| TIME | Session A  
ASCEND  
Moderators: Clayton Jacobs, ANSR & Elliott Bryner, ERAU, Mechanical Engineering  
(8:30 AM – 10:10 AM)  
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Tom Sharp  
ASU, Earth & Space Exploration  
(10:30 AM-12:00 PM)  
Session H  
EXPLORATION SYSTEMS ENGINEERING: BIOLOGICAL, MATERIALS, OPTICAL AND ELECTRICAL  
Moderators: Ernest Villicana  
Phoenix College, Engineering &  
Daniel La Rosa  
ASU, SEMTE  
(1:30 PM – 3:10 PM) | Session B  
TOPICS IN MATH, PHYSICS & CHEMISTRY  
Moderators: Anna Zaniewski, ASU Physics  
(8:30 AM – 9:30 AM)  
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Session E  
ASTRONOMY & SPACE PHYSICS  
Donald Kavanagh, Pima CC Chemistry  
(9:30 AM-10:10 AM)  
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Ines Montaño, NAU Physics/Astronomy &  
Rolf Jansen, ASU Earth & Space Exploration  
(10:30 AM-12:00 PM)  
---  
Session C: PLANETARY SCIENCE  
Moderators: Paul Scowen, ASU Earth & Space Exploration &  
Rhonda Holton, ASU Astrophysics  
(8:30 AM-10:10 AM)  
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Shigeo Hayashibara, ERAU Aerospace Engineering  
(10:30 AM-11:00 PM)  
Session I: AEROSPACE TECHNOLOGY: SPACEFLIGHT/ENGINEERING PROGRAMS  
Moderators: Elliott Bryner, ERAU, Mechanical Engineering  
(11:00 AM-12:00 PM)  
---  
Wallace Morris, ERAU Aerospace Engineering &  
Ron Madler, ERAU Engineering  
(1:30 PM – 3:20 PM) | Session D: EDUCATION & PUBLIC OUTREACH  
Wallace Morris, ERAU Aerospace Engineering  
(8:30 AM-9:10 AM)  
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Session F: AERONAUTICS  
Wahyu Lestari, ERAU Aerospace Engineering  
9:10 AM – 9:50 AM  
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Session G: EARTH & ENVIRONMENTAL SCIENCE/ENGINEERING  
Anita Antoninka, NAU Forestry  
9:50 AM-12:00 PM  
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Matt Goode, UA Natural Resources and Environment &  
Hilairy Hartnett, ASU Earth & Space Exploration  
1:30 PM-3:30 PM |
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| 8:30-8:40 | [A-1] Edwin Hajric  
ASU ASCEND: Light Spectrum Intensity and Optical Sun Tracking on a High-Altitude Balloon Payload | [B-1] Madison Driskill  
Nanofabrication Using Self-Assembled Monolayers | [C-1] Gabriel Carrillo  
Creating Topographic Maps of Mars using a Software Pipeline | [D-1] Marissa Heffernan  
Science and Journalism: Divides and Solutions |
| 8:40-8:50 | [A-2] Eunice Lopez  
Jessica Frantz  
Modesta Juarez  
PHOENIX COLLEGE, Project: ASCEND Ground Station and Live Video | [B-2] Holly Johnson  
PIN Diamond Diodes for Alpha Particle Detection | [C-2] Solvay Blomquist  
Analysis of Meteors and their Light Curves | [D-2] Maciek Czyz  
Houston, We Don’t Have a Problem: Designing Tools to Develop Intuition Regarding Orbital Mechanics |
| 8:50-9:00 | [A-3] Isai Uriarte  
Ivan Martinez  
Brian Moreno  
Chris Yurgel  
Jackie Salazar  
PHOENIX COLLEGE, Project: Base Station, Housing and Atmospheric Data | [B-3] Lily Wayne  
Calcium Isotope Fractionation in Hip Bone and Serum | [C-3] Bradley Patterson  
Recurring Slope Lineae in Valles Marineris, Mars | [D-3] Timothy Johnson  
Science Writing at the Arizona Daily Sun |
| 9:00-9:10 | [A-4] Lynshell Begay  
Dennis John Jr.  
