

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY

# AERON<sup>✈️</sup>NEWS

Department of Aerospace Engineering at Embry-Riddle Aeronautical University – Daytona Beach



Embry-Riddle Aeronautical University's  
Aerospace Engineering Program  
named the best in nation for  
the 15th straight year

**NEW** - Aerospace Engineering Ph.D. Program

# Message From the Chair



Dr. Tasos Lyrintzis

It has been a very exciting year up to now. For the 15th year in a row (i.e., since the inception of this ranking), the “Best Colleges” guidebook published by U.S. News & World Report ranks Embry-Riddle Aeronautical University’s undergraduate aerospace engineering program number one in the category of non-Ph.D. granting institutions.

I am also very happy to inform you that we had a successful visit by ABET and we are now accredited for 6 more years. Our student body has been growing. In Fall 2014, we had 1,267 undergraduate students, 140 M.S. students, and 11 Ph.D. students. Our faculty has grown as well; in Fall 2014, we welcomed three new members to our faculty: Drs. Henderson, Leishman, and Namilae, who are highlighted herein.

I have only been at ERAU for three years, but I can already see the results of the strides we have taken to make our program better. Last year, a team advised by Professor Attia received 1st place in the AIAA propulsion design competition. Two years ago, ERAU made aviation history in NASA’s Green Flight Challenge, successfully building a gas/electric-battery hybrid plane—the first of its kind ever to transition from gas to full-electric power in flight; ERAU holds a patent on this technology. Currently, students and professors at the Eagle Flight Research Center are working on the NASA Unmanned Aircraft System Challenge as well as a full-electric airplane. In addition, we have numerous rocket engineering design/build/test projects at both the undergraduate and graduate levels.

We also have a significant number of funded research activities, including support from the state of Florida in a partnership with the top three research universities in the state to establish the Florida Center for Advanced Aero-Propulsion (FCAAP). The National Science Foundation (NSF) and the Air Force Office of Scientific Research (AFSOR) have recognized our capabilities by funding our research on micro-air vehicles. In addition,

our funding from the Air Force for their Nanosat program continues. We also have funding from DARPA for a project on an artificial immune system for flight envelope estimation and protection, and from NASA for projects on a free-flying unmanned robotic spacecraft for asteroids, lightweight materials, scramjet modeling, and an ultra-miniaturized star tracker. Also, the partnership with Dassault for the Dassault Design Institute continues. Finally, we have always had a great relationship with Gulfstream that includes a distance education Master of Science program, faculty sabbatical and summer leaves, sponsorship of senior design courses, and other interactions. These are just a few of the many efforts going on in our department.

Also, in August 2013, we launched a Ph.D. in Aerospace Engineering and currently have 13 Ph.D. students. A multidisciplinary M.S. program in Unmanned and Autonomous Systems Engineering was started in the College with the participation of the Departments of Aerospace Engineering; Electrical; Computer, Software, and Systems Engineering; and Mechanical Engineering.

Lastly, we are excited to announce a new building for engineering research labs. The building is expected to be completed by the end of 2016 and will house several state-of-the-art research laboratories, including a new subsonic wind tunnel. Also, the College of Arts and Sciences, previously located in the Lehman building, has moved to its own new building. The move has freed up some additional lab space for the department. These events will elevate the status of our labs, coupled with our recent hires (12 faculty hires in the last four years), and will launch us to higher levels of achievement.

Best Regards,



Dr. Tasos Lyrintzis  
Distinguished Professor, Department Chair





# AEROSPACE NEWSLETTER

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## Lehman Upgrades...

### The microscope world opens up

Thanks to the new state-of-the-art Scanning Electron Microscope (SEM) the College of Engineering acquired in December, the microscopic world is now visible, allowing us to conduct such research as examining the microstructure of metals and determining the reasons for a failure.

The microscope, which has a resolution of 3 nm (3 billionths of a meter) and can magnify up to 1,000,000 times, is also equipped with an energy-dispersive X-ray spectrometer, letting us detect which elements are present and their concentrations.

Another major feature of the microscope is its remote-access capability. Researchers from around the world can log onto our computer and use the SEM. Similarly, the microscope can be used in a large classroom without having to be physically present in the lab.

Faculty members, as well as graduate and undergraduate students, are using the microscope for their research projects, which range from the nanoscale to the microscale.

This important acquisition was made possible due to a National Science Foundation Grant for Major Research Instrumentation awarded to Dr. Virginie Rollin (Aerospace Engineering), Dr. David Sypeck (Aerospace Engineering), and Dr. John Mathis (Physical Sciences).



