

MONDAY MAR 2		
Ballroom C/D	Ballroom B	Ballroom A
<p>7:00-7:45am HOT BREAKFAST BUFFET (Provided) Includes “Student Mentorship” Table</p>		
<p>8:00-10:00am <u>OPENING SESSION, Part 1</u> (Chair: Karina Drees)</p> <p>Welcome:</p> <p>Adam Hamilton, President and Chief Executive Officer, Southwest Research Institute (5 min)</p> <p>Alan Stern, Associate Vice President, Southwest Research Institute (25 min) “Flying Researchers and Educators Will Revolutionize Commercial Suborbital Spaceflight Capabilities”</p> <p>Kelvin Coleman, Deputy Associate Administrator, FAA Office of Commercial Space Transportation (30 min) “The Sub-Orbital Revolution: Safely Easing the Path to Flight”</p> <p>George Whitesides, Chief Executive Officer, Virgin Galactic (30 min) “Virgin Galactic: Opening Space for All”</p> <p>Steve Squyres, Chief Scientist, Blue Origin (30 min) “Blue Origin: Building a Road to Space.”</p>		
<p>10:00-10:30am Networking Break Sponsored by Northrop Grumman</p>		
<p>10:30am-12:00pm <u>OPENING SESSION, Part 2</u> (Chair: Maj. Gen. Jay Lindell)</p> <p>Eric Stallmer, President, Commercial Spaceflight Federation (25 min) “Commercial Reusable Suborbital Platforms: Game-Changing Platforms”</p> <p>Steven Collicott, Director, Commercial Spaceflight Federation Suborbital Applications Research Group “Advocacy and Progress by the Sub-orbital Applications Researchers Group”</p> <p>Alan Stern, Introduction of NASA Administrator</p> <p>Jim Bridenstine, Administrator, NASA Headquarters (30 min) “A Conversation with NASA Administrator, Jim Bridenstine”</p>		

MONDAY MAR 2		
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<p>12:00-1:00pm LUNCH BREAK (on your own)</p>		
<p>1:00-2:15pm <u>SESSION</u> (Chair: Sirisha Bandla)</p> <p>Christopher Baker, Program Executive, NASA Flight Opportunities (15 min) “The Changing Space of Space”</p> <p>Ryan Hartman, Chief Executive Officer, World View Enterprises (30 min) “World View Update and Challenges to be Addressed in the Stratospheric Economy”</p> <p>Kevin Tucker, President, Near Space Corporation (15 min) “Near Space Corporation Overview”</p> <p>Scott Glaser, Senior Vice President of Operations, Flight Research, Inc. (15 min) “Custom Space: Project Dedicated Microgravity Research Flights”</p>		
<p>2:15-2:30pm Poster Lightning Round 1-min Talks (Chair: Addie Dove)</p>		
<p>2:30-3:00pm Networking Break Sponsored by Northrop Grumman</p>		