Diné College ASCEND: Monitoring/Measuring Radiation, Nitrogen Dioxide and Ozone Across the Navajo Nation | [B-4] Curtis Peterson  
Numerical Simulations of Heavy Quark Exotica | [C-4] Claire Cook  
Radar Constraints on the Thickness of Subsurface Ice Near Hellas Planitia, Mars | [D-4] Emily Walla  
Science Journalism with UANews |
Allyssa Joe  
Jamie Begay  
Diné College ASCEND: Collection of Carbon Dioxide Data and Analysis of Methane Across the Navajo Nation | [B-5] Alyssa Smith  
Synthesis of Copper(I) Oxide Nanoparticles | [C-5] Alexa Drew  
Predicting the Probability of Earth-like Life on Enceladus Through Chemical Networks and Metabolic Pathways | [F-1] Cory Coffman  
Effect of Leading and Trailing Edge Flaps on Flat Plates at Low Reynold's Number |
| 9:20-9:30 | [A-6] Cathy McIntosh  
Kennick Encinas  
Isela Barruel  
Josh Smith  
Amin Sennour  
UA ASCEND: Analyzing the Viability of Renewable Energy and Diagnosing Crop Health Using a General Data-logger | [B-6] Adrian Luna  
Quasi Biennial Oscillation Modulates Madden Julian Event Amplitudes Exciting a Rossby Wave-Train | [F-2] Kirk Davis  
Flow Characterization of the University of Arizona Low Speed Wind Tunnel |
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<tr>
<td></td>
<td>[E-1] Shane Bechtel, Tyler Cox</td>
<td>Commissioning Lowband HERA Data to Measure Instrument Sensitivity</td>
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<td>[C-7] Mitchell Magnuson, Madeline Marguardt</td>
<td>Space Weathering Experiments as they Relate to Carbonaceous Asteroids</td>
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<td>[E-2] Tyler Cox</td>
<td>Receiver Temperature Estimates for H1C Observations</td>
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<td>[C-8] Madeline Marguardt</td>
<td>Shock Effects and Mineral Assemblages in the Genomict Eucrite Northwest Africa 8677</td>
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<td>[F-4] Nathaniel Van Evera</td>
<td>Computational Flow Control and Analysis</td>
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<td>[E-3] Lily Whitler</td>
<td>Instrumental Systematics and the Impact on 21-cm Measurements of the Epoch of Reionization</td>
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<td>[C-9] Paras Angell</td>
<td>Comparison of Seasonal Surface Temperatures for CO2 Ice and H2O Ice Near the Martian South Pole</td>
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<td></td>
<td>[G-1] Nathaniel Bochenek</td>
<td>A Tale of a Flash Flood: WRF Modeling of Record Rainfall and Flooding in Arizona</td>
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<td>10:00-10:10</td>
<td>[A-10] Jason West, Zach Moir, Simeon King</td>
<td>PCC ASCEND: Investigation of Radiation and Atmospheric Gases at High Altitude</td>
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<td>[E-4] Samantha Andrews</td>
<td>HCN in the Taurus Molecular Cloud</td>
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<td>[C-10] Vivian Morrison</td>
<td>OSIRIS-REx: Investigating Statistical Uncertainties in Remotely Sensed Images</td>
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<td>[G-0] Ryan Shiner</td>
<td>Sproul Crater: An Eruption History</td>
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<td>10:10-10:30</td>
<td>Morning Break—Fiesta Ballroom Lobby</td>
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<td>10:30-10:40</td>
<td>[A-11] Pamela Cabrera, Angelo Navoa, Daniel Barkley</td>
<td>CAC ASCEND Launch Results for Fall 2018</td>
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<td>[E-5] Emily Apel</td>
<td>Mapping Cooling of Interstellar Atomic Gas in Dwarf Galaxies with CII Emission Spectroscopy</td>
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<td>[C-11] Jenna Robinson</td>
<td>Modeling Exoplanet Lithosphere Properties Using ExoPlex</td>
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<td>[E-6] Adam Bauer</td>
<td>Characterization and Analysis of Massive Space Telescopes</td>
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<td>[C-12] Cathryn Sephus</td>
<td>Ancient Pigments: A Colorful History</td>
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<td>[G-3] Alexus Cazares</td>
<td>Effects of Urbanization on Gila Monsters</td>
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| 10:50-11:00 | [A-13] Thomas Montano  
Using General Relativistic Magnetohydrodynamic Simulations to Probe the Parameter Space of Sgr A* | [C-13] Madison Walder  
Testing Atmospheric Models to Correct Protoplanetary Disk Spectra |
|         | [A-14] Samuel Gonzalez  
Samantha Barr  
Adlene Chavez  
GCC’s ASCEND Team 1:  
Capturing Flight Video, Design of Payload Housing, and Buzzer Locating System | [E-8] Martin Flores  
Understanding the Relationship Between the Circumgalactic Medium and the Interstellar Medium | [G-4] Priscilla Cortez  
Changes in Phenotypic Variability During the Evolution of Multicellularity |
| 11:00-11:10 | [A-15] James Shaffer  
Derrick Lenhardt  
GCC’s ASCEND Team 1:  