Dr. Rollin and students examining a sample

# Research Center News

*Eagle Flight Research Center*, directed by Dr. Pat Anderson, is the university's Aerospace Engineering R&D facility. The state-of-the-art center is equipped to conduct a variety of projects.



## NASA Airspace Operations Challenge

In this project, a Cessna 182 is being instrumented to compete in NASA's UAS Centennial Challenge, scheduled for September. The challenge consists of flying autonomously through a series of predefined waypoints while using ADS-B data to avoid other airplanes flying nearby. The aircraft operates as a surrogate UAV, with a safety pilot onboard. The aircraft can transition between normal and autonomous operations with the flip of a switch. The outcome of this challenge is to further advance the technologies necessary for the integration of unmanned aircraft into the National Airspace System. The aircraft is being flight tested to optimize mission performance.



Photo by Frank Schwichtenberg

## Electric Airplane

After creating the first parallel-drive hybrid aircraft in the world, Embry-Riddle is once again pushing the limits of aviation by creating a fully electric airplane. A Diamond HK-36 aircraft is being modified to operate completely under electric propulsion. Battery systems, mission profiles, and aerodynamics are being optimized to maximize safety and flight time. This project is a gateway to the future of aviation, where emission and noise control are two of the most pertinent issues.



## Octocopter

Embry-Riddle and Daytona Beach International Airport have been awarded a Certificate of Authorization for the operation of an autonomous Octocopter that will be able to fly through a field while monitoring the health of various crops. Early detection of infected crops will allow more effective farming that will result in savings of time and money. The Octocopter is currently being flight tested to demonstrate its safety features.

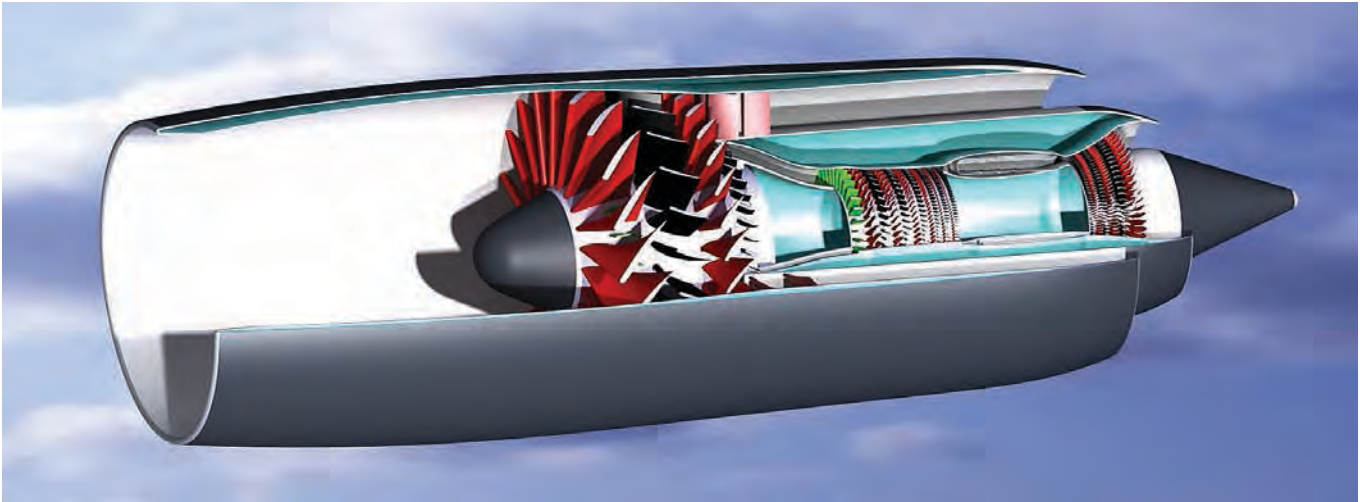


## Special Mention

Through the generous donation of Jerry Lineback, the Eagle Flight Research Center has acquired a Snap-on Toolbox and tools to aid the research and development of exciting projects. We appreciate Mr. Lineback's kindness.



# Embry-Riddle Students Win 1st Place in AIAA/ASME Jet Engine Design Contest



The ERAU High Bypass Geared Turbofan - designed by Embry-Riddle Aeronautical University students

For the first time in Embry-Riddle's history, students from the Daytona Beach Campus claimed first place in the annual International Undergraduate Team Engine Design competition held jointly by the American Institute of Aeronautics and Astronautics (AIAA) and the American Society of Mechanical Engineers (ASME).

The competition tasked 15 college student teams with designing an improved engine for the Northrop Grumman RQ4 Global Hawk unmanned air vehicle, a surveillance aircraft powered by a single Rolls-Royce AE3007H turbofan. The competition requested an improved engine design that would provide a ceiling increase to 70,000 feet at Mach 0.6 while lowering overall weight and fuel consumption.