MONDAY MAR 2		
Ballroom C/D	Ballroom B	Ballroom A
<p>3:00-4:00pm <u>PANEL:</u> K-12 Education & Outreach (Chair: Steve Heck)</p> <p>Rachel Lyons, Executive Director, Space for Humanity</p> <p>Steven Collicott, Professor and SARG Director, Purdue University</p> <p>Marsh Cuttino, Founder and Chief Executive Officer, Orbital Medicine</p> <p>Todd Smith, Senior Space Physicist, Johns Hopkins University Applied Physics Laboratory</p>	<p>3:00-4:30pm <u>PANEL:</u> Spaceports (Chair: Tommy Sanford)</p> <p>Todd Lindner, Director, Cecil Spaceport</p> <p>Dave Ruppel, Director Colorado Air & Space Port</p> <p>Karina Drees, Chief Executive Officer, Mojave Air & Space Port</p> <p>Scott McLaughlin, Director of Business Development Spaceport America</p> <p>Ryan Hartman, Chief Executive Officer, Tucson Spaceport</p>	<p>3:00-5:30pm <u>SESSION:</u> Commercial Applications, Markets & Policy (Chair: Cindy Conrad)</p> <p>3:00 – M. Brian Barnett, Solstar Space Co, “Flight Demonstration Results of Solstar’s Bidirectional Commercial Internet Service for Payloaders and Payload Specialists”</p> <p>3:15 – Naomi McGill, Rainbow Centres, “Global : Free Space Optical Network”</p> <p>3:30 – Matt Gohd, Zero-G Corp, “Hands on Zero-G”</p> <p>3:45 – Charles Lauer, Rocketplane Global, Inc, “A Second Generation Suborbital Research Platform for Large Scale Microgravity Flight Experiments”</p> <p>4:00 – Misuzu Onuki, Space Access Corp, “Commercial Suborbital Status – Both Vehicles and Spaceports in Japan”</p> <p>4:15 – Marcus Lindh, Swedish Space Corp, “SubOrbital Express – A rideshare concept for everyone” (Presented by Marcus Lindh)</p> <p>4:30 – Jeffery Greenblatt, Spacexchange LLC, “Point-to-Point (P2P) Transportation Market Forecasts and Implications for the LEO Economy”</p>
<p>4:00-6:00pm <u>SESSION:</u> Part 1 Education & Outreach (Chair: Rachael Lyons)</p> <p>4:00 – Yajaira Sierra-Sastre, Project PoSSUM, “Project PoSSUM: Education and Outreach Initiatives Increase Representation of Underserved and Underrepresented Communities in the Field of Astronautics”</p> <p>4:15 – Barbra Sobhani, Red Rocks Community College, “Community College Partnership for student-led Undergraduate Suborbital Research”</p>	<p>4:30-5:30pm Provider/User Track: Zero Gravity Corporation (Chair: Michelle Peters)</p> <p>George Pantalos, Professor of Bioengineering, University of Louisville</p> <p>Dan Durda, Principal Scientist, Southwest Research Institute</p> <p>Stephen Steiner, President & CEO of Aerogel Technologies, LLC</p>	

MONDAY MAR 2		
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<p>4:30 – Stacie Barbarick, Red Rocks Comm College, “Additive Manufacturing Characterization in Suborbital Spaceflight and Re-entry”</p> <p>4:45 – Andrei Zagrai, New Mexico Institute of Mining and Technology, “From Sounding Rocket to Suborbital and Orbital Experiments: Structural Health Monitoring Research and Education”</p> <p>5:00 – Liz Kennick, President, Teachers in Space, “Teachers in Space: Standardized Classroom Cubekits for Balloon, Glider, Suborbital Flights and Orbital Deployment”</p> <p>5:15 – Joshua Cole, Ball Aerospace, “STEM Students go Suborbital with BIRST Intern Program”</p> <p>5:30 – Ross Carroll, Arkansas State University, “Arkansas BalloonSAT: Solar Eclipse Chasing & STEM Outreach”</p> <p>5:45 – Laura Forczyk, Astralytical, “Marketing Suborbital Spaceflight to the Next Generation: Millennial Insights”</p>	<p>Provider/User Track: Zero Gravity Corporation (Continued)</p> <p>5:30-5:45pm University of Central Florida/Florida Space Institute (Chair: Michelle Peters)</p> <p>Julie Brisset, Florida Space Institute “The Florida Space Institute”</p>	<p>4:45 – Kolbjørn Blix, Andoya Space Center, “The Grand Challenge Initiative – CUSP and M/LT projects and status at Andøya Spaceport”</p> <p>5:00 – Mike Hitch, NASA, “NASA Goddard Space Flight Center, Wallops Flight Facility Suborbital Carriers to Support Science and Technology”</p> <p>5:15 – Charles Miller, Spaceport America, “Spaceport America: A Unique Inland Location for Flexible Suborbital Launch and Microgravity Research”</p>
<p>6:00-7:00pm POSTER SESSION II Hors d'oeuvres & Beverages Provided (Location: Private Dining Room)</p>		

