

Saturday, April 16, 2016, Kuiper Space Sciences Building, The University of Arizona

8:00-8:20 a.m. WELCOME AND INTRODUCTION: Room 308

**Timothy D. Swindle, Director Arizona Space Grant Consortium
Chandra Holifield Collins, Acting Associate Director UA/NASA Space Grant Program**

	Room 308	Room 309	Room 312	Room 330
TIME	<p align="center">Session A ASCEND</p> <p align="center">Moderators: Jack Crabtree, ERAU/ANSR (8:30-10:10 AM)</p> <p align="center">Silvia Kolchens/PCC W Ernest Villicana, PC (10:30-12:00 PM)</p> <p align="center">---</p> <p align="center">Session D AEROSPACE TECHNOLOGY</p> <p align="center">Moderator: Gary Yale, ERAU (1:30 PM-3:20 PM)</p>	<p align="center">Session G PLANETARY SCIENCE</p> <p align="center">Moderator: Nadine Barlow, NAU (8:30-10:10 AM)</p> <p align="center">---</p> <p align="center">Session H EDUCATION & PUBLIC OUTREACH</p> <p align="center">Moderator: Thomas Sharp, ASU (10:30-11:50)</p> <p align="center">---</p> <p align="center">Session F EXPLORATION SYSTEMS</p> <p align="center">Moderator: Timothy Swindle, UA (1:30-2-50 PM)</p>	<p align="center">Session B EARTH & ENVIRONMENTAL SCIENCE/ENGINEERING</p> <p align="center">Moderator: Chandra Holifield Collins, SWRC (8:30-10:10 AM)</p> <p align="center">Adam Naito, UA (10:30 AM-12:00 PM)</p> <p align="center">Dorothea Ivanova, ERAU (1:30-2:00 PM)</p> <p align="center">---</p> <p align="center">Session I: MATH, PHYSICS & CHEMISTRY</p> <p align="center">Moderator: Nadine Barlow, NAU (2:00-3:10 PM)</p>	<p align="center">Session E ASTRONOMY & SPACE PHYSICS</p> <p align="center">Moderators: Marek Szczepanczyk (ERAU) Paul Scowen (ASU) (8:30-10:10 AM)</p> <p align="center">---</p> <p align="center">Session C AERONAUTICS</p> <p align="center">Moderators: Michael Shafer, NAU (10:30-12:00)</p> <p align="center">Wally Morris, ERAU (1:30-2:30 PM)</p>
8:30-8:40	<p align="center">[A-1] <i>Mason Denney</i> ASU ASCEND: Atmospheric Gas Survey and Infrared Radiation Characterization</p>	<p align="center">[G-1] <i>Michelle Barton</i> Analysis of Geomorphic Features and Inter-crater Basin Strata of Hadriacus Cavi, Mars, Through Large-Scale Geologic Mapping and Section Correlation</p>	<p align="center">[B-1] <i>Jordan Abell</i> Intercomparison of the Southern Ocean Circulations in IPCC-AR5 Coupled Model Control Simulations</p>	<p align="center">[E-1] <i>Michael Busch</i> Foreground Characterization for the Murchison Widefield Array's Northern Sidelobe Using the Jansky Very Large Array</p>
8:40-8:50	<p align="center">[A-2] <i>Ashley Campbell</i> <i>Shayne Caraway</i> <i>Reagan DeVoe</i> <i>Hito Cerron Serpa</i> GCC ASCEND: Effects of Combined Extreme Physical Conditions on Bacteria</p>	<p align="center">[G-2] <i>Gabriel Basadre</i> High Resolution Spectra of Exoplanets</p>	<p align="center">[B-2] <i>Melissa Becerra</i> Adaptive Image Processing for Automated Structural Crack Detection</p>	<p align="center">[E-2] <i>Ian Avilez</i> Confirming Disk Presence and Determining Temperature for Young Multiple Star System TWA 3</p>
8:50-9:00	<p align="center">[A-3] <i>Noah Habib</i> <i>Bailey Leavitt</i></p>	<p align="center">[G-3] <i>Jade Bowers</i> Lava Flows and Yardangs on Mars</p>	<p align="center">[B-3] <i>Rayanna Benally</i> Land Cover Changes in Southwestern</p>	<p align="center">[E-3] <i>Pier Fiedorowicz</i> Recovering Photometric Redshift</p>

