Saturday, April 22, 2017, Sheraton Phoenix Airport, Arizona State University

8:00-8:20 AM WELCOME AND INTRODUCTION: Grand Ballroom

Timothy D. Swindle, Director Arizona Space Grant Consortium
Thomas Sharp, Associate Director ASU/NASA Space Grant Program

	Sky Harbor	Prickly Pear	University	Rio Salado
TIME	**Session A** **ASCEND &** **SPACE FLIGHT TEAM PROJECTS** Moderators: Silvia Kolchens/PCC W (8:30-10:10) Ron Madler, ERAU (10:40-12:10)	**Session** B **EARTH & ENVIRONMENTAL SCIENCE/ENGINEERING** Moderators: Hilairy Hartnett, ASU (8:30-10:10) Anita Antoninka, NAU (10:30-12:10)	**Session C** **EXPLORATION SYSTEMS ENG** Moderators: Chandra Holifield-Collins, SWRC (8:30-10:10) Nadine Barlow, NAU (10:30-12:10)	**Session D** **ASTRONOMY & SPACE PHYSICS** Moderator: Lisa Chien, NAU (8:30-11:30) --- **Session E** **EDUCATION AND PUBLIC OUTREACH** Moderator: Francis Burns, Diné (11:30-12:10)
8:30-8:40	[A-1] *Michael Cabrera* *Pamela Cabrera* *Chainey Cathemer* *Matthew Duran Jr.* *Draylin Gordon* *Thinh Nguyen* *Delaine Reeves* CAC High Flyers High Altitude Balloon Payload	[B-1] *Sarah Khalid* Inferring Groundwater Recharge Using Remotely-sensed Land Surface Temperature in the Phoenix Metropolitan Area	[C-1] *Connor Williams* Development of Unmanned Aerial System (UAS) for Planetary Analog Research	[D-1] *Angelica Berner* Testing Mechanisms for Open-ended Evolution in a Reversible Cellular automata
8:40-8:50	[A-2] *Randy Nez* *Tia Vicenti* Atmospheric Radiation Level Above Chuska Mountains	[B-2] *Nikita Kowal* Photo-Oxidation Effects on Tempe Town Lake	[C-2] *Amanda Thart* Analysis of RF Circuit Degradation to Ensure Circuit Security	[D-2] *Laurin Gray* Spectral Variability of Protoplanetary Disks
8:50-9:00	[A-3] *Eric Begay* *Cordell R. Chee* *Gilberta Yazzie* *Shawntel Yessilth* Discovering the Correlation Between the Ozone Layer and Ultra Violet Radiation and Its Effects on the Environment	[B-3] *Wendy Nessl* Defining the Level of Variability within an Urban Classification System	[C-3] *Nicolas Colon* Support for the Radiometric Calibration of Earth-observing Satellites	[D-3] *Christopher Bohlman* Linearizing the Clio Detector

