

NASA Space Science and Exploration Track

2040, **NASA Space Science and Exploration: Houston: We Are Go for Exploration!** (NASA, Presentation), Sat 10:00 - Sat 11:00, 103A (HBGCC)

Capturing the imagination of future explorers, this presentation takes the audience on a journey through spaceflight history, highlighting the past, current, and future spacesuit technologies that astronauts need to live and work in space.

Heather Paul

2170, **NASA Space Science and Exploration: A Hitchhiker's Guide to Life on the International Space Station** (NASA, Presentation), Sat 11:00 - Sat 12:00, 103A (HBGCC)

Have you ever wanted to know the yuckiest thing about living in low-earth orbit? How about the most amazing? The things astronauts miss the most when they get back? Most importantly, have you ever wondered what do astronauts actually do up there, all day long? Bring your questions, and astronaut Cady Coleman will do her best to share the magic of her six-month mission to the International Space Station.

Cady Coleman

2300, **NASA Space Science and Exploration: Curiosity: Results from the Mars Science Laboratory** (NASA, Presentation), Sat 12:00 - Sat 13:00, 103A (HBGCC)

Dr. Paul Niles, member of the science team for the Mars Science Laboratory, will talk about the Curiosity rover on Mars, including a description of the mission, the landing, the most recent science results, and what is on the horizon.

Paul Niles

2433, **NASA Space Science and Exploration: Engineer Your NASA Career** (NASA, Presentation), Sat 13:00 - Sat 14:00, 103A (HBGCC)

NASA engineer Heather Paul shares her experiences working at NASA, including a picture slideshow of some things that may change your perspective on what engineers do, where they work, and what it takes to get the job done.

Heather Paul (M)

2570, **NASA Space Science and Exploration: Living the Dream at NASA: A Woman's Perspective** (NASA, Panel), Sat 14:00 - Sat 15:00, 103A (HBGCC)

Cady Coleman is a NASA astronaut who has flown 3 missions, including a 6-month stay aboard the International Space Station. Heather Paul is a NASA engineer known for her work on space suit life support systems. Tracy Thumm is a NASA scientist who helps coordinate science collaborations aboard the International Space Station. Come hear them discuss what they love about their jobs, and how they got where they are now.

Cady Coleman, Alexis Latner (M), Heather Paul, Tracy Thumm

2700, **NASA Space Science and Exploration: Friend or Foe? Near-Earth Asteroid Exploration and Planetary Defense** (NASA, Panel), Sat 15:00 - Sat 16:00, 103A (HBGCC)

NASA recently announced its Grand Challenge to protect Earth from hazardous objects and is currently tracking more than 10,000 near-Earth asteroids and comets. NASA is also considering sending astronauts to these objects since they enable testing of deep space exploration systems and serve as stepping stones to Mars and beyond. The panelists will discuss NASA's efforts to understand the near-Earth object population and whether these objects represent opportunities or threats for humanity.

Paul Abell, Arlan Andrews (M), William Ledbetter

2835, **NASA Space Science and Exploration: The NASA Dawn Mission to 4 Vesta: A Geologist's Dream Come True** (NASA, Presentation), Sat 16:00 - Sat 17:00, 103A (HBGCC)

A long, long time ago in a state far, far away, a young geochemistry graduate student began his research career studying a clan of igneous meteorites thought to have come from the asteroid 4 Vesta. Little did he know that NASA would launch a spacecraft mission to that very asteroid in his "greybeard" years, or that he would be a member of the mission science team. Now, NASA scientist David Mittlefehldt will describe what the Dawn spacecraft's 14 months in orbit around Vesta have taught us about this asteroid.

David Mittlefehldt

2845, **Spacesuits/Spaceships and Astronauts!** (Rangernauts, Panel), Sat 17:00 - Sat 18:00, 203A (HBGCC)

Meet Astronaut Cady Coleman and EVA spacesuit designer Heather Paul. And have them review your space ship designs! (A Rangernauts item)

Cady Coleman (M), Heather Paul

2866, **NASA Autograph Session** (NASA, Autographing), Sat 16:00 - Sat 17:00, Prefunction Ball Rm A (HBGCC)

Cady Coleman and Heather Paul will be signing autographs
Cady Coleman, Heather Paul

2955, **NASA Space Science and Exploration: The View from Inside the Helmet – Life as a Space Suit Test Subject** (NASA, Presentation), Sat 17:00 - Sat 18:00, 103A (HBGCC)

Before astronauts take hardware into space, scientists and engineers are enlisted to test space hardware and discover bugs that may be easy to fix on the ground, but life threatening or expensive to fix in space. Dean Eppler spent a decade experimenting with NASA's advanced planetary space suits, ranging from geologic activities at Meteor Crater to testing the ergonomics of rover seats at lunar and Martian gravities. This presentation will show what it's like to work in a space suit, and why they are designed and built the way they are.

