



IN THE CROSSHAIRS

As hackers take aim at the aviation industry, are we ready to fight back?

FROM THE INTERIM PRESIDENT



As we commemorate 90 years of innovation (1926–2016), we at Embry-Riddle are taking the time to revel in our unique history, but also focus on the continued advancement of the university. We are hard at work planning for our future—a future that will not be complete without you.

Throughout the spring, I've been laying the groundwork for a new strategic plan to fuel our next decade of growth, one that will take Embry-Riddle to its 100th anniversary, and beyond. I have been listening to students, faculty and staff voice their opinions regarding needed improvements, key opportunities and desired outcomes for the university. It is thanks to their input and *your* involvement that we will chart a continued course for success.

Our long and prestigious history was built on a bold vision, a tolerance for risk and the courage to respond readily to opportunity. Today, our founders' enterprising spirit can be seen in our students and alumni, as they push the boundaries of education, research and technology to transform their respective industries.

Take, for example, the primary topic of this issue of *Lift*: aviation cybersecurity. Embry-Riddle is known for developing leaders—and cybersecurity is no exception. To compile

the cover feature, our writers interviewed 26 subject matter experts who represent only a fraction of the growing number of Embry-Riddle alumni and faculty researching and designing solutions to our world's cybersecurity challenges.

By all accounts, we are going to need them, and more. The demand for skilled cybersecurity professionals is increasing exponentially with a talent shortage of 1.5 million projected by 2020. Always at the forefront of evolving trends, Embry-Riddle is doing its part to fill this need with a variety of degree programs tailored to prepare the cybersecurity heroes of tomorrow.

This type of adaptability and innovation is a common theme throughout Embry-Riddle's history. I invite you to see just how much *your* university has changed to address industry needs. Visit your campus (or one near you) to meet the newest slate of visionaries and witness the campus' physical transformation.

Better still, enjoy the Wings Out West/OctoberWest Alumni Homecoming Weekend and AOPA Regional Fly-In festivities in Prescott, Ariz., Sept. 29–Oct. 1, or take part in our 90th Anniversary Finale: The Wings & Waves Air Show/Alumni Homecoming Weekend in Daytona Beach, Fla., Oct. 6–9. I promise they will be memorable experiences.

Embry-Riddle is truly a university on the move. The time is now to capitalize on our strong legacy so that we may support future generations of Eagles. I invite you to be an active part of that future by sharing your ideas with me.

Sincerely,

John R. Watret, Ph.D., FRAeS
INTERIM PRESIDENT



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12 Open Season?

Cyber attackers are targeting the nation's airspace. What can we do to combat the threat?



IN OTHER WORDS

5 What Do You Expect?

Lisa Anderson Spencer ('99, DB; '03, WW) shares a valuable lesson about expectations

WINGS OF LEGACY

6 Bringing History Home

The Embry-Riddle WACO has a storied past and is being restored and updated for its next chapter

FLIGHT PATH

8 Master Strategist

Retired Col. Gary W. Anderson has made a name for himself in and out of the military

10 Get a Clue

Embry-Riddle forensics programs are arming students with investigative skills and experience

ALUMNI @WORK

20 Brewing Success

Robert "Bobby the Brewer" Baker ('08, DB) finds a recipe for turning bad news into beer

GIVING TO EMBRY-RIDDLE

22 Art for Art's Sake

For two decades, Helen Wessel has been infusing art and culture into the Daytona Beach Campus

ALUMNI IN ACTION

24 One Good Turn

Embry-Riddle created opportunities for Jim Sokol ('83, DB). Now he's returning the favor



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Lift.erau.edu

2 Chatter

News and notes from the world of Embry-Riddle

4 Feedback

Embry-Riddle alumni and friends offer comments and opinions

26 Alumni News

A message from the Alumni Association, upcoming events and more

32 Class Notes

Find out what your fellow alumni are up to now

ON THE COVER: As aviation relies more on digital interconnection, cyberattacks are an increasing challenge. Cover illustration by Ryan Etter.

CHATTER

ALTIMETER: HIGH POINTS AT EMBRY-RIDDLE

The women's and men's **Prescott Campus Cross Country** teams are the 2015 California Pacific Conference Champions. This is the first Cal Pac Championship for the women and the men's second consecutive Cal Pac title.

Embry-Riddle's Daytona Beach Campus is one of 16 collegiate teams selected to compete in the 2017 U.S. Department of Energy Solar Decathlon.

Ken Witcher ('02, WW), dean of the Worldwide Campus' College of Aeronautics, was named a fellow of the Royal Aeronautical Society.

In January, the Worldwide Campus was named **No. 1 for Best Online Bachelor's** programs by *U.S. News & World Report*. It was previously ranked No. 5.

Richard Prazenica, assistant professor of aerospace engineering at the Daytona Beach Campus, received a \$1 million, two-year grant from the Defense Advanced Research Projects Agency.

The 2014–15 Cal-Pac Championship **Prescott Campus' Men's Golf** team earned All-Academic Team (NAIA) recognition from the Golf Coaches Association of America, posting the highest GPA of all colleges and universities in the nation (3.75).

Greg Feith ('96, DB) was named a Living Legend of Aviation on Jan. 22, 2016.



Team scores on campus and in community

For the sports fan who only looks at wins and losses, it may appear that the Embry-Riddle Prescott men's basketball team did not do well in its inaugural season. That could not, however, be further from the truth. According to the coaches, students and administration, bringing college basketball to the campus and the local community was a tremendous success.

The Eagles did not win their first game until late January, but the coaching staff stayed optimistic.

"We're such a young group [nine out of 11 are freshmen], and we knew there were going to be bumps along the way. We are starting to cut back on those bumps and are looking forward to what's in front of us," says head coach Eric Fundalewicz.

In November, the Eagles were invited to play in front of their largest crowd of the season on the Navajo Nation against a strong Northern Arizona University (NAU) team. More than 3,000 fans packed the arena and the game was televised across Arizona.

"The opportunity to play on the Navajo Nation and to bring the Embry-Riddle name to parts that wouldn't have known about our university

is something we were proud to be a part of," Fundalewicz says.

The enthusiasm for the team has been contagious both on campus and in the Prescott community. "What I've enjoyed most about playing on the first-ever Embry-Riddle Prescott basketball team is being able to make history each and every time we step on the court, and coming together as a team to represent the university," says sophomore guard Jaran Hoover, who transferred to Embry-Riddle from NAU.

Chancellor Frank Ayers says the team is an extension of the excitement happening in and around the Prescott Campus. "Basketball has brought more incredibly bright young people to our campus to become a part of our family, graduate with distinction and play intercollegiate sports at a high level," he says. "This epitomizes our entire athletic program."

The team ended the season with a 4-20 record overall and 4-8 in the conference. In fall 2016, women's basketball will have its debut at the Prescott Campus.

—Jason Kadah

Rockwell Collins elevates Embry-Riddle to Tier One status

In October, Embry-Riddle was named a Tier One university by Rockwell Collins, a major provider of avionics and information technology systems and services to government agencies and aircraft manufacturers.

The designation signals an expanding partnership and will involve increases in high-level funding, joint research

projects, campus visits from Rockwell Collins teams, co-op/intern opportunities for current students and full-time hiring of Embry-Riddle graduates.

"We look at many factors as part of this designation, including the number of students who graduate in core disciplines, the diversified student body and the number of students we hire, as

well as retention and quality," says Martha May, senior vice president of human resources at Rockwell Collins.

Nearly 400 Embry-Riddle alumni work for Rockwell Collins. Over the last five years the company has hired 48 Embry-Riddle graduates, including 33 women and minorities.

