

**8:00 – 8:25 a.m. WELCOME AND INTRODUCTION: GRAND BALLROOM**

**Thomas Sharp, Associate Director, ASU/NASA Space Grant, Arizona State University**

TIME	<b>Session A: Earth and Environmental Science/Engineering</b> <b>Moderator: Barron Orr</b> <b>Associate Director, UA/NASA Space Grant</b> <b>Office of Arid Land Studies, University of Arizona</b> <b>Room: Arizona</b>	<b>Session B: Exploration Systems Engineering: Biological, Materials, Optical and Electrical</b> <b>Moderator: Gene Giacomelli</b> <b>Controlled Environment Agricultural Center, University of Arizona</b> <b>Room: Canyon</b>	<b>Session C: Topics in Math, Physics and Chemistry</b> <b>Moderator: Hilairy Hartnett</b> <b>School of Earth and Space Exploration, Arizona State University</b> <b>Room: Desert</b>	<b>Session D: Aerospace Technology</b> <b>Moderator: Thomas Sharp</b> <b>Associate Director, ASU/NASA Space Grant</b> <b>School of Earth and Space Exploration, Arizona State University</b> <b>Room: University</b>
8:25 – 8:40	<b>ROOM SETUP</b>			
8:40 – 8:50	[A1] Mobile Application Of Climate And Health Modeling <i>Sonia Sen</i>	[B1] Evaluation Of Power Harvesting Potential Of A NiMnGa Magnetic Shape Memory Alloy <i>Jason Dikes</i>	[C1] Tunneling Properties Of Superconducting Tunnel Junctions <i>Patrick Murray</i>	[D1] Finite Element Analysis Of Plasticity- And Roughness- Induced Fatigue Crack Closures <i>Erik Booker</i>
8:50 – 9:00	[A2] A 4500-year-long Record From South San Juan Mountain Productivity And Temperature; Lake Sediment Cores Of Blue Lake <i>Jesse Martinez</i>	[B2] Designing An Amateur Radio Flight Computer For High Altitude Balloon Flights <i>Clayton Jacobs</i>	[C2] Numerical Development For Modeling Of Electro-Thermal Flow <i>Daniel Simmons</i>	[D2] Smarter Testing Using Approximate Dynamic Programming For Space Systems <i>Stephanie Zawada</i>
9:00 – 9:10	[A3] Numerical Simulation Of A Heavy Local Rain Event In Southern Switzerland <i>Justin Singleton</i>	[B3] Dual Layer Stimulus Responsive Hydrogels <i>Jacqueline Sanchez</i>	[C3] Organic Thiol Passivation Of Gallium Arsenide <i>Luke Yarnall</i>	[D3] Modeling Flight Dynamics Equations About An Asteroid <i>Michelle Walker</i>
9:10 – 9:20	[A4] North American Monsoon Experiment Analysis <i>Christian Mihuc</i>	[B4] Interfacial Chemistries To Improve Matrix Fiber Adhesion In High Temperature Polymer Matrix Composites <i>Jessica Gardin</i>	[C4] A New Graceful Labeling For Pendant Graphs <i>Alessandra Graf</i>	[D4] Implementing Remote Procedure Calls For Spacecraft Command And Control <i>Amanda Duron</i>
9:20 – 9:30	[A5] Using High Resolution Satellite Phenology To Identify Grassland Response To Wildfire During Different Climate Periods <i>Michelle Coe</i>	[B5] Atom Beam Detector For Atomic Polarizability Measurements <i>Adam DeBolt</i>	[C5] Design Of Modular Robot For Use In Pipeline Repair <i>Nicholas Valverde</i>	[D5] EagleSat, Embry-Riddle Cube Satellite / Project Manager Presentation <i>Michael Matyas II</i>