In response to this challenge, the Embry-Riddle team designed a High Bypass Geared Turbofan jet engine shorter than the Rolls-Royce AE3007H

that not only met the specified requirements, but surpassed them by implementing a two-stage fan and a planetary gearbox. These

***For the first time in Embry-Riddle's history, students from the Daytona Beach Campus claimed first place in the annual International Undergraduate Team Engine Design competition***

technologies allowed the number of stages for the high pressure compressor to decrease by more than half, from 14 down to only six. The design required just a single turbine with only three stages.

The Embry-Riddle student team consisted of four Aerospace Engineering majors, all with a concentration in propulsion: Peter Osterc (team lead), Jason Gardellis, Tyler Huntington, and Hibiki Kobayashi. After graduating from the accelerated master's program, Gardellis joined Rolls-Royce in Indianapolis, Ind. Kobayashi returned home to Japan and is now working

with Fujitsu in Tokyo. Both Peter Osterc and Tyler Huntington are pursuing Master's Degrees in Aerospace Engineering at Embry-Riddle. The team was supervised by Dr. Magdy Attia.



ERAU Team left to right: Peter Osterc, Tyler Huntington, Dr. Magdy Attia, Hibiki Kobayashi and Jason Gardellis

# AIAA News

## American Institute of Aeronautics and Astronautics

The Embry-Riddle Student Branch of AIAA has been very active over the past few months. We hosted a trip to Kennedy Space Center (KSC) and another to Embraer Executive Jets in Melbourne, Fla. The KSC trip included an up-close launch pad tour and a visit to the Space Shuttle Atlantis exhibit. Our trip to Embraer, which included the final assembly building and the paint facility, provided some real-world industry exposure for our members interested in aeronautics. We witnessed several airframes in various stages of the assembly process and talked with Embry-Riddle engineers about their work. Both trips were very successful, and we look forward to similar trips in the future.

We have also been finalizing our design projects for submission to the following national competitions: AIAA Design, Build, Fly (DBF); AIAA Undergraduate Engine Design (three teams); and Speedfest IV. We're preparing the DBF aircraft for test flights, and a recent photo of the aircraft is shown at right. The Undergraduate Engine Design teams have been working hard on their designs for a supersonic business jet propulsion system. The Speedfest IV competition will be held in April at Oklahoma State University's Unmanned Aircraft Flight Station.



Preparing the DBF aircraft for test flights.

## AIAA Spring Dinner Meeting

At the annual spring dinner meeting, we hosted retired U.S. Air Force Col. Richard Graham. He spoke on the development of the SR-71 Blackbird aircraft, its engineering challenges, and the problems faced by its pilots. Col. Graham also shared his extensive collection of photos and a video.



Col. Graham with most of the members of the Student Branch Executive Board.

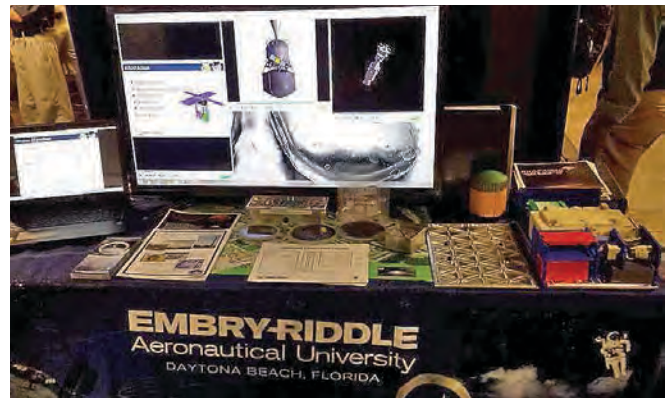




Left to right: Francisco Franquiz, Kristia Harris, Michael McGarvey, Logan Turco, Geovanni Solorzano, Mikey Nayak (USAF), Professor Bogdan Udrea (ERAU), Justin Miller, William Bumgarner

Eight Embry-Riddle students recently returned from the AIAA Small Satellite Conference in Logan, Utah, where their ARAPAIMA (Application for RSO Proximity Analysis and IMAGING) CubeSat underwent an Engineering Design Review. As participants in the Air Force Research Laboratory's University Nanosatellite Program (UNP), the student-led team is designing, fabricating, integrating, and testing their proximity operations satellite. NASA has selected their project as part of its CubeSat Launch Initiative for launch in 2017.