—Mary Van Buren

Embry-Riddle and BeyondTrust partner to enhance cyber education

Embry-Riddle's Prescott Campus and BeyondTrust, a Phoenix, Ariz.-based cybersecurity company, have joined forces to enhance the education and training of future cybersecurity professionals.

BeyondTrust will provide Embry-Riddle's College of Security and Intelligence (CSI) with hundreds of hours of videos, covering a wide range of cybersecurity issues, such as firewalls, malware and best practices for securing assets. The videos are designed to train professionals for the Certified Information Systems Security Professional credential.

The CSI cyber program at the Prescott Campus has experienced significant growth since its inception in 2013. Currently, there are more than 70 students in the program and more than 100 expected next year.

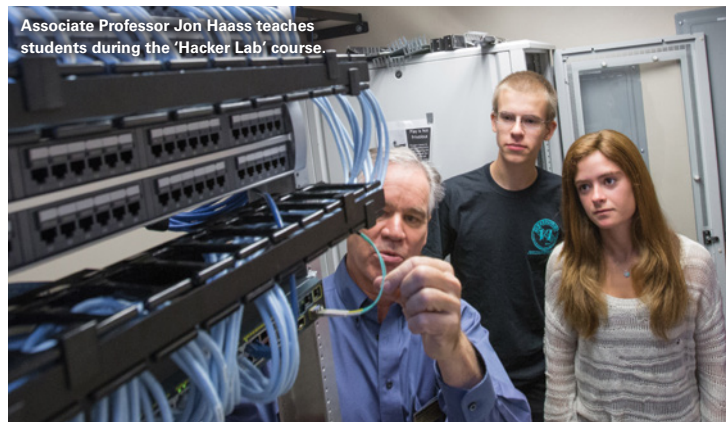
"Due to the large demand in industry and government for trained cybersecurity workers, we expect the program to continue to grow," says Jon Haass, associate professor of cyber intelligence and security. "The material provided by BeyondTrust will augment our classwork."

Recognizing Embry-Riddle as one of the first universities to offer a cybersecurity degree, BeyondTrust hopes to provide internships, thought

leadership research and potential employment to Embry-Riddle students.

"Between having feedback from the education sector regarding cybersecurity and students experiencing the real world of threats through internships and white papers, BeyondTrust, Embry-Riddle and the cybersecurity industry will benefit from theory to actual implementation," says Morey Haber, vice president of technology for BeyondTrust.

—Jason Kadah



Associate Professor Jon Haass teaches students during the 'Hacker Lab' course.

Alumnus and Embry-Riddle take virtual learning to new level

By bringing virtual learning to Embry-Riddle students, retired U.S. Army Chief Warrant Officer 4 Michael Durant ('95, '97, WW) sees an opportunity to educate future leaders for the aviation and commercial space industry.

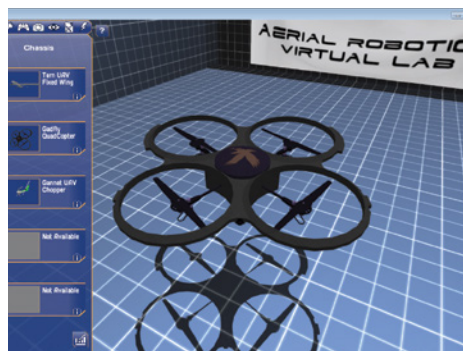
The founder of Pinnacle Solutions, an engineering and training services company based in Huntsville, Ala., Durant is bringing virtual technology to Embry-Riddle's Worldwide Campus students through the development of online laboratories.

In 2014, his company partnered with Embry-Riddle to develop a virtual crash lab for students to learn crash investigation. In 2015, it developed the Aerial Robotics Virtual Lab, which will be available to Worldwide Campus students this spring. Through the robotics lab, students can design and build, virtually, their own unmanned aircraft

systems, test flight capability and analyze the results from anywhere in the world.

"This is a truly interactive experience," Durant says. "This takes the whole concept of online and distance learning to a new level."

Kenneth Witcher ('02, WW), dean of Embry-Riddle's College of Aeronautics at Embry-Riddle's Worldwide Campus, says recent technological advances allow the robotics lab a wide range of functions. "It's leaps and bounds above the initial capability we had with the crash lab," he says.



Durant is best known as the Black Hawk helicopter pilot who was shot down in Somalia in 1993 and held captive for 11 days before being released. His story is chronicled in the movie *Black Hawk Down* and in Durant's best-selling book, *In the Company of Heroes*.

Retired from the U.S. Army in 2001, Durant is committed to hiring veterans, as well as students and graduates of his alma mater. Of his company's 135 current employees, more than 50 are veterans and 13 are Embry-Riddle students or alumni.

Regarding his success, Durant says, "I took advantage of opportunities when I saw them. The one thing I'd say about me is that I don't want to look back on life and say, 'What if?' I want to say that if there was an opportunity, I took it."

—Lacey McLaughlin

BY THE NUMBERS

Safeguarding the Future

Enrollment grows in security programs



Homeland Security (DB)

5-Year Growth: **28 percent**
B.S. degrees conferred
(2010–15): **248**



Global Security and Intelligence (PC)

5-Year Growth: **66 percent**
B.S. degrees conferred
(2010–15): **305**

NOTE: Includes majors only; (PC) 2015 includes M.S. in Security & Intelligence Studies enrollment.

SOURCE: Embry-Riddle Institutional Research

FEEDBACK

FROM THE EDITOR

It's time again for *Lift*, Off the Page, where we explore a *Lift* topic in a live venue. Join our panel of faculty and alumni experts on Tuesday, April 12, at **5:30 p.m. EST** at the Daytona Beach Campus for a discussion on **Aviation Cybersecurity**. The event will be livestreamed for online viewing. A watching party will be simultaneously hosted at **2:30 p.m. MST** at the Prescott Campus. Register to attend online at alumni.erau.edu/LiftTalks.

We need your input! Watch your inboxes for the upcoming *Lift Readership Survey*. The survey will be emailed to a random selection of *Lift* readers during April. You don't have to wait for the survey. Tell us what you think: liftmag@erau.edu.

—SARA WITHROW, EDITOR



'Pleased as Punch'

I received our fall 2015 *Lift* magazine this morning. I am as pleased as punch with the whole magazine, but especially page 15 [*Remote Learning Plants Seeds for Embry-Riddle*

Worldwide]. It brings back fond memories of the associations I have had with my fellow adjunct faculty members. How young and full of vim and vigor we were then. Since I have been employed by Embry-Riddle for over 41 years, the individual and group pictures, plus the *Through the Decades* feature, bring happy memories to the forefront. I can vividly remember talking to John Paul Riddle and working with Jack Hunt. To see their pictures brings a smile to my face. Your publication is perfect for our 90th anniversary. Well done!

Jack H. Thompson ('05, WW)
Campus Director
Fort Eustis Campus, Embry-Riddle Worldwide

Coach Blake Is Tops

Reading about Embry-Riddle Prescott Athletics winning the Commissioner's Cup [fall 2015 *Chatter*] got me reminiscing. In

high school, I had the pleasure of playing baseball for Ted Blake, the director of athletics for the Prescott Campus. He led a winning baseball program for many years in the Phoenix area and I consider myself lucky to have learned from him and been a part of one of his championship teams. Coach Blake always pushed you further than you thought you could go, but in a way that was exciting and challenging. On your worst days, he found a way to make you better.

I cannot think of a better person to continue to grow the Prescott athletic programs from the solid base that Larry Stephan established.

Eric J. Moore ('98, PC)
B.S. Electrical Engineering, AFROTC

Correction: International Campus Move

Re: *Facilities Footprint* [fall 2015], the entry for 1986 about the International Campus' move is inaccurate. It wasn't until September 2009 that the bulk of Worldwide Headquarters moved to its current location at 2379 Beville Road in Daytona Beach.