<b>9:30 – 9:40</b>	[A6] Complex Response Of Grassland Soil Moisture To Extreme Precipitation Patterns <i>John Hottenstein</i>	[B6] Evaluating LEDs As Supplemental Lighting Source For Lunar Greenhouse Prototype <i>Caitlyn Hall</i>	[C6] Controlled Morphology Of Nano-Thin Film Silicon Integrated With Environmentally Responsive Hydrogels <i>Eric Stevens</i>	[D6] ERAU CubeSat 1: [High Voltage Solar Panels] <i>Darin Baker</i>
<b>9:40 – 9:50</b>	[A7] The Impact Of Invasive Plant Species On Carbon Storage And Reservoirs <i>Carly Farr</i>	[B7] Synthesis Of Temperature-Responsive Polystyrene-Gold Core-Shell Nanoparticles Via One-Step Pickering Emulsion Polymerization <i>Thao Ngo</i>	[C7] Evaluation Of Reverse Draw Solute Flux Through Commercially Available Membranes In Forward Osmosis Processes <i>Kaitlin Johnson</i>	[D7] ERAU CubeSat 2: Electrical Power System <i>Kevin Jordan</i>
<b>9:50 – 10:00</b>	[A8] The Effects Of Satellite And Terrain Scale On Modeled Soil Erosion Estimates In A Desert Environment <i>Philip Sparks</i>	[B8] An Empirical Analysis Of The Steckler Lunar Greenhouse Phase II Development <i>Marianna Yanas</i>	[C8] Synthesis And Development Of Bio-Nanoparticles For Diagnostic And Drug Delivery <i>Stella Shin</i>	[D8] Nanosecond Pulse Plasma Discharges For Aerodynamic Flow Control <i>Tianna Stefano</i>
<b>10:00 – 10:20</b>	<b>MORNING BREAK: PRICKLY PEAR</b>			
	<b>Session A: Earth and Environmental Science/Engineering (cont.)</b> <b>Moderator: Netra Chhetri</b> <b>Geography and Consortium for Science Policy and Outcomes,</b> <b>Arizona State University</b> <b>Room: Arizona</b>	<b>Session B: Exploration Systems Engineering: Biological, Materials, Optical and Electrical (cont.)</b> <b>Session G: Education and Public Outreach</b> <b>Moderator: Paul Geissler</b> <b>Astrogeology, US Geological Survey</b> <b>Room: Canyon</b>	<b>Session C: Topics in Math, Physics and Chemistry (cont.)</b> <b>Session F: Planetary Science</b> <b>Session H: Astronomy &amp; Space Physics</b> <b>Moderator: Nadine Barlow</b> <b>Associate Director, NAU/NASA Space Grant</b> <b>Physics and Astronomy, Northern Arizona University</b> <b>Room: Desert</b>	<b>Session E: ASCEND &amp; HASP</b> <b>Moderator: Denise Meeks</b> <b>Science, Pima Community College</b> <b>Room: University</b>
<b>10:20 – 10:30</b>	[A9] Characterization Of Land Cover Using SPOT Satellite Imagery And Terrain Variables In Rivas, Nicaragua <i>Bo Stevens</i>	[B9] Continuous Stress Sensor Biocompatibility <i>Shantel Shaver</i>	[C9] Understanding The Regenerative Potential Of Adipose And Cord Tissue Derived Mesenchymal Stem Cells For Long-Term Space Travel <i>Jorge Alvarez</i>	[E1] ERAU ASCEND <i>Mo Sabliny</i>

<b>10:30 – 10:40</b>	[A10] Fire Disturbance Effects On Native Thistle <i>Cirsium Arizonica</i> And Non-Native Invasive Thistle <i>C. Vulgare</i> <i>Chelsea Sayer</i>	[B10] Electromyographic Decoding For The Generalized Neural Control Of Robots <i>Alison Gibson</i>	[F1] Assessment Of Structurally-Controlled Diagenesis Associated With Martian Impact Craters <i>Spencer Harris</i>	[E2] SMCC ASCEND Project 1: Microprocessor And Computer Programs <i>Francesca Johnson</i>  SMCC ASCEND Project 2: Payload Sensors And Camera <i>David Allen</i>