9:00-9:10	[A-4] *Tyler Begay* *William Connell* *LeTanya Thinn* Measurement of Carbon Dioxide Levels Over the Chuska Mountains as Measured by High Altitude Balloon	[B-4] *Camden Plunkett* Simulations of Convective Flash Flood Events in Southern Switzerland	[C-4] *Sanjay Tharmarajah* Chemical Passivation of In0.53Ga0.47As(100)	[D-4] *Victoria Jones* Analyzing Epoch of Reionization Quasars with the Hubble Space Telescope
9:10-9:20	[A-5] *Chantel Becenti* *Kyle Goh* *Brittany Jim* *JoDee Plummer* The Effects of Sulfur Dioxide and Nitrogen Oxide on the Diné Nation	[B-5] *Nathaniel Bransky* Comparison of Structure From Motion to LiDAR Data for Geomorphic Change Detection	[C-5] *Cathy McIntosh* On-Demand CubeSat Mission to Characterize Potentially Hazardous Objects	[D-5] *Stephanie Stawinski* Studying Spectral Index of Radio Galaxies with LOFAR
9:20-9:30	[A-6] *Nicholas Mallott* ERAU ASCEND - Passive Systems Stabilization Project	[B-6] *Linnea Gear* Seasonal Trends in Larrea Tridentata (creosote Bush) Leaf Starch	[C-6] *Dustin Branges* Creating A Dynamic Lift System for Assisted Mobility	[D-6] *Connor Auge* Turbulent Gas Motion in Interacting Galaxy Systems
9:30-9:40	[A-7] *Aaron Bustillos* *Jonathan Hernandez* *Ashley Mrutu* *Selena Rodriguez* *Paul Romero* EMCC Ascend Energy Radiation Project	[B-7] *Anna Gorman* Solar Disinfection of Domestic Greywater for Landscape and Edible Plant Use	[C-7] *Jaimeson Veldhuizen* Reconstituting the Lung on a Chip	[D-7] *Qasim Mahmood* Properties of Algol Eclipsing Binaries in the Large Magellanic Cloud Galaxy
9:40-9:50	[A-8] *Saul Gonzalez* *Lucas Madrid* *Francisco Nieves* *Nicholas Quiros* *Jonathan Schwartz* EMCC Ascend Flying Nimbus Project	[B-8] *Josue Juarez* Reclamation of Human Urine as a Fertilizer in An Off-Earth Colony	[C-8] *Ricky Johnson* Autonomous Football Throwing Robot	[D-8] *Matthew Mitchell* Cluster Masses From Spectroscopic Magnification Measurements
9:50-10:00	[A-9] *Nicholas Blum* *Noel Rojas* GCC ASCEND Team 1	[B-9] *Amanda Ketting-Olivier* Determining the Disruption of the Little Colorado River by Past Eruptions of the San Francisco Volcanic Field	[C-9] *Olivia Thomas* Deformation Analysis of Advanced Materials Using Digital Holography	[D-9] *Cameron White* Hubble Space Telescope Observations of Escaping Lyman Continuum Radiation From GOODS-North Galaxies
10:00-10:10	[A-10] *Stephen Bakle* *Carlo Hurtado* *Austin Macosky* GCC ASCEND Team 1 (cont.)	[B-10] *Channing Laturno* Effects of Restoration Treatments and Forest Type on Soil Microarthropod Communities in Valles Caldera National Preserve	[C-10] *Stephanie Booth* Preliminary Earth-Analog Lunar Rover Design and Development	[D-10] *Massimo Pascale* Planck's Dusty GEMS: Strong Lensing Analysis of Giant Arcs Selected by Planck

10:10-10:30	**Morning Break**			
10:30-10:40	[A-11] *Leonor Amaya* *James Cook* *Henry Meyers* GCC ASCEND Team 2	[B-11] *Jesse Clah* Lifting Water, Falling Water: Energy Balance of the Colorado River	[C-11] *Sean McIntyre* Adsorption Simulations on Metal-Organic Frameworks for Air Separation	[D-11] *Sasha Safonova* Development of A Smoothed Particle Hydrodynamics with Gravity Code for Astrophysics
10:40-10:50	[A-12] *Chance Martinez-Droeg* *Anesa Thiele* GCC ASCEND Team 2 (cont.)	[B-12] *Jeremy Elias* Airborne Contaminants From Mining Operations in Arizona	[C-12] *Garrett Veasey* Modularity in Design for Microwave Spectroscopy Equipment	[D-12] *Rob Mullins* Laser Frequency Stabilization
10:50-11:00	[A-13] *Monica Delgado* *Adam Jimenez* *Adan Reyes* Phoenix College NASA Ascending Further Team Project: CO2, Radiation and Real Time Communications	[B-13] *Sereena Ginar* Seasonal Prediction of Temperature and Precipitation Over Arizona	[C-13] *Shreya Udupa* 3D Mapping Using Mobile Robots for Use with an Oculus Rift Headset	[D-13] *Sophia Schwalbe* Distributional Tests for the Laser Interferometer Gravitational-Wave Observatory Detections
11:00-11:10	[A-14] *Bryce Klein* *Christopher Mastrangelo* *Colton Stoltz* PCC-NW Near-Space Atmospheric Research	[B-14] *John Lee* Adsorption of Toxic Metals and Metalloids onto Engineered Nanomaterials	[C-14] *Taylor Brown* Photocurrent Generation by Dye-Labeled Photosynthetic Reaction Centers Interfaced with Porous Antimony-Doped Tin Oxide (ATO)	[D-14] *Andrew Weldon* The Stellar Population of Metal−Poor Galaxies at Z~1
11:10-11:20	[A-15] *Alfredo Gonzalez* *Tristan Simi* Construction of A Low-cost High Altitude Balloon Flight Recording System with Simultaneous Collection of Airborne Particulates for SEM Analysis	[B-15] *Iliana Manjon* Environmental Health Research and Community Engagement Efforts in Communities Neighboring Mining and/or Resource Extraction Sites	[C-15] *Anna Martin* Evaluation of force-Sensing Materials for a Small Robotic Gripper	[D-15] *Josephine Schindler* Coevolution of Supermassive Black Holes and Their Host Galaxies
11:20-11:30	[A-16] *Reagan DeVoe* *Duffy Elmer* *Shobitha Jillella* *Alexandria Lund-Coppage* *Cathy McIntosh* *Andrew Okonya* *Steve Smith* *Andras Szep* *Marton Szep* *Joel Thibault* UA ASCEND: Stabilizing 360° Video, Optical Dust Sensing, and	[B-16] *Sarah Ruth Merrigan* Snow Water Equivalent and Discharge Relationship	[C-16] *Brandon Dorr* Inducible Genome Modification Utilizing Engineered Ty1 Retrotransposons in Saccharomyces Cerevisiae	[D-16] *Charlotte Johnson* Examining Short-lived Radionuclide Creation In Supernovae Simulations