Bob Jost
Vice Chancellor for Administration
Embry-Riddle Worldwide

Airfield Location Clarified

In *Through the Decades* [fall 2015], the Fort Stewart/Hunter Army Airfield is erroneously listed as being in Alabama. It is actually located in Georgia.

Bryant Denning ('15, WW)
B.S. Aeronautics

Father Achieves 'American Dream'

My father, William O. Wiley ('56, MC), passed away this past April. I believe that he was the valedictorian for his class, and he would want you to know how much Embry-Riddle meant to him. He truly was able to live the "American Dream," and he often credited his education at your school as a major reason for that outcome. He was able to take the skills that he learned to quite a wide variety of engineering positions, and he became well respected both domestically and internationally. On behalf of the family, we thank you.

Andrew T. Wiley
Senior Vice President
BB&T Capital Markets

Terminology Is Important

In Bob Cooper's article, *Love at First Flight* [*Flight Path*, spring 2015], he refers to pilot certificates and ratings as "licenses." On page 8, he writes, Bill Borgsmiller "earned a commercial pilot's license." And, on page 9 he states, "He earned a rotorcraft license ... [and] a seaplane license ..."

We earn a certificate, not a license, when we complete our check-ride, and ratings on top of that. If this were a generic publication, I could accept this, but this is Embry-Riddle's magazine! They should be classified properly.

Jay McKain ('77, DB)
B.S. Aeronautical Science

TALK TO US

We invite your feedback on *Lift* content or topics related to the university. Letters may be edited for style, length and clarity. Submission does not guarantee publication.

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What Do You Expect?

BY LISA ANDERSON SPENCER
(’99, DB; ’03, WW)

Recently someone asked me if my current job was my “dream job.” I doubt a lot of kids would say that their dream is to become an international civil servant. It’s hard to dream up that kind of job as a kid!

In 2011, I was charged with creating the Aviation Risk Management Office (ARMO), a new office within the United Nations Department of Safety and Security (UNDSS), that would support the members of the U.N. Security Management System (UNSMS)*. Given the opportunity and privilege to focus on my passion for aviation while serving those who serve the world, any uncertainty I might have had was replaced with determination, persistence and a lot of research.

U.N. personnel work in some of the most challenging geographic and cultural environments. Aviation is often the preferred and only mode of transport available. The ARMO was created to provide policy, guidance and evidence-based information to help mitigate certain risks for the U.N.’s most valuable resource, its people. This allows them to focus their attention on their critical humanitarian, development and assigned duties—wherever in the world they may travel.

Trust means everything, especially when working in a global platform. In today’s high-threat, low-tolerance and often contentious world, caring about others has never been more important. And, in my opinion, being trusted to make good decisions is the greatest personal and career validation anyone can achieve. In my role at the U.N., trust is a daily requirement.

I’ve found that expectations often go hand in hand with the level of trust we either extend or deny to others.

A personal experience taught me a valuable lesson about expectations. I was once told that based on my appearance, how I talked and my demeanor, that I would not have been hired—if the boss had not been on vacation. I was thought to be too naïve, too timid and too foreign (I had a heavy accent) to provide much value to the company.

Later, the boss told me that he was wrong. He apologized for stereotyping me and asked me to learn from his mistake. He said he believed that people rise to your expectations of



“If people rise to your expectations, then why wouldn’t you expect the best from them?”

them and that he did not have high expectations for me. However, he noticed that others responded well to me and that my good decisions outweighed the mistakes. He decided to raise his expectations, a choice that benefited us both. I needed the opportunity to prove myself and he needed an empowered, trustworthy employee.

I gained a new perspective from his example, which has directly impacted my life. Working for an organization where diversity, tolerance and inclusion is foundational makes this lesson even more relevant.

If people rise to your expectations, then why wouldn’t you expect the best from them? Why anticipate less from people, when you may be able to create an atmosphere where they can excel simply by expecting more?

So, I challenge you to check your expectations.

If you think every welfare recipient, every refugee, every migrant, every homeless person, every person with a race, religion or ethnicity other than your own is going to be a burden on society, violent, lazy, combative, manipulative, or even a terrorist, then I caution you. What if they, having no other opportunities or seeing no other choice, lived up to those expectations?

Can we not give all human beings the opportunity to rise to positive expectations to show themselves as gracious, respectful and hardworking, before we classify their character? If we can do that, then I believe we will create an environment where people from different cultures, experiences and languages work together to create meaningful change. Wouldn’t it be a shame if those you stereotype had no choice but to live up to your expectations? 🌟

*The UNSMS comprises 53 U.N. entities (agencies, funds, programmes, organizations, etc.) totaling an estimated 300,000 personnel worldwide.

EDITOR’S NOTE: *Anderson Spencer is a licensed commercial pilot with instrument and multi-engine ratings. She holds a Master of Aeronautical Science from Embry-Riddle’s Daytona Beach Campus and a Master in Business Administration from Embry-Riddle’s Worldwide Campus.*

SEND US YOUR STORY *In Other Words* gives you the opportunity to share your industry-related or personal perspective with *Lift* readers. Email submissions/proposals to liftmag@erau.edu.

Bringing History Home

The Embry-Riddle WACO story and its next chapter

BY ALAN MARCOS PINTO CESAR

ABOUT THE WACO

Model:
10 ASO

Manufacturer:
Weaver Aircraft
Company (WACO)

Power Plant:
225 hp radial engine
(Wright J-6-7)

Length:
22 feet, 7 inches

Empty Weight:
1,575 pounds

Top Speed:
128 mph

Ceiling:
15,000 feet

Fuel Capacity:
65 gallons

Produced:
1927-1933

Number Built:
1,623

The vintage WACO Model 10 aircraft that since 2010 has thrilled audiences with a flyover at the start of each Wings and Waves Air Show in Daytona Beach has a story, and its story starts and ends with Embry-Riddle.

On Sept. 28, 1928, T. Higbee Embry, a founding partner of the Embry-Riddle Company, sold a WACO Model 10 biplane to the company for \$1. This WACO served in the Embry-Riddle Company's fleet, operating out of Lunken Field, Ohio, as a flight trainer and for airmail delivery until it was sold in 1929.

Eighty years later, Embry-Riddle, which had evolved from an aircraft sales and aviation training company, airmail contractor and air transport carrier, to a fully accredited aeronautical university, rediscovered the aircraft and bought it back.

It was pure chance that this piece of Embry-Riddle history resurfaced eight decades after its sale. In 2008, Jeff Davis, director of development, learned of an airplane in Indiantown, Fla., that might be connected to the university. Curious, Davis called the owner, Clyde Dawson. "When I called Clyde, he said he had gone to the Smithsonian to get the original plans so he could rebuild the airplane," Davis says. "In the records, he found T. Higbee Embry's and John Paul Riddle's signatures on the original 1928 sale

document. He then spent seven years restoring the WACO and collecting its history."

On July 29, 2009, Embry-Riddle Aeronautical University purchased the aircraft and Dawson's historical documentation. Steve Dedmon ('94, WW), associate chair and professor of law for the aeronautical science department, traveled to Indiantown to bring the WACO home. The owner of a 1942 Stearman, Dedmon was selected for the task based on his familiarity with flying antique vintage open cockpit aircraft. "That era of aviation to me is fascinating and totally enjoyable," Dedmon says.

Today, the WACO stands as a symbol of Embry-Riddle's storied past and aviation tradition. It was proudly displayed this past year at several events commemorating the kickoff to Embry-Riddle's year-long 90th anniversary celebration (1926-2016).