	<i>Phillip Noel</i> <i>Bianca Pina</i> GCC ASCEND: Effects of Combined Extreme Physical Conditions on Bacteria		Rangelands	Isotropy Using Statistical Inference
9:00-9:10	[A-4] <i>Chance Engstrom</i> <i>Tyler Letner</i> <i>Zechariah Sawyers</i> <i>Jonathon Slater</i> CAC ASCEND I.S.S.A.C Project	[G-4] <i>Elizabeth Dybal</i> Iron Isotope Compositions of Achondritic Meteorites	[B-4] <i>Stephanie Bone</i> Characterization of DOC In “Accidental” Urban Wetlands in Phoenix, AZ	[E-4] <i>Carl Fields</i> Properties of Carbon-Oxygen White Dwarfs from Monte Carlo Stellar Models
9:10-9:20	[A-5] <i>Moriah Faint</i> <i>Attalie Faint</i> <i>Philip (Nathaniel) Faint</i> <i>Henry Luna</i> CAC ASCEND StratoSeekers	[G-5] <i>Alexandra Huff</i> Placing New Constraints on the Unexpectedly Complex Formation of Meteor Crater	[B-5] <i>Katherine Boot</i> Geomorphic Evolution in Active Landscapes	[E-5] <i>M. Ryleigh Fitzpatrick</i> A Study of the Effects of Underlying Assumptions in the Reduction of Multi-Object Photometry of Transiting Exoplanets
9:20-9:30	[A-6] <i>William Carroll</i> <i>Brittney Marimow</i> <i>Andrew Okonya</i> <i>Joel Thibault</i> Design of Two Payloads and NDVI Analysis on a High-Altitude Balloon	[G-6] <i>Jack Lightholder</i> Understanding Martian Subsurface Geochemistry Using the Dynamic Albedo of Neutrons Instrument on the Mars Science Laboratory Curiosity Rover	[B-6] <i>Stephanie Booth</i> Digital Droplet Polymerase Chain Reactions Mechanical Support	[E-6] <i>Kaylee Klapmeyer</i> Radial Dependence of Surface Brightness and Color in NGC5888
9:30-9:40	[A-7] <i>Amorette Dudgeon</i> <i>Anthony Smith</i> <i>Trevor Towers</i> Measurement of the Earth’s Magnetic Field on a High-Altitude Balloon	[G-7] <i>Etude O’Neel-Judy</i> Characterizing the Evolution of Mars South Polar Jets and Fans Using CRISM-THEMIS Observations	[B-7] <i>Paola Colmenares</i> Transport of Contaminants by Atmospheric Dust and Aerosol	[E-7] <i>Ashley Nied</i> Using Thermal Inertia to Estimate Particle Size on Asteroid Bennu for OSIRIS-REx
9:40-9:50	[A-8] <i>Jonathan Cahal</i> <i>Jake Denison</i> <i>Cordelia Torrey</i> PC: Ursa Major ASCENDING Further	[G-8] <i>Claudia Ramirez</i> Microstructure Analysis to Determine Space Weathering Rates in Mature Lunar Soils	[B-8] <i>Christopher Gass</i> Unmanned Aerial System (UAS) for Wildlife Tracking	[E-8] <i>Kathleen Perry</i> Identifying Potential Quasars Using RATIR Data
9:50-10:00	[A-9] <i>Paul Ronquillo</i> <i>Oliver Salmeron</i> <i>Eli Sonaf Frank</i> PC: Ursa Major ASCENDING Further	[G-9] <i>Laura Seifert</i> Noble Gas Analysis of Carbonaceous Chondrites	[B-9] <i>Jennie Halverson</i> WRF Modeling of Hurricane Norbert Moisture Surge and Flooding in Chandler, Arizona	[E-9] <i>Sophia Schwalbe</i> Distributional Tests for the Laser Interferometer Gravitational-Wave Observatory Detections
10:00-10:10	[A-10] <i>Alexander Chaffon</i> <i>John Langenbach</i> <i>Lyra Troy</i> PCC-W ASCEND PARTICLES	[G-10] <i>Nathan White</i> Characterization of Layered Ejecta Blankets in the Southern Hemisphere of Mars	[B-10] <i>Sofia Herrera</i> Utilization of Filler Materials to Prevent Polymer Intrusion During Film Casting	[E-10] <i>Jacob Vehonsky</i> Establishing the Best Lensing Candidates for JWST