<b>10:40 – 10:50</b>	[A11] Prediction And Analysis Of Surface Fluxes In A Forest Environment <i>Laura Schisler</i>	[B11] Optimization Of Nanotextured Surfaces For The Adhesion Of Endothelial Cells <i>Daniel Martin</i>	[F2] Wadsleyite In SAH 350: Indicator Of Post-Shock Thermal History? <i>Sam Jacobs</i>	[E3] SMCC ASCEND Project 3: Post Flight Data <i>Angelo Delluomo</i>
<b>10:50 – 11:00</b>	[A12] Understanding Short-lived Explosive Volcanic Eruptions: Laboratory Experiments Of Highly-unsteady Short-lived Volcanic Events <i>Robert Dekoschak</i>	[B12] DC Characterization And Irradiation Of High Voltage SOI MESFETs For Space Electronics <i>Jason Kam</i>	[F3] Identification Of Absorption Characteristics Of Oxygen Ice For Comparison To Icy Celestial Bodies <i>Weston Maughan</i>	[E4] SMCC ASCEND Project 4: Payload Housing/Enclosure <i>Jose Villeges</i>  SMCC ASCEND Project 5: Etching, Drilling, And Soldering Circuit Boards <i>Daniel Flowers</i>
<b>11:00 – 11:10</b>	[A13] Volcanic History Of Colton Crater, San Francisco Volcanic Field, Northern Arizona <i>Maria Hayden</i>	[B13] Computational Investigation Of The Effects Of Nano-grain Properties On Strength And Toughness <i>Sabrina Ball</i>	[F4] Compositional And Microtextural Analysis Of Basaltic Pyroclastic Feedstock Materials Used For The 2010 ISRU Field Tests, Mauna Kea, Hawaii <i>Nicole Marin</i>	[E5] SMCC ASCEND Project 6: Radio Communication With Payload <i>Shawwna Pinkney</i>
<b>11:10 – 11:20</b>	[A14] Investigating The Effects Of Hormones On Strawberry Seed Germination <i>Erica Hernandez</i>	[B14] An Automated Test System For Terahertz Receiver Characterization <i>Linda Kuenzi</i>	[F5] Impact Crater Analysis In 0-50S 180-270E Region Of The Moon <i>Austin Gundy</i>	[E6] SMCC ASCEND Project 7: Real-time GPS Data <i>Jeremy Rousseau</i>

<b>11:20 – 11:30</b>	[A15] UA Homecoming 1: Conducting An Environmental Life Cycle Assessment Of Homecoming <i>Leah Edwards</i>	[B15] Utilizing A Workbench Structure To Maintain OSIRIS-REx Scheduling <i>Martin Lopez</i>	[F6] Error Analysis Of Narrow Angle Camera Digital Elevation Models Relative To Lunar Orbiter Laser Altimeter <i>Pye Pye Zaw</i>	[E7] UA ASCEND: 2012 UASEDS ASCEND! Experiments <i>Danny Pagano</i> <i>Robert Shely</i> <i>Amanda Urquiza</i> <i>Andrew McGuckin</i> <i>Ryan Stelzer</i> <i>Brooke Williams</i> <i>Kate Li</i>
<b>11:30 – 11:40</b>	[A16] UA Homecoming 2: The Environmental Impacts Of Homecoming 2012 <i>Celeste Belletire</i>	[B16] Multiple Wavelength Digital Holography <i>Luke Contreras</i>	[F7] OSIRIS-REx Ground-Based Software System Design <i>Nathaniel Hendler</i>	[E8] GCC ASCEND: Initial Design and 2nd Semester Enhancements <i>Justin Jackson</i> <i>Michael Carlson</i> <i>Mireya Ochoa</i> <i>Ashley Brawley</i>
<b>11:40 – 11:50</b>	[A17] Functional Materials For Sustainable Energy Technologies <i>Zahra Hussaini</i>	[G1] After School Science Clubs For Middle School Students <i>Mariela Resendez</i>	[H1] Calibration And Evaluation Of Next Generation Dichroic Elements <i>Justin Haxton</i>	[E9] Pima CC ASCEND: Payload 1 <i>Eric Nelson</i> <i>Zachary Anderson</i>
<b>11:50– 12:00</b>	[A18] Relating ANAMMOX Nitrite Inhibition Recovery To Metabolic Energy Levels <i>Andrew Swartwout</i>	[G2] Business Science Journalism <i>Ashley Grove</i>	[H2] Supernova Events And Gravitational Waves <i>Kevin Loew</i>	[E10] ASU ASCEND 1: Overview <i>Jack Lightholder</i>