Famous for being one of only a handful of flying 1928 WACO Model 10s in existence, the aircraft is again showing its age. It spent the winter at the WACO factory in Battle Creek, Mich., where it is being restored and updated for safety.

"We plan to make the WACO a continuously operated museum in flight for Embry-Riddle," says Chris Lambert, senior executive director of development. "We encourage alumni and friends of Embry-Riddle to support our efforts to preserve and showcase this unique part of our history, and the history of aviation." 🦋

WACO FUTURE

Help restore the Embry-Riddle WACO to flight. Contact Christopher.Lambert@erau.edu; 386-323-8827.

IN THEIR OWN WORDS: FLYING THE WACO

Pat Anderson, professor of aerospace engineering and director of the Eagle Flight Research Center, and **Steve Dedmon** ('94, WW), associate chair and professor of law for the aeronautical science department, are both fortunate to be pilots of the Embry-Riddle WACO. They describe the unique flying experience.

Preflight

Anderson: "A couple of the cylinders are pointed down, and they're below where we keep the oil. Given an opportunity, the oil will find its way into the lower cylinders when it's not running. So if I were to drive the piston into a completely oil-filled cylinder, I could hydrostatically lock it.

"You have to spin the propeller by hand during preflight to see if there's any oil in those cylinders. That's a real no-no on the Embry-Riddle flight line. If the magneto wasn't properly grounded after your last flight, it has the potential to fire a cylinder, which could rotate the prop and injure you."

Taxiing

Dedmon: "The technique when taxiing is to make S turns, which entails turning the airplane to the left, then the right, or vice versa, so you can look out the sides to see what is or is not in front of you. All you can see when looking forward is a whole lot of engine in the front."

Anderson: "The original mechanical brakes are very ineffective until they work. It's all or nothing. If it stops very suddenly, the tail can come off the ground, and that's not very comforting."

Instruments

Dedmon: "Although there is no navigation equipment, there is a radio and mode C transponder."

Anderson: "There's not much. The most important is the engine gauge: oil pressure and temperature. It has as an airspeed indicator, which may or may not work. The altimeter is reasonable. The compass works as well as compasses worked in 1928."

In the Air

Anderson: "There are no dual controls, so your first flight is your solo."

"The engine isn't as responsive in throttling up and pulling back. It turns at a lower rpm, about 1,700 rpm maximum. Modern engines run 2,600 to 2,700 rpm. There's a lot more rotating machinery in a radial engine, or a 'round motor' as they like to call it, so there is some gyroscopic effect."

Dedmon:

"Between the wind and the engine noise, hearing in an open cockpit environment is a challenge. In the WACO, the voices are garbled and not loud enough. You have to lower your head, cup your hand over the microphone, and talk loud and slow."

Anderson: "I normally operate it at 80 mph. That's

about 65 percent power. If we were to really push it, it would probably go 105 mph."

Landing

Anderson: "There are two ways to land a tail-wheel plane: wheel landing, where you land it in an almost level flight condition and the tail wheel is still three or four feet off the ground, or you can 3-point land. But in this plane, the wake of the wings disrupts the airflow over the tail, so you can't get 3-point attitude. So, for 3 to 4 seconds before the tail touches down, you don't have any controls over the tail."

Dedmon: "I use what I affectionately refer to as the dive, bank and yank technique. It is not quite as dramatic as it sounds, but here is how it works: Abeam the touchdown point, I reduce the rpm to 1,200, then lower the

nose, and turn left base, all the while maintaining 70 mph. After turning left base, I roll out only long enough to make sure there is not another airplane on final, and then I continue the turn to final."

Anderson: "There's a big difference between now and when it was built, and it's not the airplane, it's the runways. It was designed when all the runways were grass. The drag on the tail wheel in grass makes it very stable, and there are fewer crosswinds on grass fields. It's much less stable on pavement. I'm very happy to take off and land it on grass, but I limit pavement landings to necessity."

Dedmon: "As most round-motor pilots know, a flight is not over until the airplane is wiped clean of oil. So, my final task is always wiping oil off the wings and fuselage."



The Embry-Riddle WACO Model 10 aircraft was originally acquired by the Embry-Riddle Company in 1928. It was reacquired in 2009, after an absence of more than eight decades. It is painted to resemble its 1920s heyday, when it was used as a flight trainer and airmail transport flown by pilot and Embry-Riddle co-founder John Paul Riddle.



Master Strategist

An expert in red teaming, war gaming and alternative analysis, **retired Col. Gary W. Anderson** ('71, DB) has made a name for himself in and out of the military

BY SARA WITHROW

"One of the great lies in life is that wars never solve anything; there are some bad guys that truly merit killing," writes retired U.S. Marine Corps Col. Gary W. Anderson ('71, DB) in a blog published in the online *Small Wars Journal*.

Anderson is not a fan of war. His statement is a testament instead to his strong sense of right and wrong, his love of country and his penchant for speaking his mind.

Case in point: In December 1988 in a *Washington Times* article, Anderson criticized the Air Force, suggesting that it be dissolved and folded into the other military branches. The piece earned him a call from the Marine Corps Commandant and a temporary stay from public writing. "He took my crayons away for a while," Anderson says.

Anderson's rabble-rousing was honed at Embry-Riddle, where he wrote a weekly humor column for the *Avion* that would poke fun at staff and administrators. Highly involved in campus life, he wrestled and played baseball, coaching baseball his senior year. He was also president of the Alpha Eta Rho chapter, a professional college aviation fraternity.

Today, Anderson is a sought-after commentator for the media, a war-gaming expert and a well-published author on national strategy and military topics. "Gary is a go-to guy in Washington, D.C. He's on everybody's Rolodex," says his longtime friend John Keenan, a retired Marine Corps colonel and editor emeritus of the *Marine Corps Gazette*.

From Pilot to Distinguished Fellow

Anderson originally wanted to be a military pilot and then transition to civilian airport management. He earned a B.S. in Aviation Administration and a flight contract with the Marine Corps, but failed his depth-perception test.

The first Marine Corps officer commissioned from Embry-Riddle after the school moved from Miami to Daytona Beach, Anderson took the news in stride. "It gave me an excuse to transfer to the infantry," he says. "I liked the idea of being in charge."

He went on to serve 29 years in the Marine Corps before retiring in 2000. The ink was barely dry on his separation papers when he was named the first director for the Marine Corps' Center for Emerging Threats and Opportunities. Shortly thereafter, he founded the Potomac Institute's National Center for Unconventional Thought, where he continues to serve as a distinguished fellow.

The Challenge of Iraq

Anderson was only three years out of retirement when Uncle Sam called again—and he answered.

Shortly before the Iraqi government fell to U.S. forces, Anderson predicted an insurgency and published his premonition in an op-ed in *The Washington Post*. Two months later, he received a call from then Deputy Secretary of Defense Paul Wolfowitz. "He [Wolfowitz] said, 'I was hoping you were wrong, but you were right. Now what are you going to do about it?'"

Anderson volunteered pro bono to serve as a special advisor to the deputy secretary of defense in Iraq to assess the situation and help create and train an Iraqi Civil Defense Corps.

By 2009, Anderson's consulting firm was sold, and the State Department asked him to return to Iraq as senior governance advisor for Abu Ghraib in West Baghdad, Iraq, a region of more than 5 million people.

One of his greatest disappointments was what he calls the ultimate failure of the U.S. effort in Iraq. "I really thought when we left Iraq that we had accomplished the mission," he says. Unfortunately, the Shiite government started persecuting the former ruling class, the Sunnis, setting the country up for failure, Anderson explains. "They weren't ready yet, neither the Army nor the government."