TUESDAY MAR 3		
Ballroom C/D	Ballroom B	Ballroom A
7:00-7:45am HOT BREAKFAST BUFFET (Provided) Includes "Student Mentorship" Table		
8:00-9:30am <u>SESSION:</u> (Chair: Jason Kalirai) James Reuter, Associate Administrator, NASA Space Technology Mission Directorate (30 min) "Updates from NASA Space Tech" David McBride, Center Director, NASA Armstrong Flight Research Center "Considering Space from an Aeronautics Center Perspective" Dan Dumbacher, Executive Director, American Institute of Aeronautics and Astronautics "Building the Future Space Economy – Let's Get on With It!"		
9:30-10:00am Networking Break Sponsored by Blue Origin		
10:00-11:00am <u>PANEL:</u> REM Training for Flight (Chair: Dan Durda) Beth Moses, Chief Astronaut Instructor, Virgin Galactic Michelle Peters, Director Research Education Inflight, Zero-G Corporation	10:00-10:30am <u>SESSION:</u> (Chair: Todd Smith) Jason Kalirai, Johns Hopkins University Applied Physics Lab "Space Exploration at Johns Hopkins APL" 10:30am-12:00pm <u>Provider/User Track:</u> Johns Hopkins University Applied Physics Lab (Chair: Todd Smith)	10:00-11:15am <u>SESSION: Microgravity & Life Sciences</u> (Chair: Anna-Lisa Paul) 10:00 – Ricard Gonzalaz, ELGRA, "The ELGRA and suborbital research" 10:30 – Yajaira Sierra-Sastre , PoSSUM, "PoSSUM Space Science Experiments in Lunar and Microgravity Environments aboard the Falcon-20 Reduced Gravity Aircraft" 10:45 – Torin Clark, Univ of Colorado, "A gravity- dose response: Human spatial orientation perception in hypo-gravity"
11:00am-12:15pm <u>SESSION:</u> Part 2: Education & Outreach (Chair: Steve Heck)		

TUESDAY MAR 3		
Ballroom C/D	Ballroom B	Ballroom A
<p>11:00 - Chris Gilly, Univ of Colorado, “Space Weather Education at the Univ of Colorado Boulder”</p> <p>11:15 – Michael Schmidt, Sovaris Aerospace: Advanced Pattern Analysis & Counter-measures Group, “The First Rwandan in Space: How Commercial Spaceflight Can Advance Positive Social Change”</p> <p>11:30 - Bobby Russell, Quest for Stars, a 501(3)c STEAM NonProfit, “3rd Year in the life of a Commercial Space Student Payload”</p> <p>11:45 - Ed Harris, Energy Made Visible, “Fostering Creative Art + Space Science Collaborations”</p> <p>12:00 - Todd Smith, Johns Hopkins Univ Applied Physics Lab, “Elementary school scientific experiments on commercial suborbital spacecraft”</p>	<p>Jason Kalirai, Mission Area Executive, Johns Hopkins University Applied Physics Laboratory</p> <p>Steven Arnold, Deputy Mission Area Executive, Johns Hopkins University Applied Physics Laboratory</p> <p>H. Todd Smith, Senior Scientist, Johns Hopkins University Applied Physics Laboratory</p> <p>Karl Hibbitts, Senior Scientist, Johns Hopkins University Applied Physics Laboratory</p>	<p>11:00 – Anna-Lisa Paul, Univ of Florida, “Genomics Experiments in Human-Tended Suborbital Spaceflights: Using Shuttle and ISS Legacy Sample Handling”</p> <p>11:15am-12:00pm SESSION: Planetary Science (Chair: Constantine Tsang)</p> <p>11:15– Akbar Whizin, Southwest Research Institute, “The Particle Accretion in Microgravity Experiment”</p> <p>11:30 – Julie Brisset, Univ of Central FL, “The ICAPS Sounding Rocket Experiment”</p> <p>11:45 – Dan Durda, Southwest Research Institute, “Box-of-Rocks Experiment II”</p>
<p>12:00-1:30pm LUNCH BREAK (on your own)</p>		