Capturing Flight Video, Design of Payload Housing, and Buzzer Locating System | [E-9] Gabriela Huckabee  
The Effect of Nonequilibrium Chemistry and Nonuniform Metallicity on Ion Abundances in Galaxy Outflow Hydrodynamic Simulations | [I-1] Julia Mihaylov  
Julia Language 1.0 Ephemeris and Physical Constants Reader for Solar System Bodies: Asteroid Shape Modeling |
|         | [A-16] Jose Inzunza  
Juanpablo Garcia  
GCC’s ASCEND Team 2:  
Capturing Flight Video, Design of Payload Housing, and Buzzer Locating System | [E-10] Andres Jaramillo  
The Search for Intergalactic Globular Clusters | [I-2] Renee Spear  
Julia Language 1.0 Ephemeris and Physical Constants Reader for Solar System Bodies: Gravitational Modeling |
Jennifer Bartelme  
GCC’s ASCEND Team 2:  
Capturing Flight Video, Design of Payload Housing, and Buzzer Locating System | [E-11] Victoria Jones  
Analysis of Variability in the JWST North Ecliptic Pole Time-Domain Field | [I-3] James Haner  
Design and Construction of Static and Dynamic Calibration Cells |
|         | [A-18] Miranda Erpelding  
Stephen Bakle  
GCC’s ASCEND Team – Autonomous Flight Research: Flight Software and Quadcopter Assembly | [E-12] Ryan Kelly  
Wind Tunnel Improvements for Shockwave Boundary Layer Interaction Research |
The Future of Biodiversity Assessment: Using Environmental DNA and Next Generation Sequencing to Characterize Biological Communities in the Central Highlands of Arizona |
|         | [I-5] Luca Robbins  
High Efficiency Aerospace Rocket Nozzle | [I-6] Steven Buck  
The Effects of Forest Management Practices and Feedbacks Between Plants and Soil Organisms |
| 11:30-11:40 | [I-7] True Doty  
Quantifying Coastal Erosion Along the Lost Coast, California | | [G-7] Samantha Hershauer  
Moose on the Loose: Using Ancient sedDNA to Detect Moose Arrival Time |
|         | [A-18] Miranda Erpelding  
Stephen Bakle  
Analysis of Variability in the JWST North Ecliptic Pole Time-Domain Field | [I-4] Jacklyn Higgs  
Wind Tunnel Improvements for Shockwave Boundary Layer Interaction Research |
Recalibrating Strong-Line Metallicity Diagnostics: Chemical Abundances from Composite Galaxy Spectra | [I-6] Steven Buck  
Space-based Solar Power using Parabolic Reflectors |
|         | [I-7] True Doty  
Quantifying Coastal Erosion Along the Lost Coast, California | | [I-7] True Doty  
Quantifying Coastal Erosion Along the Lost Coast, California |
| 11:50-12:00 | [A-19] Noel Rojas  
An Investigation of Precipitation Partitioning Between Arizona and New Mexico During the North American Monsoon |
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<th>Session E (con’t): ASTRONOMY &amp; SPACE PHYSICS</th>
<th>Session I (con’t): AEROSPACE TECHNOLOGY: SPACEFLIGHT/ENGINEERING PROGRAMS</th>
<th>Session G (con’t): EARTH &amp; ENVIRONMENTAL SCIENCE/ENGINEERING</th>
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<td>12:00-1:30</td>
<td>Lunch Break: Fiesta Ballroom</td>
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<tr>
<td>Time</td>
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<td>Speaker/Authors</td>
<td>Abstract</td>
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<tr>
<td>2:30-2:40</td>
<td>[E-19]</td>
<td>Searching for Brown Dwarfs in the JWST North Ecliptic Pole Time-Domain Field</td>
<td>Thomas Tyburczy</td>
<td>EagleSat 2: Memory Bit-Flip Experiment Overview and Development</td>
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<td>2:50-3:00</td>
<td>[G-16]</td>
<td>Portable Dust Generator</td>
<td>Ruby O’Brien-Metzger</td>
<td>Using Analytical Tools in the Field and in the Lab to Understand Tempe Town Lake’s Fluctuating Biogeochemical Cycles</td>
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<td>3:00-3:10</td>
<td>[E-20]</td>
<td>Investigating Three Newly Resolved Debris Disks in Scorpius-Centaurus</td>
<td>Garrett Rand</td>
<td>EagleSat 2: Communications System Overview and Developments</td>
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<td>3:10-3:20</td>
<td>[I-13]</td>
<td>EagleSat 2: Communications System Overview and Developments</td>
<td>Cameron White</td>
<td>Using Analytical Tools in the Field and in the Lab to Understand Tempe Town Lake’s Fluctuating Biogeochemical Cycles</td>
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<tr>
<td>3:20-3:30</td>
<td>[I-14]</td>
<td>EagleSat 2: Electrical Power System</td>
<td>Kadin Worthen</td>
<td>Using Analytical Tools in the Field and in the Lab to Understand Tempe Town Lake’s Fluctuating Biogeochemical Cycles</td>
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<td>4:40-4:50</td>
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<td>Antonio Acuna</td>
<td>EagleSat 2: Electrical Power System</td>
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<td>4:50-5:00</td>
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<td></td>
<td>Arctic Ice Management</td>
<td>EagleSat 2: Electrical Power System</td>
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**Refreshments**
Fiesta Ballroom Lobby