Call to Afghanistan

In 2011, Anderson answered the call to serve as a district support team leader and governance advisor in a remote province in northwest Afghanistan. A year later, he was given two months to close up shop.

"I wasn't as positive about leaving Afghanistan as I had been in Iraq," he admits. The geography and lack

of infrastructure there are real challenges, he says. "If our goal was to turn Afghanistan into a model democracy, we would never be able to do it. It would do better as a confederation of quasi-states."

Urban Trenches

Anderson managed to avoid violence for most of his active duty career. "I was shot at more as a civilian [in Iraq and Afghanistan] than when I was active," he says.

The closest he came to combat was in Mogadishu, Somalia. Serving as a temporary U.S. liaison officer to the U.N., Anderson's personal goal was to build a case study on noncombat missions for a course he was teaching at the Marine Corps University. The U.N. aid mission degenerated quickly. On an August night in 1993, Somali snipers started targeting U.S. Army logisticians at the U.N. compound. The American ambassador authorized Anderson to use his security team to eliminate the sniper pit, and his Marine sharpshooters did their jobs.

The next morning, they viewed the results. "There were 17 bodies and not one was over 17 years old," Anderson says somberly. "I went to Somalia to study peace and love [humanitarian missions] and I ended up killing 17 people."

Spurred by his experiences in Somalia, Anderson established an experimental unit that began exploring handheld unmanned aircraft systems for urban surveillance and nonlethal weapons for hostile, unarmed crowds. The program, which would become the Marine Corps Warfighting Lab, now employs more than 100 people and operates on a \$40 million annual budget.

Slowing Down?

Now, though "officially" retired, Anderson continues to blog, writes regular book reviews for *The Washington Times* and contributes opinion editorials to *The Washington Post*. He is also an adjunct professor at George Washington University's Elliott School of International Affairs and a part-time consultant for the U.S. Army.

In December 2015, Anderson was asked to return to Afghanistan to continue transition work begun in 2013, but declined, having promised his wife, Anne, he would give retirement an honest try. "It's probably the first time I haven't heeded the trumpet," he says. "But never say never." 🐦

EDITOR'S NOTE:

Anderson is the recipient of the 2012 Embry-Riddle Alumni Military Achievement Award.

Retired Col. Gary W. Anderson, center, while serving in Afghanistan in 2012, says he was shot at more as a civilian working for the State Department than as an active duty Marine.



GET A CLUE

Forensic science programs arm students with investigative skills and experience

BY ALAN MARCOS PINTO CESAR



EXPLORE

Learn more about forensic science programs and the College of Security and Intelligence at Embry-Riddle: lift.erau.edu/videos-spring-2016.

Danica Murphy started her summer internship staring at a dead body. “The victim had been dead four days. There was skin slippage, dried blood, a mutilated face, and 46 stab wounds,” she writes in a blog about the experience. It may sound gruesome, but this is exactly what the forensic biology major signed up for when she interned with a private pathology practice in Grand Junction, Colo.

Murphy’s field of study is one of three new undergraduate forensics programs at Embry-Riddle’s Prescott Campus. Forensic biology, forensic accounting and fraud investigation, and forensic psychology all debuted in 2015. The programs include a strong focus on hands-on learning and cover the gamut of investigation science. Depending on their major, students will be prepared for certification by the American Academy of Forensic Scientists, the Association of Certified Fraud Examiners or the American Board of Forensic Psychologists.

Body Language

Foundational to crime scene investigation, forensic biology students spend time analyzing blood spatter, comparing DNA and tracing bullets, as well as finding and identifying trace materials and microbes, says Hillary Eaton, biology program chair. “By the end of one semester, they’ll have processed crime scenes, dusted for fingerprints, and conceptualized the crime in order to link evidence to potential suspects,” she says.

Forensic biology is also designed to meet all the requisites for medical,



dental, pharmacy and law programs. Murphy is one forensic biology student looking to meet her pre-med requirements. She found an application for her undergraduate study right away. “I believe my coursework prepared me for my internship because I had learned and understood how death investigations were supposed to be conducted,” she says.

Uncooking the Books

Forensic accounting and fraud examination isn’t usually portrayed in TV dramas, but that doesn’t make the field less significant. “This is an important field to work in because through fraud there are hundreds of millions of dollars stolen each year. Fraud affects not just the companies who are victimized, but also the consumers, employees and shareholders,” says Angela Roda, a U.S. Army veteran enrolled in the forensic accounting program. Roda will participate in summer 2017 in a finance department internship at Raytheon Missile Systems.

In addition to an in-depth understanding of accounting and auditing, students can take courses

DID YOU KNOW?

The nation’s first university-based chapter of the American Investigative Society of Cold Cases (AISOC) was established in 2015 concurrently with the three forensics programs at the Prescott Campus. Students receive information gathered on an unresolved case and are given the opportunity to comb through it, in the hope of discovering new findings. AISOC also offers regular opportunities for students to network and meet professionals in law enforcement, medicine, forensics and legal fields that could lead to internships and eventual jobs.



DAVID MASSEY

in interviewing and deception, says Cindy Greenman, assistant professor of accounting. They also get to work with consulting groups that perform fraud examination for companies in the Prescott, Ariz., area. "They'll go through human resources, payroll, financial statements, physical security, everything," explains Greenman. "The students are taught the red flags to look for, and then they run the consulting job. They do the analytics. They'll put together a complete report and present it to the client."

The students learn to recognize revenue schemes, conflicts of interest, collusion and fraud. "We do a lot of case studies looking into Bitcoin, Enron, WorldCom and Bernie Madoff," Greenman says. "We look into what people were doing, how they got caught, and why they weren't caught sooner."

Probing Dangerous Minds

The intersection of psychology and the legal system is where you'll find forensic psychology, says Erin Bowen, chair of the behavioral and safety sciences department. But it goes beyond crime and the courtroom. "Forensic psychology looks at how laws and norms are formed and what compels people to fight against them. That includes looking into crime, punishment, recidivism and correction."

The Prescott Campus' College of Security and Intelligence, the nation's first of its kind, provides students with knowledge of the U.S. legal system and investigative methods. The forensic psychology program expands on that foundation and combines it with the fundamentals of psychological science.



KEN ANDERSON

Top: Three Prescott Campus students interned during the 2015 summer term at Dr. Robert Kurtzman's private forensic pathology practice in Grand Junction, Colo. The office serves 10 Colorado counties and the Southern Ute Indian Tribe. From left are: Kurtzman, Danica Murphy and Rebecca Long. **Bottom:** A student examines evidence from a mock crime in the Prescott Forensics Lab.

"A lot of people have the misconception that psychology is talking about your feelings," Bowen says. "Our students develop investigative, operational skills. They'll understand the biopsychosocial underpinning of why people follow or break laws. They'll be able to make behavioral predictions, design psychological tests, and know how to interpret the results."

Regardless of which forensics field students choose, they'll find demand for their newly attained skills and knowledge. There's a backlog in independent and government crime labs across the country due to a lack of qualified applicants, says Eaton. 🐦

Cybersecurity and Forensics: a Specialization

"People leave digital traces in everything they do. For law enforcement and investigative purposes, it's a matter of finding the nuggets and putting them together in a story, while also being sure we've correctly identified the person," says Gary Kessler, professor of cybersecurity and chair for the department of security studies and international affairs. Kessler teaches a digital forensics course that is a cornerstone of the cybersecurity minor offered at the Daytona Beach Campus.

Currently, digital forensics is a discipline taught in the cybersecurity minor; as an area of concentration within cybersecurity engineering at the undergraduate and master's levels at the Daytona Beach Campus; or folded into the cybersecurity program at the Prescott Campus.