TUESDAY MAR 3		
Ballroom C/D	Ballroom B	Ballroom A
<p>1:30-2:30pm <u>PANEL:</u> Suborbital to ISS (Chair: Laura Forczyk)</p> <p>Katy Hurlbert, Principal Investigator for SFEM-2, NASA/Johnson Space Center</p> <p>Ken Shields, Chief Operating Officer, ISS US National Laboratory</p> <p>Kirk Shireman, ISS Program Manager, NASA</p> <p>Peter Lee, Physician & Assistant Professor, Ohio State University</p>	<p>1:30-3:00pm <u>Provider/User Track:</u> Blue Origin</p> <p>“New Shepard Payload Capabilities”</p> <p>Erika Wagner, Payload Sales Director, Blue Origin</p> <p>Ben Lewis, Payload Integration Manager, Blue Origin</p> <p>---</p> <p>“Engaging the Next Generation: Education Payloads on New Shepard”</p> <p>Steve Heck, President/CEO, The Arete STEM Project</p> <p>H. Todd Smith, Senior Space Physicist, Johns Hopkins University Applied Physics Laboratory</p> <p>Elizabeth Kennick, President, Teachers in Space</p> <p>---</p> <p>“Getting to Go!: A Proposal Workshop”</p> <p>Erika Wagner, Payload Sales Director, Blue Origin</p> <p>Ben Lewis, Payload Integration Manager, Blue Origin</p>	<p>1:30-2:30pm <u>SESSION:</u> Atmospheric, Ionospheric, Aeronomical Sciences (Chair: Glenn Laurent)</p> <p>1:30 – Bob McCoy, Univ of Alaska Fairbanks, “Alaska – Low-cost Gateway to Space”</p> <p>1:45 – Jason Reimuller, Project PoSSUM, Inc., “PoSSUM NLC Research from Balloon and High-Performance Jet”</p> <p>2:00 – Charles Hibbetts, Johns Hopkins Univ Applied Physics Lab, “The Integrated Remote Imaging System Commercial Suborbital Mission”</p> <p>2:15 – Sean Bryan, Arizona State Univ, “CubeSounder: A Low-SWaP-C Weather Cubesat for 3D Water Vapor and Temperature Sounding”</p>
<p>2:30-3:00pm <u>SESSION: Part 1 Technology</u> (Chair: Constantine Tsang)</p> <p>2:30 – Taichi Yamazaki, ASTRAX, Inc., “Mission Support Control Center”</p> <p>2:45 – Martina Faenza, Nammo Raufoss AS, “Nucleus: the Norwegian Sounding Rocket for Experiments in the Mesosphere”</p>		<p>2:30-3:00pm <u>SESSION:</u> (Chair: Tommy Sanford)</p> <p>Alan Ladwig, Author “See You in Orbit? Our Dream of Spaceflight”</p>

TUESDAY MAR 3		
Ballroom C/D	Ballroom B	Ballroom A

3:00-3:30pm Networking Break Sponsored by Blue Origin		
<p>3:30-4:00pm <u>SESSION:</u> Part 2 Technology (Chair: Constantine Tsang)</p> <p>3:30 – Frank Treveno, Exodus Space, “Innovative Reusable Horizontal Takeoff/Horizontal Landing (HTHL), Two- Stage-To-Orbit (TSTO) Spaceplane”</p> <p>3:45 – Jeroen Wink, Dawn Aerospace, “Development of a winged reusable sounding rocket”</p>	<p>3:30-5:00pm <u>Provider/User Track:</u> Virgin Galactic (Chair: Sirisha Bandla)</p> <p>“Fireside Chat”</p> <p>Maj. Gen. Stefano Cont Embassy of Italy</p> <p>Richard DalBello, Virgin Galactic</p> <p>---</p> <p>“SS2 Overview”</p> <p>Danny Ambriz, Virgin Galactic</p> <p>Richard Ward, Virgin Galactic</p>	<p>3:30-5:00pm <u>PANEL:</u> Defense Applications in Suborbital Space (Chair: Erika Wagner)</p> <p>Randy Riddle, RSLP Chief Engineer (Acting), USAF SMC/LEX</p> <p>Todd Pedersen, AFRL Space Vehicles Directorate, Earth and Atmospheric Sciences, AFRL/RVBX</p> <p>Terry Hendricks, Founder, Exo-Atmospheric Technologies</p>
<p>4:00-5:00pm <u>PANEL:</u> NASA Flight Opportunities, “Leveraging Flight Opportunities to Advance Precision Landing Technologies (Chair: John Carson)</p> <p>Behçet Açıkmese, Professor – Aeronautics & Asronautics, University of Washington</p> <p>Jeff Herath, Deputy Director for Flight Projects, NASA Langley</p> <p>Andrew Horchler, Principal Research Scientist, Astrobotic</p> <p>Courtney Mario, Principal Member of Technical Staff, Draper</p>		