<b>12:00 – 12:10</b>	[A19] Comparative Policy Analysis: Water Management In Mesa, Arizona And Hermosillo, Sonora <i>Rud Moe</i>	[G3] Communication Between Scientists And The Media <i>Maria DiCosola</i>	[H3] Creation Of A Web-Based Cometary Image Enhancement Facility <i>Michael Patrick Martin</i>	[E11] ASU ASCEND 2: Aerodynamic Payload Survey And Communication <i>Christina Findley</i>
<b>12:10 – 12:20</b>	[A20] Microbial Bioavailability Of Dissolved Organic Carbon In The Colorado River <i>Marissa Raleigh</i>	[G4] Gender Typicality And Academic Performance During A Science Task: Comparing Same-Sex And Mixed-Sex Dyads <i>Tammy Kwong</i>	[H4] Mid-Infrared Variability And Color In Young Stellar Objects <i>Stephanie Wood</i>	[E12] Hatchling II: Embry-Riddle Aeronautical University's HASP 2013 Payload <i>Zach Henney</i>
<b>12:20 – 1:20</b>	<b>LUNCH: PRICKLY PEAR &amp; VALLEY</b>			

	<p><b>Session A: Earth and Environmental Science/Engineering (cont.)</b>  <b>Moderator: Chandra Holifield Collins</b>  <b>Assistant Director, UA/NASA Space Grant</b>  <b>USDA-Agricultural Research Service, Southwest Watershed Research Center</b>  <b>Room: Arizona</b></p>	<p><b>Session G: Education and Public Outreach (cont.)</b>  <b>Moderator: Page Baluch</b>  <b>School of Life Sciences, Arizona State University</b>  <b>Room: Canyon</b></p>	<p><b>Session H: Astronomy &amp; Space Physics (cont.)</b>  <b>Moderator: Kevin Covey</b>  <b>Lowell Observatory</b>  <b>Room: Desert</b></p>	<p><b>Session I: Aeronautics</b>  <b>Moderator: Paul Scowen</b>  <b>School Of Earth &amp; Space Exploration, Arizona State University</b>  <b>Room: University</b></p>
<b>1:20 – 1:30</b>	<p>[A21]            Exchanging Gases Between Algae And Biogas In A Life-Support System  <i>Vivianna Gamez Molina</i></p>	<p>[G5]            ASU 3D IMAGINE 1: Overview  <i>Eric Hasper</i></p>	<p>[H5]            The Size And Structure Of The Broad Line Region In NGC 4051  <i>Emily Heaton</i></p>	<p>[I1]            High Speed Mixing Layers Excited By Thermal Perturbations  <i>Brian Franz</i></p>
<b>1:30 – 1:40</b>	<p>[A22]            Optimizing Extraction Methods For The Characterization Of Organic Compounds In Aerosols Around Mining Operations  <i>Robert Jones</i></p>	<p>[G6]            ASU 3D IMAGINE 2: Tactilely Visualizing Confocal Microscope Image Data  <i>Leanne Harris</i></p>	<p>[H6]            LBT/MODS Optical Spectroscopy Of Hubble/Spitzer/Herschel Sources In The Fields Of Massive Galaxy Clusters  <i>Emily Berkson</i></p>	<p>[I2]            Study Of Propeller Effect On Vortex Breakdown  <i>Devin Jensen</i></p>
<b>1:40 – 1:50</b>	<p>[A23]            Validation Of Solar Irradiance Forecasts  <i>Austin Wardall</i></p>	<p>[G7]            ASU 3D IMAGINE 3: New Tools That Enable Blind Students To Tactilely Visualize Image Data  <i>Ashleigh Gonzales</i></p>	<p>[H7]            Error Optimization For Low-Frequency Dipole Antennas  <i>Sarah Easterbrook</i></p>	<p>[I3]            UAS Simulated Integration Within The National Airspace System  <i>Skylar Sanders</i></p>