	TEAM: Atmospheric Particle Collection and Characterization Using SEM and EDS			
10:10-10:30	Morning Break			
10:30-10:40	[A-11] <i>Kyle Anderson William Chan Kyl Gordon Francisco Montoya</i> PCC-W ASCEND Upper Atmospheric Particle Collection Project: Fabrication	[H-1] <i>Kiril Kirkov</i> Stars for the Future	[B-11] <i>Christopher Jabczynski</i> Graphene Oxide for Sensing Applications	[C-1] <i>Robert Amzler</i> Mechanical and Thermal Design of the Lunar Polar Hydrogen Mapper (LunaH-Map) Mission
10:40-10:50	[A-12] <i>Jeffrey Johnson Roslyn Norman Jonathan Parker Noelia Parraz Louis Riel</i> PCC-W ASCEND Upper Atmospheric Particle Collection Project: Electronics	[H-2] <i>Tracey Lee</i> The Federal Clean Power Plan and Carbon Emissions on the Navajo Nation	[B-12] <i>Esteban Jimenez</i> The Effect of Flue Gas on Algae Growth	[C-2] <i>Ethan Beyak</i> Physics and Control of Shock Boundary Layer Interaction
10:50-11:00	[A-13] <i>Joseph Mena</i> ERAU ASCEND!: Fall 2015 and Spring 2016	[H-3] <i>Patrick O'Connor</i> Science at the Star: Lessons in Communicating Research to the General Public	[B-13] <i>John (Jack) Johnson</i> An Observationally-based Assessment of the Net Summertime Drawdown of Southern Hemisphere Atmospheric Carbon Dioxide by the Southern Ocean	[C-3] <i>Tre Buchanan</i> Ultralight Turbine-less Jet Engine
11:00-11:10	[A-14] <i>Saul Gonzalez Daniel Hernandez Lucas Madrid Vereniz Rincon Jose Rincon</i> EMC^2 Light House	[H-4] <i>Surbhi Patel</i> Welcome to the Cyber Universe: Engaging High School Students in STEM Disciplines	[B-14] <i>Mary Jones</i> Concentrations of Metal Salts in Efflorescence Compared to Surrounding Tailings Soils at Iron King Mine Superfund Site in Dewey-Humboldt, Arizona	[C-4] <i>Brian Cowley</i> Mesh Refinement: Aiding Research in Synthetic Flow Actuation
11:10-11:20	[A-15] <i>Andrey Bernov Jonathan Hernandez Leroy Johnson Nick Quiros Tommy Tran</i> EMC^2 Light House	[H-5] <i>Rebecca Peiffer</i> Science Writing at UANews	[B-15] <i>Kaylyn King</i> Low Frequency Variability of California Precipitation	[C-5] <i>Kenneth Decker</i> Control of Boundary Layer Separation and the Wake of an Airfoil Using Ns-DBD Plasma Actuators
11:20-11:30	[A-16] <i>Angel Diaz Jerome Dumas</i>	[H-6] <i>Austin Shannon</i> Scientific Journalism: Its	[B-16] <i>Chadlin Ostrander</i> Molybdenum Isotope Evidence for	[C-6] <i>Cherie Gambino</i> The Effects of Gurney Flaps on

