit this secure location and see the rooms where history happened. You will be able to see both Historic Mission Control and ISS Control rooms.

### **NEUTRAL BUOYANCY LAB TOUR**

Take a trip to the largest pool in the world where astronauts practice for their spacewalks—the NBL. This facility is the underwater training facility for the astronauts and your chance to see state-of-the-art training—the next best thing to space!

### **ROBOTICS LAB TOUR**

Space can be a dangerous place and there are corners that humans just can't reach. Come peek inside the robotics lab at Johnson Space Center and see what engineers have developed to aid the astronauts in construction and maintenance.

### **SPACE VEHICLE MOCK-UP FACILITY(SVMF)**

Explore the training grounds for the astronauts. See full size mock-ups Space Station and Orion. It also includes several other small part task trainers and mockups.

### **HABIT DEMONSTRATION UNIT (NEW)**

Tour NASA's conceptual, human-centered design studio. The HDC creates opportunities for design to solve the unique challenges of living and working in extreme environments, providing advanced concepts to the NASA community using Human Factors as a design tool to develop products, systems, and architecture.

### **ENERGY SYSTEMS TEST LABORATORY**

**(Pyrotechnics)** Visit the area that supports testing of pyrotechnically actuated devices. The facility includes explosive loading and handling room, and pyrotechnic storage in earth covered bunkers. Sophisticated equipment, such as the laser interferometer for measuring speeds of up to 10,000 m/s is available in the B352 complement of instrumentation.

### **IMPORTANT NOTICE PLEASE READ CAREFULLY**

- Your visit to the Johnson Space Center (JSC) is a special event. You will be entering working facilities subject to strict safety and security policies. Please follow the direction of your host escort at all times.
- It is essential that all members of the group stay together and not venture from their JSC escort. Wandering into restricted areas constitutes a security violation and could result in the termination of your visit.
- Your visit will require walking and standing for extended periods and may involve climbing several flights of stairs. Guests should wear comfortable, flat, fully-enclosed shoes (**no high-heels, sandals, flip-flops, slides, mules, Crocs, etc.**) during their visit. We also recommend that guests wear slacks (instead of shorts or skirts) as an additional safety precaution.
- Cameras are welcome in all facilities unless instructed otherwise. However, photography of individuals is discouraged without permission.

### **ATTENTION ALL NON-U.S. CITIZENS**

If you are not a U.S. citizen, you must fill out a JSC Security Form in order to attend the NASA Tours. Please go to the SEEC website for more information and to download the form.

# SEEC 2012 Session list

## Friday Feb 3, 2012

### 10:00AM-11:30AM

- Astonishing Astronomy: Further Your Eyes Can See
- A Space Smorgasbord
- Build and Explore the Future of Space with LEGO Education
- Exploring the Year of the Solar System
- Houston, We Have Tech Integration
- Interactive Models for Exploring Planet Discovery and Extraterrestrial Life
- International Space Station Live!
- It's A Matter Of TASTE
- Gravity: The Invisible Force
- Microgravity, Weightless, STEM, and Free-Fall in your Classroom
- Modeling the Process of Science to Design a Research Investigation
- Switched on Physics
- The Scale of the Universe
- Space Weather: The Sun's Impact on the Earth Atmosphere System
- STEM-ulating instructions with Robotics- Professional Learning with NASA Epdn
- Weightless Wonder Water Fleas

#### Tours:

- Energy Systems Test Laboratory (Pyrotechnics)
- Food lab
- Habitability and Human Factors Bldg 15
- Habitat Demonstration Unit
- Lunar Lab
- Mission Control Tour
- Neutral Buoyancy lab
- Robotics

### 12:45PM-2:15PM

- A Long Way Down: Design a Parachute
- Expedition Earth and Beyond: Using Earth For Planetary Comparisons (Double Session)
- Food For Thought
- Folding Space: The Geometry Of Origami
- Inquire! Ignite! Inspire! Using Rocketry in Elementary Science!
- Launching Teaching STEM using Microgravity and NASA
- Learners Into The Future
- ISS Construction Simulation (Double Session)
- Multiple Wavelengths; real telescope data in your classroom!

- NASA's Educator Resource Center and You! (repeat session)
- NASA's Digital Learning Network Presents "My Big Book About Space"
- Small Bodies in the Solar System
- Take a Flight- Out of the Classroom; Into the Sky! (Double Session)
- Teaching Physics by Inquiry and conceptual Challenge Model
- Tiny Moon Adventures
- Robotics Without Electronics
- Rovers, Robotics arms and Remote Control
- Second Life in your Classroom!

#### Tours:

- Habitability and Human Factors Bldg 15
- Habitat Demonstration Unit
- Mock-Up Tour
- Neutral Buoyancy Lab
- Energy Systems Test Laboratory (Pyrotechnics)
- Robotics

### 2:45PM-4:15PM

- Airplanes: The STEM of the planet
- Beyond UFOs: The Search for Extraterrestrial Life and its Astonishing Implications for Our Future
- Copernican Mathematics (Yes, There Was Math Involved)
- Digital Ink
- Engineering Excitement
- Living On The ISS
- L.U.N.A.R. Eggs-Prize (Landing Unique Navigable Astronaut-controlled Rover)
- Houston: We Are Go for Exploration
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- Student Payloads for Near Space Exploration
- There's More To Light Than Meets The Eye

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