TUESDAY MAR 3		
Ballroom C/D	Ballroom B	Ballroom A
<p>5:00-5:45pm SESSION: Part 1 Experiment Results from NASA FO (Chair: Steven Collicott)</p> <p>5:00 – Robert Ferl, Univ of Florida, “Imaging During Suborbital Flights Suggest Gravity Transitions Generate Rapid Physiological Responses in Plants”</p> <p>5:15 – Kevin Crosby, Carthage College, “Preliminary Results from the Modal Propellant Gauging Experiment on New Shepard P9”</p> <p>5:30 – Kevin Supak, Southwest Research Institute, “Using Tapered Channels to Improve LAD Performance: Suborbital Testing Results”</p>	<p>5:00-5:40pm SESSION: (Chair: Constantine Tsang) Maj. Gen. Stefano Cont, Embassy of Italy, “Italian Perspective on Suborbital Flights”</p> <p>5:40-6:00pm Poster Lightning Round 1-min Talks (Chair: Addie Dove)</p>	<p>5:00-6:00pm PANEL: Human-Tended REM (Chair: Marsh Cuttino)</p> <p>Erika Wagner, Payload Sales Director, Blue Origin</p> <p>Michelle Peters, Director and Supervisor of Inflight, Zero Gravity Corporation</p> <p>Laura Forzyck, Space Professional, Consultant and Author, Astralytical</p> <p>Dan Durda, Principal Scientist, Southwest Research Institute</p> <p>Charlie Walker, Commercial Astronaut</p>
<p>6:00-7:00pm POSTER SESSION III Hors d'oeuvres & Beverages Provided (Location: Private Dining Room)</p>		<p>6:30-8:00pm VIP and Sponsors Reception sponsored by Virgin Galactic</p>

WEDNESDAY MAR 4

Ballroom B

Ballroom A

7:00-7:45am

HOT BREAKFAST BUFFET (Provided) sponsored by Virgin Galactic

8:00-10:15am

**SESSION: Part 3 Technology and Technology Testing
(Chair: Beth Moses)**

8:00 – Dewey Russell, Near Space Corp, “Flight Testing with Heavy Lift Balloons”

8:15 –

8:30 – Eliot Young, Southwest Research Inst, “Results from the Quarter-Scale THAI-SPICE balloon flight: Implications for athermalizing balloon-borne telescopes”

8:45 – Dale Amon, Immortal Data, Inc, “High Data Rates and Small Loggers: The Difficulties of Logging and streaming High Rate Real Time Data”

9:00 – Benjamin Lumpp, Purdue Univ, “Suborbital Testing of a Micropropulsion System for Small Satellites”

9:15 – Mark Shumbera, Alpha Space Test & Research Alliance, “MISSE Platform for Orbital Testing: The Next Step”

9:30 – Kyle Foster, Project PoSSUM, Inc., “PoSSUM Evaluation of a Commercial Extravehicular Activity Space Suit in Lunar and Microgravity Environments”

9:45 – George Pantalos, University of Louisville, “Glovebox for Suborbital and Parabolic Flight Research”

10:00 – Marieke Spiegleman, Red Rocks Community College, Arapahoe Community College, “Virtual Reality Space Experience”