Led by William Bumgarner (BSAE Senior) and Kristia Harris (MSME), over 100 students have gained real-world experience since the project started in 2013. Their 6U CubeSat being constructed in the Lehman building is the largest satellite project ever undertaken by Embry-Riddle. The CubeSat will conduct relative maneuvers in close proximity to the launch vehicle's upper stage.



Project ARAPAIMA's table at the AIAA SmallSat Conference. Pieces of the engineering test unit's structure and a full-size 3D printed mockup of the satellite are on the right side of the table.

## Scholarship Awarded

### 2014-2015 Alfred Gessow Scholarship Awarded

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The Vertical Flight Foundation has presented alumnus Chin Gian Hooi with a \$2,300 Alfred Gessow Scholarship for the 2014-2015 school year. He holds a B.S. in Aerospace Engineering from Embry-Riddle and is currently enrolled in the M.S. rotorcraft program at the University of Maryland (UMD). He was one of the top students in the helicopter aerodynamics class taught by Dr. Gordon Leishman, a UMD professor who recently joined the Aerospace Engineering Dept. at Embry-Riddle. VFF scholarships, which are very competitive, were established in 1977 to assist promising undergraduate and graduate students planning to pursue careers in vertical flight.

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***Earning your Aerospace Engineering degree at the Daytona Beach Campus means you'll be joining the largest such program in the nation and using facilities you've not yet imagined.***

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# ASEE News

## ERAU Students Win Awards at American Society for Engineering Education Conference in Georgia



Students from left to right: William Quigley, Daniel Petrella, Cassandra Gribbins, Jana Thompson, Blake Rymer

Embry-Riddle engineering students won awards at the American Society for Engineering Education (ASEE) Southeastern (SE) Section Conference held in Macon, Ga., where 200 attendees from 50 institutions presented more than 70 student posters.

Three Aerospace Engineering freshmen – Daniel Petrella, William Quigley and Blake Rymer – took third place in the first-year/second-year design team division with a poster on “Sound Pioneers Sustainable Design Using CATIA.” Their faculty advisor is Engineering Fundamentals Associate Professor, Dr. Lulu Sun.

## Artificial Immune System for Flight Envelope Estimation and Protection Project

Director, Professor Hever Moncayo



Hever Moncayo,  
Assistant Professor of  
Aerospace Engineering

In recent years, several technologies have been investigated for improving post-failure flight safety. Such technologies increase pilot situational awareness and trigger compensating changes in the control laws to avoid unrecoverable post-failure flight conditions, maintain control of the aircraft, and complete the mission.

The primary technical objectives of this project are to develop a novel

biomimetic framework for flight envelope estimation and protection under upset flight conditions, investigate the use of the artificial immune system paradigm for aircraft adaptive guidance and control, implement the proposed system, and demonstrate its capabilities with a motion-based flight simulator and an unmanned aerial vehicle.

Funded by the U.S. Department of Defense, the project is a collaboration of the Embry-Riddle Flight Dynamics & Control Research Laboratory and West Virginia University (WVU). Two Embry-Riddle students in the Aerospace Engineering master’s and doctoral programs are fully involved in the project.

***In recent years, several technologies have been investigated for improving post-failure flight safety.***



# Dassault Design Institute

Director, Professor Luis Gonzalez-Linero

The world of business jets is fascinating – the kind of stuff that dreams are made of. And perhaps no other institution has a greater impact in that multi-billion-dollar industry than Embry-Riddle. Countless alumni hold important positions with the major manufacturers, and the university works hard to make that contribution and that connection stronger. Besides the numerous internship opportunities that our students are pursuing at Bombardier, Dassault, and Gulfstream this year, the department and, in particular, the design faculty, have been very active in deepening our relationships and planting the seeds for even more exciting collaborations in the future.

We started by signing a new memorandum of understanding with Dassault to launch phase II of the Dassault Design Institute (DDI), headed by Dr. Luis Gonzalez, Professor of Aircraft Preliminary and Detailed Design, who has taken the DDI to a new level. As part of the agreement, Embry-Riddle and Dassault will promote joint academic programs and foster industrial internships and co-ops for students. The partners may collaborate on capacity-building activities such as short courses, seminars, conferences, workshops, competitions, and other such events.

A shining example of this partnership was a lecture in the



Luis Gonzalez-Linero,  
Assistant Professor of  
Aerospace Engineering

spring semester by Lionel de la Sayette, Dassault's Senior Vice-President for Strategy and Education, along with Michel Lavanant, Engineering Vice-President and Senior Falcon Program Technical Manager, and Donald Pointer (an Embry-Riddle alumnus), Director of Marketing Services and Development for Dassault. They talked about DDI current status, goal, and ambitions. Mr. Lavanant discussed the history and future of the Falcon family of jets from 1960 to 2020, and Mr. de la Sayette talked about the key competencies required for leading engineering teams, sharing his experiences in the development of uninhabited combat air vehicles (UCAVs).