Dean Eppler

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3327, **NASA Space Science and Exploration: Hunting Meteorites at the Bottom of the World** (NASA, Presentation), Sun 10:00 - Sun 11:00, 103A (HBGCC)

Did you know that the United States sends teams of hardy volunteers to Antarctica every austral summer to collect meteorites from the polar plateau. As a veteran of four such expeditions, David Mittlefehldt will describe hunting for meteorites on the Earth's harshest continent, and dealing with day-to-day activities in the field when the high only reaches 5 degrees Fahrenheit.

David Mittlefehldt

3460, **NASA Space Science and Exploration:Ready - Set - GO! How to prepare for 6 months in Low-Earth Orbit – or to Infinity and Beyond – right here on Mother Earth!** (NASA, Presentation), Sun 11:00 - Sun 12:00, 103A (HBGCC)

Even here on Terra Firma, we can find good environments to rehearse our journeys off-planet. Join astronaut Cady Coleman as she discusses the knowledge she took to the International Space Station – knowledge she gained while meteorite hunting in Antarctica, performing undersea tele-robotic surgery in the Aquarius habitat, seeking underwater volcanoes aboard the Nautilus Ocean Exploration vessel, and even camping with her extended family.

Cady Coleman

3595, **NASA Space Science and Exploration: Human Exploration of the Solar System: The Moon as a Stepping Stone to Mars** (NASA, Presentation), Sun 12:00 - Sun 13:00, 103A (HBGCC)

The Mars Design Reference Mission (MDRM) lays out possible approaches for human missions to Mars. In conjunction with previous studies, the MDRM identifies three critical issues to be addressed by carefully structured and executed lunar expeditions that will help us find our way to the Red Planet.

Wendell Mendell

3715, **NASA Space Science and Exploration: When Science, Space Exploration, and Speculative Fiction Collide** (NASA, Panel), Sun 13:00 - Sun 14:00, 103A (HBGCC)

Come hear astronaut Cady Coleman and a distinguished panel of speculative fiction authors and editors give their perspectives on the interplay of science and speculative fiction; the role of genre for inspiring innovation and change; and the exploration of diversity and inclusion.

John Chu, Cady Coleman, Marco Palmieri, Stanley Schmidt (M), Ann VanderMeer

3845, **NASA Space Science and Exploration: Is the Sky Falling? An Update on the Chelyabinsk Asteroid Impact Event** (NASA, Presentation), Sun 14:00 - Sun 15:00, 103A (HBGCC)

On February 15, 2013, the planetary science community eagerly awaited the close flyby of near-Earth asteroid 2012 DA14, which passed inside Earth's geostationary satellite ring. However, several hours prior to its arrival, a 17-20 meter asteroid exploded high above Chelyabinsk, Russia. This presentation will provide the latest information about these two asteroids, the effects of the impact event on the ground, and why the Chelyabinsk asteroid was not detected prior to its encounter with the Earth.

Paul Abell

3965, **NASA Space Science and Exploration: How Did We Really Do Apollo - A Brief, Selective History** (NASA, Presentation), Sun 15:00 - Sun 16:00, 103A (HBGCC)

The Apollo Program is one of the highest technical achievements of this or any era, but much of what the program accomplished is shrouded behind media hype, misunderstanding, and outright ignorance. As an undergraduate, Dean Eppler was involved in the science towards the end of Apollo, and has since become a dedicated researcher into what we really did (as opposed to what people think we did) during the Apollo program. This talk gives his personal insight into what made the Apollo program a success, and what lessons should be applied for future space exploration activities.

Dean Eppler

3972, **NASA Autograph Session** (Science, Autographing), Sun 15:00 - Sun 16:00, Prefunction Ball Rm A (HBGCC)

Astronaut Cady Coleman will be signing autographs
Cady Coleman

4095, **NASA Space Science and Exploration: What's up? Research and Technology on the International Space Station** (NASA, Presentation), Sun 16:00 - Sun 17:00, 103A (HBGCC)

Ever wonder what we're up to on the International Space Station? Come learn about the scientific research we're doing with our International partners onboard the ISS.

Tracy Thumm

4205, **NASA Space Science and Exploration: Pictures of Disaster: When Image Analysis has been the Last, Best Hope of Human Spaceflight** (NASA, Presentation), Sun 17:00 - Sun 18:00, 103A (HBGCC)

This presentation looks at imagery and analysis of events that were (or might have become) disasters. Analysts have answered questions such as : Is it safe for the Space Shuttle to land? Can we continue to operate this way, safely? Can we do this, with that? What happened? What might still happen?

Ed Oshel