	<i>Jacob Miranda Michael Plummer Juan Carlos Villegas SMCC ASCEND Project</i>	Significance and My Personal Experience	Mild Oxygenation ~2.7 Billion Years Ago	Staggered Annular Wings
11:30-11:40	[A-17] <i>Francisco Armenta Valeria Galaz Yulisa Gonzalez Joel Gordillo Rahim Muhammad SMCC ASCEND Project</i>	[H-7] <i>Jessica Turcios</i> Society of Women Engineers Team Ocelot: NASA Human Exploration Rover Challenge	[B-17] <i>Mara Rembelski</i> Urban Stormwater Harvesting: Implications and Strategies for Detention Basin Soils	[C-7] <i>Juan Gutierrez</i> The Effects of Gurney Flaps on Staggered Annular Wings
11:40-11:50	[A-18] <i>Callie Branyan Christina Loera Andrew Siemens Ryan Stelzer UA ASCEND!</i>	[H-8] <i>Mark Williamson</i> Visualizing Macro- and Microscopic Properties of Minerals Using Crystal Maker	[B-18] <i>Julianna Renzi</i> Climatic Drivers of Sonoran Desert Lifecycles: Saguaro and Buffelgrass Phenology Trends Using Citizen Science Data	[C-8] <i>Anna Martin</i> Determining the Grip Strength of a Robotic Manipulator
11:50-12:00	[A-19] <i>Ruoyu Li Andras Szep Marton Szep Xinyi Xu UA ASCEND! Project</i>		[B-19] <i>Jennifer Salazar</i> Carbon Storage in Trees In Relation to Climate	[C-9] <i>Celeste Moreno</i> Observational Study of Convective Events Delaying Flight Operations at the Atlanta International Airport
12:00-1:30	Lunch Break University of Arizona Hall of Champions (across the UA Mall)			
	Room 308	Room 309	Room 312	Room 330
TIME	Session D AEROSPACE TECHNOLOGY Moderator: Gary Yale (ERAU) (1:30 PM-3:20 PM)	Session F EXPLORATION SYSTEMS Moderator: Timothy Swindle (UA) (1:30-2-50 PM)	Session B EARTH & ENVIRONMENTAL SCIENCE/ENGINEERING (CONTINUED) Moderator: Dorothy Ivanova (ERAU) (1:30-2:00 PM) --- Session I: MATH, PHYSICS & CHEMISTRY Moderator: Nadine Barlow (2:00-3:10 PM)	Session C AERONAUTICS (CONTINUED) Moderators: Wally Morris (ERAU) (1:30-2:30 PM)