Within the framework of the DDI phase II, there are opportunities for collaborative research projects, typically for graduate students.



A Falcon 10 with the winglets designed by the ERAU students

## Project Icarus Update

Student-Built Rocket Will Launch This Year

Mentor and Advisor, Professor Rick Perrell

Embry-Riddle's flagship rocket engineering program has made substantial strides this past year toward President John Johnson's goal of launching a student-built rocket into space – above the "Karman Line," or 62 miles altitude. Preliminary design calculations prescribe a seven-meter-long, one-half-meter-diameter single-stage rocket vehicle with a 3,000 lb.-thrust engine.

The Icarus II sounding rocket project differs from the original in that its liquid propellant propulsion system is designed, built, and tested in-house. Icarus I used two commercially available solid rocket motors in its 2007 launch to 37 miles altitude from NASA's Wallops Flight Facility. Like Icarus I, the current project is the technical effort solely of a team of students. The team effort during the 2013-14 academic year has produced a 3,000-lb.-thrust concept demonstration engine and a mobile



Icarus mobile rocket engine test firing platform rocket engine ground test unit. The engine will be fueled by ethyl alcohol – a "green" propellant produced from renewable sources – and liquid oxygen. The propellant tanks are the upright structures at the front of the test platform, a structurally reinforced utility trailer. The design also includes remotely controlled valves, propellant feed lines, pressurization system, and control cabling.



Rick Perrell,  
Professor of Aerospace  
Engineering

# Vitiated Air Scramjet Simulations

Director, Professor Bill Engblom

Scramjet engine testing requires facilities that are equipped to supply very high enthalpy airflows to the engines to represent realistic hypersonic (for example, Mach 5 to 8) flight conditions. Typically, the air heating process involves combustion, which produces water, carbon dioxide, and other species, which are not present in real flight conditions. Understanding the effect of these contaminants, commonly referred to as “vitiation effects,” is extremely important in the scramjet engine development field.

The U.S. Department of Defense (DOD) has initiated a contract with Embry-Riddle via NASA to develop and apply



Bill Engblom,  
Professor of Aerospace and  
Mechanical Engineering

high-fidelity numerical models of the HiFire II scramjet flowpath for direct comparison with experimentation results obtained at the ATK GASL Facility in Ronkonkoma, N.Y.

Professor Bill Engblom and Ph.D. student Michael Borghi have led the development of a combustion kinetics approach, which has been shown to accurately predict the performance of this engine during testing with clean air (that is, no vitiation). The goal of the current DOD project is to extend this approach to understand the effect of vitiation on engine performance.

## Faculty Awards

### Congratulations To Our Outstanding Faculty Members

Professors **Attia, Greiner, and Prazenica** received the 2014 Aerospace Engineering teaching award. This award was a result of a vote taken by graduate (for Professor Attia) and undergraduate students (for Professors Greiner and Prazenica)

Professor **Gudmundsson** has signed an agreement for the 2017 publication of his second book, “General Aviation Aircraft Load Analysis.” His first book, “General Aviation Aircraft Design,” published by Butterworth-Heinemann in October 2013, is currently on Amazon’s bestsellers list.

Professor **John Novy** was awarded Emeritus status. He retired in December 2012 after 32 years at ERAU.

Professor **Howard Curtis** retired in May 2014 after 42 years at ERAU. He was awarded Emeritus status and also received the ERAU 2014 Service Award for his outstanding service, including serving four times as department chair and leading the department through six ABET evaluations.

### In memory of Dr. Tej Gupta

On May 6 of this year, our beloved colleague Prof. Tej Gupta passed away at age 72 after 35 years of dedicated service to Embry-Riddle.

Tej joined the University's Daytona Beach Campus in 1979 and established an exemplary record of teaching excellence as one of the leaders of the Aerospace Engineering program. He was a man of character and principle and had a unique ability to build deep connections with people around him.

During his long tenure, Tej touched the lives of thousands of students and brought prestige and recognition to the University through his service to the aerospace professional community at the local and national levels. He devoted his time and effort to the well-being of a number of students and played a vital role in developing Embry-Riddle's engineering reputation.



Throughout his distinguished career, he was beloved by his students. Tej received numerous awards and recognition, including the Overall Professor of the Year Award in 2011 from Embry-Riddle's Alpha Mu chapter of the Pi Kappa Alpha fraternity, Outstanding Teacher of the Year Award in 2004, and the AIAA Faculty Advisor Award for Region II Southeastern United States in 1995-1996. He was also an Associate Fellow of AIAA.