Jobs are plentiful once students have finished their degrees, says Remzi Seker, professor of computer science at the Daytona Beach Campus. "You can work with law enforcement at any level. It's a fast-growing field, with lots of need for cyber forensics experts. Students can easily start their own consulting company and make a killing," he says.

At the forefront of the field, Embry-Riddle is a regular sponsor of the annual Association for Digital Forensics, Security and Law (ADFSL) Conference, and Glenn Dardick, associate professor of homeland security at the Daytona Beach Campus, is chair and founder of the association. Dardick is also publisher for the *Journal of Digital Forensics, Security and Law*.





OPEN SEASON?

As the aviation industry gets 'smarter,' cybersecurity vulnerabilities threaten the nation's airspace

BY SARA WITHROW, MELANIE AZAM
AND ALAN MARCOS PINTO CESAR

ILLUSTRATION BY RYAN ETTER

In April 15, 2015, self-proclaimed white hat hacker Chris Roberts tweeted a sarcastic joke about hacking into the crew-alerting communications system of a United Airlines aircraft via its in-flight entertainment system. It was a tweet heard round the aviation world. Immediately detained and questioned by the FBI after the flight, Roberts allegedly claimed to have repeatedly exploited vulnerabilities in aircraft in-flight entertainment systems, including one occasion when he hacked into a plane's flight controls and made it move sideways.

Was it possible? Most cybersecurity experts are skeptical, but according to former U.S. Air Force Capt. **Carl Herberger** ('91, DB), now vice president of security solutions at Radware, that's not the most important question.

"The question is whether or not one day it *will* be true," says Herberger. "I think the answer is, it's inevitable."

As airplanes and aviation systems get "smarter" and rely more on digital interconnection through Internet- and satellite-based technologies, they are increasingly in the crosshairs for cyberattacks, which overall have grown tenfold from 2006 to 2013 (ballooning from 5,503 incidents to 60,753), according to a 2015 U.S. Government Accountability Office report (GAO-15-370).

"One of the things that I think is most ridiculous, is that as part of an airworthiness certificate we're not doing cybersecurity testing. Things are no longer mechanically controlled, and we don't require any cybersecurity testing before we actually issue an airworthiness certificate. It's amazing."



—CARL HERBERGER ('91, DB)

"The fact is the bad guys are already out there," says **Gary Kessler**, professor of cybersecurity and chair for the department of security studies and international affairs at the Daytona Beach Campus. "[They] have access to all of these tools and [they] are using them."

Herberger believes the potential for a hackers' open season on aviation—while maybe not imminent—is possible. "Among the black hat [hacker] community, the sexier Internet of Things discussions relate to transportation systems," he says. "If we know that somebody has motive and we know that somebody has means, and there's a vulnerability, then you would think to yourself, 'Why wouldn't the aviation industry be a natural target?'"

Target: NextGen

Experts say the developing Next Generation Air Transportation System (NextGen) is rife with potential cybersecurity vulnerabilities. Replacing a radar-based air traffic control system with one that connects aircraft and controllers using data and satellite links is inherently more susceptible to cyberattack.

"It will all be computer-to-computer communications," explains **Jon Haass**, associate professor of cyber intelligence and security at the Prescott Campus. "Guess what they forgot? They forgot cybersecurity."



The GAO acknowledges the growing risk. In its 2015 report, it affirms that NextGen's Internet-technology-based, interconnected system "increases cybersecurity risks," and that "significant security-control weaknesses remain that threaten the agency's ability to ensure the safe and uninterrupted operation of the national airspace system."

"Anytime you continuously integrate and automate without commensurately securing, you're allowing systems to be functioning at a level that if you take one cog out, it makes the whole thing fall down," says Herberger. "I find that many of these newer technologies are coming at the expense of true isolated redundancy."

Of those newer technologies at risk, Automatic Dependent Surveillance-Broadcast (ADS-B) rises to the top. A NextGen technology that is already widely adopted by the aviation industry, ADS-B allows an aircraft via satellite to automatically determine its position and then broadcast that information to other aircraft and ground controllers.



WEB EXCLUSIVE

WANTED: Cybersecurity Heroes

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"It's going to be compulsory to use [by 2020], and ADS-B is not secure," says **Remzi Seker**, a computer science professor at the Daytona Beach Campus. There are privacy concerns with ADS-B information, which is accessible publicly using real-time computer flight tracking applications, and it's also easy for hackers to spoof, or create "ghost" aircraft in the system, leading to confusion and potential havoc for pilots and air traffic controllers, he explains.

Another risk involves how the aircraft's Electronic Flight Bag (EFB) connects to the Internet to communicate with the System Wide Information Management program (SWIM). SWIM is the data-sharing backbone of the NextGen system, providing a single connection point for aircraft and air traffic controllers to receive real-time, accurate flight, surveillance, weather and aeronautical information.

A 2014 report, co-authored by Seker with assistance from the FAA, identifies this vulnerability: When an aircraft's EFB connects to the Internet through a cellular or satellite data link, it often shares its bandwidth





with the passenger cabin's Internet service, and that leaves it susceptible to cyberattack.

A denial of service (DoS) attack, for example, could disrupt the data link, Seker says. An EFB infected by malware could do this or someone in the passenger cabin could mount a DoS attack. "There are measures in place now to make sure throttling is not overcome. However, that is not to say this cannot be an attack vector," Seker adds.

Another vulnerability with the data link: It will be used to replace voice communication between pilots and air traffic controllers. **Brent Spencer ('83, WW)**, air traffic management program chair at the Prescott Campus, believes this would be easier to compromise than a traditional radio communication. "The data link could be hacked and instructions given to a pilot that the controller would not be able to hear or see, and have no way to correct. Human oversight and the ability to communicate directly and immediately is crucial to the safety and integrity of the national airspace system," he says.

The FAA is taking steps to create an enterprise protection solution for its NextGen system, but according to **Steve Dedmon ('94, WW)**, associate chair and professor of law in the aeronautical science department at the Daytona Beach Campus, there's still work to do to put robust protections in place. A virtual point-to-point model is what the FAA is striving for, Dedmon says. "They hope to create [air traffic] systems that are individually secure, and secure the entirety from the outside with a big net around it, as well."

CLOSING THE GAP: Educating Future Cybersecurity Professionals

Education is imperative to the cybersecurity solution formula, especially as it relates to growing the pool of skilled cybersecurity professionals, says Gary Kessler, professor of cybersecurity and chair for the department of security studies and international affairs at the Daytona Beach Campus.

Presently, more than 200,000 cybersecurity jobs in the United States are unfilled, and postings are up 74 percent over the past five years, according to a 2015 analysis of the Bureau of Labor Statistics by *Peninsula Press*, a project of the Stanford University Journalism Program. That demand is expected to increase, with a 1.5 million shortfall of available cybersecurity professionals projected by 2020.

Embry-Riddle is at the forefront of the education effort, Kessler says, and is leading the way with regard to research and knowledge sharing.

Researchers at the Daytona Beach Cybersecurity and Assured Systems Engineering Center (<http://daytonabeach.erau.edu/about/labs/cybase>) are

developing cybersecurity solutions, and the Prescott Campus is a member of the first cross-sector regional sharing network, Arizona Cyber Threat Response Alliance (ACTRA). "Our students are actually working with ACTRA. They are doing research

and briefing the FBI on their findings," says Jon Haass, associate professor of cyber intelligence and security at the Prescott Campus.

Learn more at erau.edu/degrees/computers-technology.



Professor Remzi Seker, right, served on the Radio Technical Commission for Aeronautics committee that devised two cybersecurity standards for the aviation industry.