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11:30-11:40	[A-17] *Trevor Van Engelhoven* Thermodynamics of Electronics in Space-Like Conditions	[B-17] *Christina Morrison* How Do You Do the Laundry in Space? Assessing the Efficacy of Hydrogen Peroxide as a Disinfectant/Deodorizer in Combination with Silver Impregnated Textiles	[C-17] *Christopher Tang* Formation of Graphitic Carbon on Metallic Substrates: Implications for Protoplanetary Nebular Carbon Delivery, and Meteoritic Sample Analysis	[E-1] *Lenny Lopez* Leveraging Open-Source Mobile Health Platforms for Citizen Science and Clinical Research
11:40-11:50	[A-18] *Delbert Conn III* EagleSat-I	[B-18] *Carrie Stine* Analysis of Flowering Trends of Key Nectar Plant Species Used by Monarch Butterflies	[C-18] *Isaac Romero* Design of a Simple Test Fixture for a Powered Foot-Ankle Prosthesis	[E-2] *Shawtaroh Granzier-Nakajima* Eye Movement Miscue Analysis: Eye-Tracking and Audio Syncing
11:50-12:00	[A-19] *Sean Akana* EagleSat-I (cont.)	[B-19] *Raymond Barakat* The Development of a Power System for the Phoenix CubeSat	[C-19] *Jeremy Jakubowski* ASU Satellite Tracking Ground Station	[E-3] *Athena Talk* Uranium, Radon, and Radiation Outreach
12:00-12:10	[A-20] *Deborah Jackson* EagleSat-I (cont.)	[B-20] *Sarah Rogers* Phoenix: A Study of Heat Islands Through Small Satellite Technology	[C-20] *Maggie Kautz* A Comparison of Space Telescope Configurations	[E-4] *Taylor Hartman* An Interdisciplinary Approach to Scientific Translation and Communication or Why We Need Popular Science Journalism
12:10—1:40	**Lunch Break**			
	Sky Harbor	**Prickly Pear**	**University**	**Rio Salado**
TIME	**Session A** **ASCEND &** **SPACE FLIGHT TEAM PROJECTS** Moderator: Thomas Sharp, ASU (1:40-4:10)	**Session F** **AERONAUTICS** Moderator: David Trilling, NAU (1:40-3:10)	**Session G** **PLANETARY SCIENCE** Moderator: Timothy Swindle, UA (1:40-2:50)	**Session E** **EDUCATION AND PUBLIC OUTREACH** (Cont.) Moderator: Francis Burns, Diné (1:40-1:50) --- **Session H** **TOPICS IN MATH, PHYSICS AND CHEMISTRY** Moderator: Gary Yale, ERAU (1:50-3:30)