Everyone in the Aerospace Engineering Department was fond of Tej. He was an iconic figure in the department, a gentle soul, a kind and generous man, a teacher, and a mentor. He left an indelible mark on our institution and our hearts.

**Dr. Maj Mirmirani**  
Dean, College of Engineering  
Daytona Beach Campus



# Faculty Update

## Meet Our New Faculty Members

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### Dr. Troy Henderson

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*Dr. Troy Henderson is an Assistant Professor of Aerospace Engineering and recognized expert in optical orbit determination. His research interests include spacecraft dynamics and control, optical navigation, and small satellite systems. He was a Summer Faculty Fellow at the Air Force Research Lab in 2012 and is currently funded by a NASA STTR to build an ultra-miniaturized star tracker. He is also part of an NSF-funded team building a CubeSat for space plasma research. Other current research involves using telescopes to identify and characterize non-stellar objects and parallel processing algorithms for image processing.*

*He is a reviewer for IEEE Aerospace Engineering Optimization and the Journal of Spacecraft and Rockets, as well as to several others. Dr. Henderson graduated from Texas A&M with a Ph.D. and Master of Science in Aerospace Engineering and has a Bachelor's in Physics from Baylor University. Dr. Henderson has held previous academic posts at Virginia Tech and Texas A&M, researched and taught abroad at the University of Glasgow, and worked in industry. Dr. Henderson enjoys spending time with his wife and four young children and playing music.*



Dr. Troy Henderson

### Dr. Gordon Leishman

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*Dr. J. Gordon Leishman is an internationally recognized specialist in low-speed aerodynamics, experimental aerodynamics and wind tunnel testing, as well as in rotorcraft and wind turbine aerodynamics. He holds a Ph.D. in Aeronautics and Fluid Mechanics and a D.Sc. in Aerospace Engineering. Dr. Leishman is the author of over 100 journal papers and has written two books including a very successful textbook on helicopter aerodynamics.*

*Dr. Leishman is the former Editor in Chief of the Journal of the American Helicopter Society and is currently an Associate Editor for the Journal of Aircraft. He is a Technical Fellow of the American Helicopter Society, a Fellow of the Royal Aeronautical Society, and an Associate Fellow of the AIAA. Dr. Leishman is a private pilot with over 1,500 flight hours and also an owner of 12 vintage motorcycles.*



Dr. Gordon Leishman

### Dr. Sirish Namilae

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*Dr. Sirish Namilae joined the Aerospace Engineering Department in 2014 after eight years at Boeing and Oak Ridge National Laboratory. He holds an M.S. in Materials Science and a Ph.D. in Mechanical Engineering from Florida State University. At Boeing, he worked in airframe product development and structure analysis in several programs like 787-8 & 9, 777-9X, and Chinook. He was the structures focal for main landing gear doors in multiple aircraft.*

*Dr. Namilae also served as Associate Editor for Boeing Technical Journal and has published over 30 journal and conference papers. His research interests are in computational materials modeling, aerospace composites, and nanocomposites.*



Dr. Sirish Namilae

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GO TO: <http://daytonabeach.erau.edu/college-engineering/aerospace/>

# Perfect Match:

## A Unique Graduate Program Develops from Embry-Riddle, Gulfstream Collaboration

Articles reprinted with permission from *Lift* and the author, Melanie Azam, Embry-Riddle Communications Specialist.

Tim Farley ('86, BSAE, DB; '02, MSTM) was Gulfstream's director of project engineering when he approached his former Embry-Riddle professor, Jim Ladesic ('67, BSAE) with the idea of an academic-industry collaboration. What emerged 10 years later was Embry-Riddle's first graduate degree program tailor-made for a specific company.

The Multidisciplinary Master of Science in Engineering (MMSE) has as its foundation Aerospace Engineering, but as the name implies, the degree also includes subjects offered by the College of Engineering and the College of Business. A thesis, directed by ERAU faculty on a topic relevant to Gulfstream, is also required. The degree was launched in 2010 and produced its first graduate in 2013. The MMSE program became the first of its type at the university designed to meet the specific needs of a company's personnel and product development plans.

"It was a good match for both our needs. We needed a company, they needed an institution. What better thing could we do than work together?" said Ladesic, Associate Dean of Industry Relations and Outreach and a professor of aerospace engineering entering his 40th year at Embry-Riddle. The MMSE program also supports the university's professional development goals for faculty. "They can work with industry as a consultant in research, and it helps them become more independent and entrepreneurial,

and establish the next relationship themselves," said Ladesic, indicating that an Embry-Riddle professor-in-residence works part-time for Gulfstream in research and development, while he or she is not teaching. For example, Professor Luis Gonzalez-Linero, spent part of his 2014 summer working for Gulfstream. ERAU also plans to expand the Gulfstream program further to include a doctoral degree in Aerospace Engineering.