Target: e-Enabled Aircraft

Electronic-enabled, or e-Enabled, aircraft, namely the wide-body Boeing 787 and the Airbus 380 and 350, add further cybersecurity concerns. These aircraft have systems that are networked to ground stations in real time, and that receive and transmit data that can influence flight operations including navigation, maintenance performance and airplane health management.

"The powerplant manufacturers now have direct access to the engines in flight, diagnostically and otherwise," Herberger says. "Things have dramatically changed. It's no longer proprietary. It's interconnected, but not just to the transportation system, to manufacturing and other diagnostic information entities.

"One of the things that I think is most ridiculous is that as part of an airworthiness certificate, we're not doing cybersecurity testing. Things are no longer mechanically controlled, and we don't require any cybersecurity testing before we actually issue an airworthiness certificate. It's amazing," he says.

A Radio Technical Commission for Aeronautics (RTCA) committee has issued several aircraft certification standards that offer guidance for safeguarding aircraft against cyberattacks, as has the National Institute of Standards and Technology. But the standards are "vague" and not enforceable, Herberger adds. "There is a big difference between a standard and a test of airworthiness."

Seker, who served on the RTCA committee that devised two of the current standards, agrees. "The aviation industry realized way too late that cybersecurity was important," he says.

Despite a growing awareness of the cybersecurity threats, a regulatory remedy does not appear to be on the near horizon. Dedmon believes the delay is due to the complexity of the issue, as well as money. "It's an expense, ultimately for the manufacturer and for the aviation industry," Dedmon says. "The FAA can't just arbitrarily make rules. Pursuant to executive order, the Office of Management and Budget must do a cost-benefit analysis before rules can be issued, so as to not potentially bankrupt the airline industry. Currently, they're in a holding pattern. They started talking about proposing a rule covering avionics cybersecurity in 2013, but determined more research was necessary." The rule-making process is expected to begin anew in 2016.

Corporate Makeover

In the meantime, the industry is taking its own actions to be "cyber ready." For example, in 2012, The Boeing Company asked the FAA to issue special conditions for the Boeing Model 777-200, -300 and -300ER series airplanes after realizing the avionics systems on these aircraft were vulnerable to cyberattack.

Of primary concern is the increased connectivity with external network sources and the interconnectivity of the aircraft's networks and systems, such as passenger entertainment and information services,

(continued on page 18)

CYBERSECURITY ABCs

Anonymous - A prominent hacktivist group.

Black Hat Hacker - A person who exploits weaknesses in a computer system or network without permission and for unethical or illegal ends.

Cyber Armageddon - A cyber catastrophe that impacts world markets and economies and/or infrastructures.

Cyber Hygiene - Doing sensible things to prevent a cyberattack, e.g., updating security software on your computer.

Dark Web or Dark Net - A network of Internet sites that can only be accessed using specialized browsers or languages like Tor, "The Onion Router," which was created in the mid-1990s by U.S. military researchers to allow intelligence operatives to exchange information anonymously.

Deep Web - Areas and information on the Internet that don't require specialized software to view, but which are not typically found using common search engines like Google.

Denial of Service (DoS) - A type of cyberattack that slows or stops data passing through a network by introducing more traffic than the network or server can accommodate. A Distributed Denial of Service (DDoS) attack is an attempt to do this from multiple locations at once.

Hacktivism - Hacking into a website, computer system or network to cause harm as a means of ideological protest.

Internet of Things (IoT) - The network of physical objects and sensors connected to the Internet. This includes Internet-connected cars, thermostats, entertainment systems and jet engines.



Malware - Any software that is intended to damage or disable computer systems.

Phishing - Sending emails that lure recipients to compromise their security, either by attaching files or embedding links that install malware enabling the bad actor to capture personal information and gain access to computer files; or by pretending to be a business with which the recipient is associated and directly asking for personal information.

Ransomware - A type of malware that is used to extort money by preventing users from accessing their computer or device until payment is made.

Script Kiddies - People with limited knowledge of computer systems, networks or websites who use scripts or programs developed by others to launch attacks.

Shoulder Surfing - When potential bad actors look over the shoulder of an unsuspecting individual as they are typing a password or an access code into a keypad. Some sophisticated actors use long-range cameras and may even work in teams to accomplish their goals.

Spear Phishing - A special type of phishing targeting specific individuals with elevated access rights or decision-making authority.

White Hat Hacker - A person who exploits weaknesses in a computer system or network with the intent to help improve its security.

SECURITY SOLUTIONS

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states a report about the resulting rule published in the Federal Register (FR Doc. 2013-27343). As a fix, Boeing engineered a network extension device that would further separate the aircraft's information and entertainment systems from its controls network.

Older aircraft present their own challenges. **Mike Gordon** ('97, '01, DB), director of cyber intelligence and operations for corporate information security at Lockheed Martin, says a big security issue is the modernization of legacy aircraft systems, which will require retrofitting to meet NextGen operational needs. According to a 2014 U.S. Department of Transportation report (No. DOT HS 812 075), the challenge will be properly mitigating and managing the installation and use of Internet-Protocol-enabled external networks on aircraft not originally built for such capabilities.

"These systems were designed 20 to 30 years ago, before network security became what it is today," Gordon says. "At Lockheed Martin, we understand the risks to these systems and ensure that our NextGen technologies are all cyber ready from the beginning." Regarding new military aircraft designs, Lockheed Martin's approach puts cybersecurity at the forefront, he says. "[For example] the F-35 is a flying computer and they designed it with cybersecurity in mind. We design our platforms with the idea that they are computers."

According to Kessler, that's how it should be. It's poor or rushed design that creates cybersecurity vulnerabilities, he says. Take the infamous hack of Target retail stores in 2013, for example, where the point-of-sale terminal data was accessible to hackers via the air conditioning monitoring system. "That was just bad design, bad architecture," Kessler says.

Building a Cyber Defense

So, how can the aviation industry protect itself from cyberattacks? "There is no one silver bullet," says **Raja Patel** ('97, PC), vice president of cybersecurity products at Intel Security. "The implications of an attack or a breach on aircraft is higher, similar to any other critical infrastructure environment, but the approach to keeping up is comparable to the corporate world. We at Intel Security are building systems that take into account the entire threat life cycle, which consists of building in the best proactive protection, but also recognizing that threats and environments change. There is a growing need to innovate with advanced threat detection technologies and innovations, such that if a threat does get in, we can reduce the time to detection and ultimately mitigate it before damage is realized."

Knowledge sharing is also important. Gordon says it's a priority for Lockheed Martin, which cofounded the Defense Security Information Exchange (DSIE). "We often say that a company should figure out who its biggest competitor is and then become best friends in terms of cybersecurity. The same adversary attacking Lockheed Martin is probably attacking Boeing. Cybersecurity is a team sport," says Gordon, who is a director on the DSIE Board.

For Herberger, the solution is simple, at least in theory: Create closed, proprietary aircraft and air traffic systems. "If you look at commercial aircraft, they're using 'open,' they're using 'known,' 'standard' and 'convenient' systems, and those are only foes to security. If I wanted to build a very secure aircraft system, it would be just the opposite of convenient. It has to maintain life. You want it to be challenged and authenticated frequently," he says.

"I don't think fundamentally that people really get the problem yet. I think it's going to take something like a 9/11 event before people wake up to the fact and say, 'We've known this all along and we really should have acted on it.'" 🐦

Mike Gordon ('97, '01, DB) says Lockheed Martin acknowledges its aircraft are flying computers, designing them at the onset with cybersecurity in mind.





Digital Airport Security, a Growing Need

As the commerce hub for the aviation industry, airports are increasingly targeted by hackers looking to make a profit or an ideological statement, or to simply disrupt operations. The effects—long lines, delays and grounded airplanes—are never good for passengers or airlines.