8:00-9:30am

**PANEL: NASA Flight Opportunities
"Successfully Navigating Flight Opportunities
to Advance Technology"
(Chair: John Kelly)**

Anne Meier, Deputy Chief of the Exploration Systems and Development Office, NASA Kennedy Space Center

Brock LaMeres, Professor – Electrical & Computer Engineering and Director, Montana Engineering Education Research Center

Montana State University

Lisa Valencia, Project Manager – Autonomous Flight Termination System, NASA

Andrei Zagrai, Chair, eMechanical Engineering, New Mexico Tech

9:30-10:00am

**SESSION:
(Chair: Bobby Russell)**

June Scobee Rodgers, Founding Chair, Challenger Center for Space Education, “Challenger Center: Our Next Horizon”

Jason Reimuller, Executive Director, International Institute for Astronautical Sciences, "Project PoSSUM: Redefining Citizen-Science and Engaging Our World through the Power of Astronautics"

WEDNESDAY MAR 4

Ballroom B

Ballroom A

10:00-10:30am

Networking Break sponsored by World View Enterprises

10:30am-12:00pm

Provider/User Track: World View

(Chair: Alan Stern)

Matteo Genna, Senior Vice President – Engineering, “World View Capabilities”

Tom Pirrone, Senior Vice President – Business Development, “World View Use Cases”

10:30-11:30am

SESSION: Part 2

**Experiment Results from NASA Flight Opportunities
(Chair: Steven Collicott)**

10:30 – Craig DeForest, Southwest Research Institute, “Lowering Barriers to Near-Space Heliophysics with B-SSIPP”

10:45 – Kaitlyn Hauber, Purdue University, “Thoracic PARG, Patient Aspiration in Reduced Gravity”

11:00 – Adrienne Dove, University of Central Florida, “Testing in Asteroid-Relevant Environments aboard Sub-Orbital Flights for Technology Development and Science Applications”

11:15 – Josh Colwell, University of Central Florida, “Early Stages of Planetary Formation in Microgravity Experiments”

WEDNESDAY MAR 4

Ballroom B

Ballroom A

Provider/User Track: World View
(Continued)

11:30am-12:30pm

SESSION:
Human Biomedical Aspects
(Chair: TBD)

11:30 – G. Pantalos, University of Louisville, “Surgical Capabilities Development for Reduced Gravity”

11:45 – Marsh Cuttino, M.D., “Orbital Medicine, Space Panic: Dealing with Panic in Spaceflight”

12:00 – Janna Kaplan, Brandeis University, “The First Four Minutes: Human Factors in Suborbital Spaceflight”

12:15 – Casey Stedman, Association of Spaceflight Professionals, “Crew Resource Management Training for Suborbital Spaceflight Operations”

12:00-12:30pm

SESSION:
(Chair: Karina Drees)

Ken Shields, Chief Operating Officer, ISS National Laboratory
“International Space Station U.S. National Laboratory: Supporting Research and Economic Development In Low Earth Orbit”

Mark Bitterman, VP of Government Relations and Business Development, Stratolaunch LLC
“Stratolaunch is Back!”

12:30-1:15pm

Light Lunch sponsored by World View Enterprises

WEDNESDAY MAR 4

Ballroom B

Ballroom A

1:30-2:40pm

CLOSING SESSION

(Chair: Alan Stern)

Jeff Foust, Editor, The Space Review (20 min)

“The Potential Futures of Commercial Suborbital Research”

Beth Moses, Chief Astronaut Instructor, Virgin Galactic (20 min)

“Virgin Galactic VF01 Cabin Test”

Dylan Taylor, Founding & Chairman of the Board, Space for Humanity (20 min)

“The Future of Humanity in Space: Its Impact on Our Industry and Our Society”

Alan Stern, Associate Vice President, Southwest Research Institute (10 min)

2:25-3:30pm

CLOSING RECEPTION

Hors d'oeuvres & Beverages Provided

5:30-7:00pm

**Informal Happy Hour: Organized by Advanced Space
in the Tap Room & Terrace (Omni hotel bar)**