Michael Berceli '13

***"I really was always interested in getting my master's degree, but I was waiting for the right thing to come along," said Michael Berceli, a structural design engineer at Gulfstream Aerospace Corporation and the first graduate of the Multidisciplinary Master of Science in Engineering (MMSE) program.***



Dr. Ladesic and Tim Farley



# Alumni Update

## Where Are They Now?

### ***Nicole Stott ('87 BSAE)***

Nicole Stott is a celebrated astronaut who has participated in two Space Shuttle missions and spent a total of 104 days on the ISS, including a 6-hour, 9-minute space walk. She regularly returns to speak and interact with students. In 2009, she participated in a student question & answer session while onboard the ISS. In 2012, she joined the Embry-Riddle Board of Trustees. Nicole is an active astronaut and currently serves as Chief of the Astronaut Office Space Station Integration Branch in Houston, where she is working to improve living conditions and research processes for ISS astronauts.



### ***Lt. Col. David Weinberg ('85 BSAE)***

David Weinberg serves as a KC-135R Refueling Tanker command pilot for the U.S. Air Force Reserve. He has more than 3,000 flight hours, numerous military commendations, and multiple deployments, including Operation Joint Forge, in the former Yugoslavia; Operation Noble Eagle; Operation Tacamo/Constant Wire; and Operation Enduring Freedom missions in Turkey, Kyrgyzstan, and Afghanistan. Weinberg is also President/CEO of NEi Software Inc., which he founded in 1991, and is a veteran of the California Air National Guard. He was honored in 2013 with the ERAU Alumni Military Achievement Award.



### ***Albert Trivison ('04 BSAE)***

A U.S. Air Force veteran, Trivison currently serves as the Deputy Program Manager for the GPS Next-Generation Operational Control Segment for the U.S. Air Force Space Command, where he oversees program development, integration, test, and fielding on a nationally critical \$4.7 billion defense acquisition program. He has been awarded the National Service Defense Medal, Global War on Terrorism Service Medal, and the Air Force Meritorious Service Medal, among numerous others. He was honored in 2013 with Embry-Riddle's Outstanding Young Alumnus Award.



# Alumni Update

## Where Are They Now?

### **Riaz Zaidi ('88, BSAET '90, '94)**

was honored for 20 years of service to the industry advisory board (IAB) for Embry-Riddle's College of Engineering at the Daytona Beach Campus. In addition to his Embry-Riddle degrees, Zaidi holds three master's degrees from Washington University in St. Louis, Mo., and is pursuing a fourth: an M.S. in Systems Engineering. He is a systems engineer at The Boeing Company in St. Louis (formerly McDonnell Douglas) and works on environmental control systems for the F-15 aircraft. He is also a former volunteer for the Embry-Riddle Alumni Council for Enrollment Support (1992-99), which provided alumni spokespersons for high school college fairs. Zaidi has received numerous awards and recognitions including Who's Who in Science and Engineering, Who's Who in America, and Who's Who in the World.

### **Juan Vaquerizo ('85, BSAE)**

was recognized as one of the 2014 Florida High Tech Corridor Faces of Technology for advancing and revolutionizing technologies in the modeling, simulations, and training industry. Vaquerizo is president of Orlando-based Advanced Simulation Research.

### **Caroline Vandedrinck ('91, BSAE)**

is vice president of Europe and Central Asia for Sikorsky Aircraft Corporation. She is responsible for the business development of the helicopter and the aftermarket services for the military and civil applications, as well as program management.

**Keep your fellow Eagles soaring high! As we transition to a Ph.D.-granting department, we'll need your support to improve the facilities and sponsor worthy students to hold on to our rank as the #1 Aerospace Engineering Department in the nation. Join the 100% of our dedicated faculty and staff who participated in the 2014 Development Campaign to support the Department.**