<b>1:50 – 2:00</b>	<p>[A24]            The Potential Application Of TIO2-Ag-Hap Nanoparticles For Water Treatment In Space  <i>Irene Liang</i></p>	<p>[G8]            Increasing Internal Stakeholder Consensus About A University Science Center's Outreach Policies And Procedures  <i>Melissa Cannon</i></p>	<p>[H8]            Matter-driven Oscillations Of High-energy Neutrinos In Stellar Jets  <i>Dan Quach</i></p>	<p>[I4]            Development Of Reusable Rocket-Payload System For Vibration Monitoring  <i>Jeffrey Uhlorn</i></p>
<b>2:00 – 2:10</b>	<p>[A25]            Making Solar A Cost-Effective Energy Source  <i>Jon Weiser</i></p>	<p>[G9]            Informing Marketing Strategies: Assessing Undergraduate Motivations And Interests In The School Of Natural Resources And The Environment (SNRE)  <i>Amber Lovett</i></p>	<p>[H9]            Neutrino Detection From Galactic Fermi-Bubbles  <i>Kristopher Theodoseau</i></p>	<p>[I5]            ASU SDSL 1: System Satellite Engineering Through Design, Test, And Fabrication Of Nano-Satellites  <i>Ricky Astrain</i></p>

<b>2:10 – 2:20</b>	[A26] Gene Level Responses Of Hot Spring Microbial Communities To Nutrient Limitation <i>Christie Sabin</i>	[G10] Making Science Matter To A General Audience <i>Brenna Goth</i>	[H10] Elemental Abundances In Nearby Planet Host Stars <i>Santhi Priya Challa</i>	[I6] ASU SDSL 2: Microsatellite Hardware And Software Systems <i>Todd Cunningham</i>
<b>2:20 – 2:30</b>	[A27] Cost-Competitive Solar Photovoltaic Generator With Novel Concentrating Optics <i>Auni Kundu</i>	[G11] Science Literacy Among Undergraduate Students <i>Jenna Llull</i>	[H11] A Survey For Infall In Perseus Starless Cores <i>Amanda Walker-LaFollette</i>	[I7] ASU Daedalus Astronautics 1: Overview <i>Gaines Gibson</i>
<b>2:30 – 2:40</b>	[A28] Micro Subglacial Lake Exploration Device (MSLED) <i>Daming Chen</i>	[G12] Wind For Schools <i>Susanna Hamilton</i>	[H12] Outflow Jets In RCrA <i>Margaret Blumm</i>	[I8] ASU Daedalus Astronautics 2: Crawford Strand Burner <i>Deyzi Ixtabalan</i>
<b>2:40 – 2:50</b>	[A29] ASU Robotics 1: Overview <i>Matthew Plank</i>	[G13] The Process Of Creating An Online Learning Platform <i>Sylvia Bargellini</i>	[H13] Supergiant Effective Temperatures <i>Arlyn Palmer</i>	[I9] ASU Daedalus Astronautics 3: Design Analysis Of A Crawford Strand Burner <i>Ruby Gomez</i>
<b>2:50 – 3:00</b>	[A30] ASU Robotics 2: Static Waterproofing Of Thrusters Through Magnetic Coupling <i>Jonathon Houda</i>	[G14] USGS Astrogeology 1963-2013: 50 Years Of Exploration <i>Kent Wagner</i>	[H14] Ultrasonic Measurements Of The Young's Modulus Of Optical Coatings <i>Elaine Rhoades</i>	
<b>3:00 – 3:10</b>	[A31] ASU Robotics 3: Submersible Magneto Coupled Claw <i>Erick Yanez</i>	[G15] USGS Planetary Science Reporting <i>Aurelia Acquati</i>	[H15] Searching For High Inclination Kuiper Belt Objects Using Archival Data From Hubble Space Telescope <i>Heidi Somsel</i>	
<b>3:10 – 3:20</b>		[G16] Technology Education And Outreach - Robots And Space Science <i>Ernest Peyketewa, Jr.</i>	[H16] Embry-Riddle Cyclotron <i>Kelsey O'Connor</i>	
<b>3:20-3:40</b>	<b>JOIN US FOR REFRESHMENTS: PRICKLY PEAR</b>			