1:30-1:40	[D-1] <i>Madison Padilla</i> The Development of Flight Operations: Improvement of ERAU Cube-Sat's Ground System Interface and Research of the Satellite's Orbit	[F-1] <i>Willy Andrews</i> A Solid Polymer Electrolyte for Multifunctional Material Development	[B-20] <i>Ulises Sanchez Ruiz</i> 3D Simulation for Thermal Management of High Performance Plug-In Hybrid Electric Vehicle	[C-10] <i>Brittany Nez</i> Tensile Property Comparison of Aerospace Material Using Additive Manufacturing Technologies Vs. Wrought and Cast Technologies
1:40-1:50	[D-2] <i>Ryan Stelzer</i> Wayfarer CubeSat	[F-2] <i>Christy Contreras</i> Microfluidic System for Label-free Chemical/biological Detection Using Silicon Nanowire FET Sensors	[B-21] <i>Courtney Starling</i> The Effect of Lithologic Heterogeneity on Landscape Evolution in the Canyons of the Colorado Plateau	[C-11] <i>Michael Norville</i> Laser Particle Image Velocimetry
1:50-2:00	[D-3] <i>Lisa Ferguson</i> Printed Circuit Board Design and Fabrication Techniques for the EagleSat CubeSat	[F-3] <i>Sarah McBryan</i> Lightweight Transradial Prosthetic Able to Withstand Mechanical Forces During a Human Fall	[B-22] <i>Annette Sunda</i> Effects of Sediment Source on Dune Activity, Navajo Nation, Arizona	[C-12] <i>Andrew Okonya</i> Does the Flight of High-Altitude Balloons Follow the Ideal Gas Law?
2:00-2:10	[D-4] <i>Clayton Jacobs</i> EagleSat-I: Continuing Embry-Riddle's CubeSat Satellite Development Program	[F-4] <i>Anoosha Murella</i> Morphology and Electrical Properties of Drop-on-Demand Printed Reactive Cu Inks	[I-1] <i>Nathan Brooks</i> Testing Atomic Structure Using Atom Interferometry	[C13] <i>Travis Skinner</i> Micro Air Vehicle Rotor Design Considerations
2:10-2:20	[D-5] <i>Jon Lowe</i> EagleSat: Further Development of EagleSat's EPS System	[F-5] <i>Ravi Prathipati</i> Development of a Simulated Star Field to Confirm Operation of Hexapod Image Stabilization System	[I-2] <i>Shyanne Dustrud</i> Kinetics of Phase Formation and Microstructure of High Purity Silicon Nitride	[C-14] <i>Greg Wilburn</i> High Altitude Ballooning Communication Stability
2:20-2:30	[D-6] <i>Matthew Prevallet</i> Wayfarer: On-Demand Solar System Exploration With a Common Architecture Cubesat	[F-6] <i>Tristan Swatts</i> Noise, Instruction, and Cognitive Performance	[I-3] <i>Charlotte Johnson</i> The Effect of Substrate Choice on Oxygen Plasma and Graphene Interactions	
2:30-2:40	[D-7] <i>Elizabeth Quigley</i> Verification of the Multiscale Model for CNT/Epoxy Nanocomposites	[F-7] <i>Peter Tueller</i> Operating Systems for Underwater Wireless Sensor Networks	[I-4] <i>Morgan Kelley</i> Adsorption and Release of Surfactant Into and From Multifunctional Zwitterionic Poly(NIPAm-co DMAPMA-co-AAc) Microgel Particles	
2:40-2:50	[D-8] <i>William Templeton</i> Characterizing the Effects of Aging on HTPB Hybrid Rocket Fuel	[F-8] <i>Fabian Wildenstein</i> Wavelength-VARIABLE Three-Dimensional Rainbow Camera for Non-invasive Ophthalmic Measurements	[I-5] <i>Amanda Olmut</i> Digital Control System for Microwave Spectroscopy Data Collection	
2:50-3:00	[D-9] <i>Shawn Thompson</i> Software Development for the	[F-9] <i>Nathan Barba</i> Steam Propulsion for Interplanetary	[I-6] <i>David Simmons</i> Rigidity Properties of Thin Elastic	

	EagleSat-I CubeSat	Spacecraft Using Solar Enabled Carbon Nanoparticles	Sheets Based on Folding Patterns	
3:00-3:10	[D-10] <i>Matthew Vis</i> Computer Memory Testing System for Nano-Satellite	[F-10] <i>Bryce Chanes</i> Suborbital Spaceflight: A Student Team's Plan to Send a Rocket to Space	[I-7] <i>Gary Tyree</i> On the Origins of Cellular Differentiation	
3:10-3:20				
3:20-3:30	Refreshments in the Atrium	Refreshments in the Atrium	Refreshments in the Atrium	Refreshments in the Atrium