**To make a difference, please donate at:**

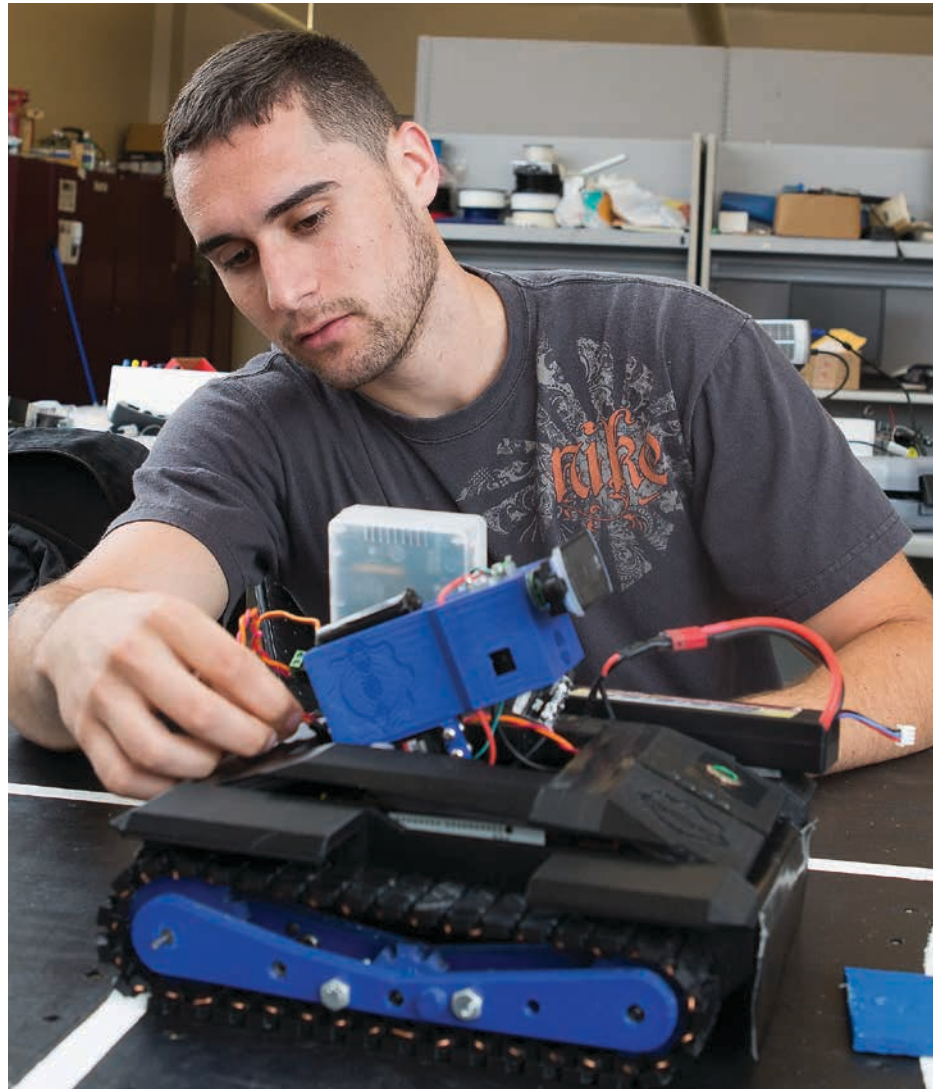
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**EMBRY-RIDDLE**  
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FOREVER AN EAGLE





# Faculty Roster

**Richard Anderson**

Professor & Director of Eagle Flight Research Center  
(Ph.D., University of Central Florida)

**Magdy Attia,**

Professor & Honors Program Coordinator (Ph.D., Texas  
A&M University)

**Mark Balas**

Distinguished Professor (Ph.D., University of Denver)

**Yecheil Crispin**

Professor (Ph.D., Israel Institute of Technology)

**John Ekaterinaris**

Distinguished Professor (Ph.D., Georgia Institute of  
Technology)

**Bill Engblom**

Joint appointment with Mechanical Engineering  
Department (Ph.D., University of Texas System)

**Habib Eslami**

Professor (Ph.D., Old Dominion University)

**Ebenezer Gnanamanickam,**

Assistant Professor (Ph.D., Purdue University)

**Vladimir Golubev**

Professor (Ph.D., University of Notre Dame)

**Luis Gonzalez-Linero**

Assistant Professor (Ph.D., California Institute of  
Technology)

**Glenn Greiner**

Associate Professor & Undergraduate Program  
Coordinator (M.S., Embry-Riddle Aeronautical University)

**Snorri Gudmundsson**

Assistant Professor (M.S., Embry-Riddle Aeronautical  
University)

**Troy Henderson**

Assistant Professor (Ph.D., Texas A&M University)

**Dae Won Kim**

Assistant Professor (Ph.D., Virginia Polytechnic Institute  
& State University)

**James Ladesic**

Professor & Associate Dean of Industry Relations and  
Outreach (Ph.D., University of Florida)

**Gordon Leishman**

Distinguished Professor (Ph.D., Glasgow University)

**Anastasios Lyrintzis**

Chair & Distinguished Professor  
(Ph.D., Cornell University)

**Reda Mankbadi**

Distinguished Professor (Ph.D., Brown University)

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