EMBRY-RIDDLE
Aeronautical University
PRESCOTT, ARIZONA

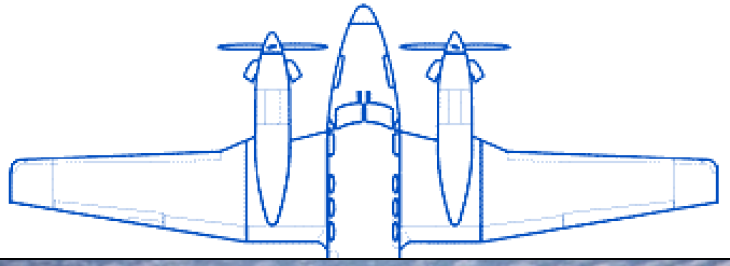
ignite

CREATE • RESEARCH • CHANGE

Discovery Day

April 4, 2014

EMBRY-RIDDLE
Aeronautical University
PRESCOTT, ARIZONA



<u>King Air Tours</u>: Student Training in Airborne Research and Technology (START) is a current project at the ERAU Prescott Campus funded by the National Science Foundation's Division of Atmospheric and Geospace Sciences. The project is the first of its kind, where undergraduate students have the opportunity to participate in atmospheric research on board the University of Wyoming King Air research aircraft (see photo on the back page). If you are interested in learning more about the specialized instrumentation on this aircraft and the research being performed by ERAU students, **tours leave every half hour between 1:50 and 3:20.** Meet on the patio area just outside the double doors by the elevator on the west side of the Academic Complex (Bldg. 74).

POSTER SESSION
AC1 Atrium (Bldg.74)

1	The Female Spies of Ireland—*Kellyn Wagner*
2	SAE Aero Design Team —*Sho Okayama*
3	Embry-Riddle Cyclotron—*Kelsey O'Connor*
4	Eagle Wing Suits—*Joshua Warren, Glenn Borland, Spencer Douglas, Chris Reed, Caity Melio, Joseph Ballas*
5	Eagle Aerospace—*Tristan Hieronymus*
6	Eagle Rally—*Garrison Robertson*
7	Designing EagleSat's Structure—*Aaron Taylor*
8	The National Airline Passenger Survey 2014—*Blair Boies*
9	Airline Quality Rating 2014 —*Blair Boies*
10	Spacecraft Low Thrust Propulsion Optimization System—*Juan Gutierrez, David Herrera-Gomez*
11	Expanding the Fraction of the Universe In Which We Can Observe Supernova Made Gravitational Waves—*Matthew Stone*
12	Blended Wing Aerodynamic Research—*Hannah Morris, Tatiana Torriani, Morgan Cocklin*
13	Attitudes Toward the Practical Incorporation of Scenario Based Training (SBT) Into a Pilot Training Syllabus—*Luis Morales, Tim Tilney, Caroline Gleb, Reid Uyehara*
14	Aerial Aquatics: Unmanned Deployment of Submersibles—*Alex Kuehn, Chun-Han Lin*
15	Live Weather Data—*Ricardo Fernandez*
16	Communication Networks and Protocols—*Narendran Muraleedharan, Ricardo Fernandez*

TIME	ACTIVITY	LOCATION
8:00-9:00	**Psychological Profiling and Betrayals of Trust:** Applied Research for Cases of Terrorism, Espionage, and Murder (3 presentations) PSY 313 Personality and Profiling applied research presentations by student teams	Academic Complex 107
11:30-12:30	**"Innovation" - Discovery Day** **Keynote Speaker, Jody Davis** *Ms. Davis is a 2003 Aerospace Engineering graduate of the Prescott Campus. She is now a flight mechanics technical lead at NASA Langley and was a member of the entry, descent and landing team for the Mars Science Laboratory (MSL) / Curiosity Rover.*	Activity Center
12:40-4:00	**Research Presentations & Posters** (*See detailed schedule on the following pages*)	Academic Complex (Various Locations)
4:00-4:45	**Exemplary Research Presentation:** "Boeing AerosPACE"—Dr. Shigeo Hayashibara	DLC Auditorium
4:45-5:15	**Annual Awards Assembly:** *Student Grant Awards* *College Faculty Teacher of the Year Awards* *College Faculty Service Awards* *College Faculty Researcher of the Year Awards* *Campus Faculty Researcher of the Year Awards*	DLC Auditorium

RESEARCH PRESENTATIONS AND DEMONSTRATIONS

TIME	AC1-107 (Bldg. 74)	AC1-115 (Bldg. 74)	AC1-123 (Bldg. 74)	KING AIR TOURS
12:40-12:55	EagleSat: Continuing Embry-Riddle's CubeSat Satellite Development Program—*Clayton Jacobs*	Analysis of CFD methods in High Lift Configurations—*Aaron Pigott*	*"Walk-in Demonstrations of Wind Tunnel CAD Models*	
12:55-1:10	EagleSat Flight Operations—*Mo Sabliny*	Measuring Mechanical Properties of Thin Optical Coatings—*Elaine Rhoades*	*Walk-in Demonstrations of Wind Tunnel CAD Models*	
1:10-1:25	Designing a Circularly Polarized Antenna for an EagleSat Satellite—*Dadija Bliudzius*	NASA Human Exploration Rover Challenge—*Estelle Fortes, Zach Henney, Mo Sabliny, Aaron Taylor, Michaela Branscomb, Johnnie Perry, Jessica Chow*	*Walk-in Demonstrations of Wind Tunnel CAD Models*	
1:25-1:40	EagleSat Solar Power Optimization—*Darin Baker*	Energy Optimal Control and Path Planning Implementation, Validation and Verification—*Kevin Vicencio and Chelsea Katan*	*Walk-in Demonstrations of Wind Tunnel CAD Models*	
1:40-1:55	System Fundamentals as Facilitating CubeSat Development—*Marcus Bever*	Circulation Control—*Ryan Callahan, Aaron Watson*		TOUR 1: Vans depart from behind AC1 (1:50)
1:55-2:10	Designing a Communications System for EagleSat—*Lisa Ferguson*	Understanding the Shortcomings of CFD in Predicting High Lift Configurations —*Ciara Thompson*		
2:10-2:25	Theta-Pinch Electromagnetic Conic Element Plasma Thruster—*Richard Reksoatmodjo*			TOUR 2: Vans depart from behind AC1 (2:20)
2:25-2:40	Using internal navigation systems (INS) to navigate small unmanned aerial system (sUAS) when GPS is lost or inaccurate—*Alex Goodan, Michael du Breuil*			
2:40-2:55	Sense and Avoid—*Alex Goodan, Michael du Breuil, Aaron Petrek, Alex Kiel, Rebecca Foth, Robert Layton*			TOUR 3: Vans depart from behind AC1 (2:50)
2:55-3:10	Characterization of Solid Rocket Propellant—*William Carpenter*			
3:10-3:25	Ice Crystal Parameterizations in Artic Cirrus –Towards a Better Representation in Global Climate Models and Aircraft Icing Potential Studies—*Victoria Walker*			TOUR 4: Vans depart from behind AC1 (3:20)
3:25-3:40	Embry-Riddle Aeronautical University—2013-2014 AIAA Design Build Fly Club—*Conor Jones, Patrick Desrochers, Fernando Dos Santos, Conner Warren, Bryce Milnes*			
3:40-3:55	VEX Robotics—*Geoffrey Winship, Soe Abitia, Magnus Bergman, Aaron Butler, Kellie Wallace, Stephen Anderson,, Kristin Sandager, Bryan Rhodes, Josh Warren*			