1:40-1:50	[A-21] *Madison Padilla* EagleSat-I (cont.)	[F-1] *Robert Amzler* Mechanical and thermal Design of the Lunar Polar Hydrogen Mapper (LunaH-Map)	[G-1] *Shannon Harrel* Giving the Moon a 21st Century Makeover	[E-5] *Toni Gagliardi* The Science of Science Is Fun
1:50-2:00	[A-22] *Hilliard Paige* EagleSat 2-1: Mission and Development Overview	[F-2] *Brittany Nez* Metallurgical Test Comparison of Aerospace Material Using Additive Manufacturing Technologies Vs. Wrought Technologies	[G-2] *Haley Leonard* Hydrothermal Alteration Analysis from the Flynn Creek Impact Crater	[H-1] *ViAnn Pham* Non-Aqueous Surface Passivation of Silicon Germanium
2:00-2:10	[A-23] *Lauren Barthenheier* EagleSat 2-2: Design Development	[F-3] *Cody Johnson* Low Reynolds Number Force Balance	[G-3] *Madelyn Powell* Variability of the North American Monsoon	[H-2] *Charlie Fractal* Extracting Insights from Biomedical Data Using Topological Data Analysis
2:10-2:20	[A-24] *Jason Hamburger* EagleSat 2-3: Scientific Payloads' Objectives and Developments	[F-4] *Lucas Peterson* Team Eagle Wingsuit Research Project	[G-4] *Michael Rynders* Flagstaff Robotic Survey Telescope (FRoST) Software Development	[H-3] *Morgan Beckett* Elucidating the Implications of Microgravity on Calcium Dynamics in the Cardiac Troponin Complex
2:20-2:30	[A-25] *Bryce Chanes* Eagle Space Flight Team: Project Management	[F-5] *Marcos De Rose* Flow Features of 3D Shock Wave Boundary-Layer Interactions	[G-5] *Allison McGraw* Do L-chondrite Meteorites Come from the Gefion Asteroid Family?	[H-4] *Kevin Gochenour* The Role of Hydrogen Bonding in Forming Secondary Structure in a Proposed DNA Precursor
2:30-2:40	[A-26] *Carl Leake* Eagle Space Flight Team: Aerodynamics Team	[F-6] *Colin Figgins* Flow Separation Control on a Wall Mounted Hump Using Discrete Flow actuation	[G-6] *Laura Seifert* 40Ar-39Ar Dating of Apollo Impact Samples – Searching for Imbrium	[H-5] *Logan Tegler* Aqueous-Organic Liquid-Liquid Extractions of Isotopically Neutral Ca Isotope Species
2:40-2:50	[A-27] *Brandon Klefman* Eagle Space Flight Team: Electrical Team	[F-7] *Ray Pitts* The Effects of Oscillatory Plunging Motion on an Airfoil Near Stall	[G-7] *Ian Winner* The Planet Forming Region Around a Young Star	[H-6] *Travis Skinner* Microstructural Characterization of Nickel Superalloys
2:50-3:00	[A-28] *Rebecca Tobin* Eagle Space Flight Team: Propulsion Team	[F-8] *William Templeton* Design and Testing of an End-Burning Vortex Hybrid Rocket Engine		[H-7] *Sarah McBryan* The Fishbone Prosthetic: A Lightweight Press-Fit Prosthetic
3:00-3:10	[A-29] *Nicole Shriver* Eagle Space Flight Team: Structures Team	[F-9] *Michael Kronenfeld* Optimized Design of Satellite Payload Support for Vibration Mitigation		[H-8] Michelle Culbertson Cancer Across Species: Development of Novel Model Organisms in Cancer Research

3:10-3:20	[A-30] *Dakota Burklund* Nationwide Eclipse Ballooning Project			[H-9] *Jonathon Barkl* Photochemistry with Diamond
3:20-3:30	[A-31] *Alan Davis* Nationwide Eclipse Ballooning Project (cont.)			[H-10] *Nathan Barba* *Pulse Shape and Signal Processing of Neutron and Gamma Energy Sources Using a Cs2LiYCl6:Ce (CLYC) Inorganic Scintillator*
3:30-3:40	[A-32] *Jefferson Fleming* Nationwide Eclipse Ballooning Project (cont.)			
3:40-3:50	[A-33] *Bianca Pina* Nationwide Eclipse Ballooning Project (cont.)			
3:50-4:00	[A-34] *Paul Ronquillo* Nationwide Eclipse Ballooning Project (cont.)			
4:00-4:10	**Refreshments in the Foyer**	**Refreshments in the Foyer**	**Refreshments in the Foyer**	**Refreshments in the Foyer**