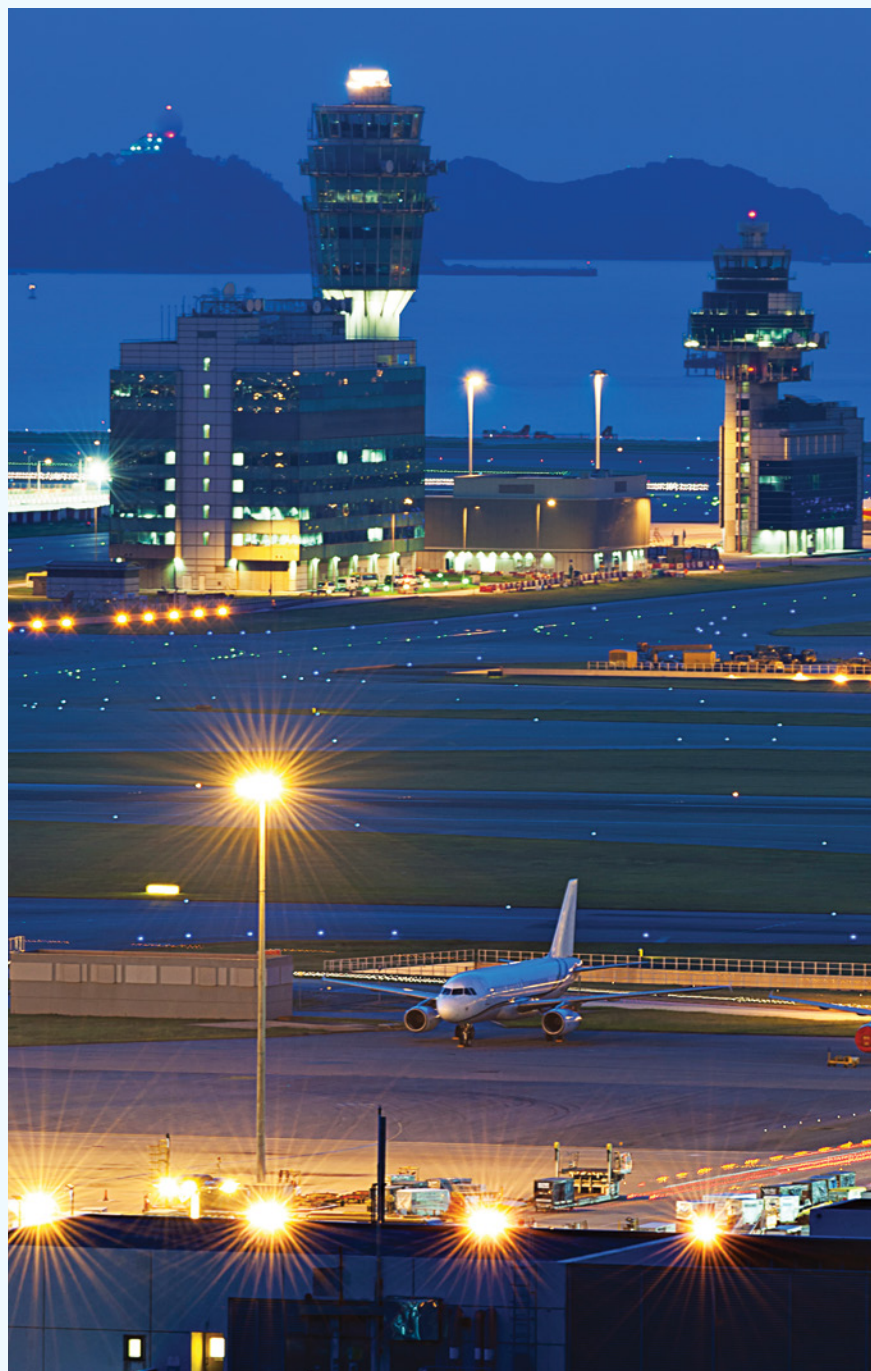
For example, in June 2015, a distributed denial of service attack on LOT Polish Airlines crippled its ground operation systems. The airline was left unable to create flight plans, and outbound flights from Warsaw were temporarily grounded—along with more than 1,000 passengers at Warsaw's Chopin Airport.

Airports are a complex web of computerized systems, which makes them particularly vulnerable to cyberattacks, says Jon Haass, associate professor of cyber intelligence and security at the Prescott Campus and co-author of the *Airport Cooperative Research Program Report 140: Guidebook on Best Practices for Airport Cybersecurity*. "An airport is like any other large company in the sense that it has payroll, accounting, supply chain, product and credit card handling," he says. Baggage handling, fueling, providing flight data to the crew and flight crew assignments are all computerized and subject to malware, adds Haass.

The X-ray equipment used to screen passengers and baggage by the Transportation Security Administration (TSA) and the kiosks where people can check in and buy airline tickets are also vulnerable and visible targets for hackers, says Steve Dedmon ('94, WW), associate chair and professor of law in the aeronautical science department at the Daytona Beach Campus.

Haass agrees. As global terrorism grows, airport systems can also be hacked to facilitate the travel of would-be bad actors. "Just this fall [2015], the terrorist watch list went out for four hours, and all around the country no airport had their automated system available to look for terrorists," Haass says. "Could somebody have slipped through? Yes."

Dedmon recommends that all commercial airports incorporate a cybersecurity professional into their staff. "We need someone specifically looking at these issues for airports, as either a full-time or corollary responsibility," he says.



Brewing Success

A recipe for turning bad news into beer

BY MELANIE STAWICKI AZAM

Robert Baker ('08, DB) earned a bachelor's degree in aeronautical science at Embry-Riddle and had plans to become an air traffic controller, until a diagnosis of color blindness changed everything. Now the head brewer at Sea Dog Brewery and Tasting Room in Clearwater, Fla., Baker has earned the nickname "Bobby the Brewer," and he wears it proudly. Today, he develops beer recipes for Sea Dog Brewing Co., and oversees a 20-barrel brewing system, managing distribution throughout Florida. A fan of craft beers, Baker says, "If I couldn't do air traffic control, I wanted to do something I really loved." Here's the skinny on Baker and how he went from Embry-Riddle graduate to brewer extraordinaire.

► **HE WAS** an engineering student at Florida State University when he visited an air traffic control tower and decided that he'd found his calling. "It was the rush you get seeing the planes on the runway and bringing them in. I loved it. You have so much responsibility. It just really grabbed me."

► **SHORTLY AFTER** graduating in 2008 from Embry-Riddle, he tested positive for color blindness and his dream of becoming an air traffic controller was crushed. "It was a shock—I went through all of my classes not knowing," he says. "I didn't have a contingency plan."

► **BAKER STARTED** bartending at a craft beer bar in Lakeland, Fla., and it was here that he encountered the owner of Sea Dog Brewing Co. "We met, hit it off, and they shipped me off to Maine."

► **BREWER TRAINING** began in 2012 at Sea Dog's Bangor, Maine, facility, where Baker learned the old-world English style of brewing beer with open vats

**"If I couldn't
do air traffic
control, I
wanted to do
something I
really loved."**

—ROBERT BAKER ('08, DB)

and the reuse of yeast sources. "I am a hop head. I like very bitter beer," Baker says.

► **HE SPENT** one year in brewer training before heading back to Florida to help Sea Dog open a brewery in his hometown of Clearwater. "They wanted to introduce their beer in Florida, so it helped that I knew people down here. I was here from day one."

► **FOOD, SPICES** and changing seasons inspire many of his beer recipes. "I just brewed an Eggnog White Porter for the holidays. We made a nice creamy beer and added eggnog spices."

► **ALL NATURAL** ingredients are the basis for Sea Dog's beers. Some beers that Baker makes are small, limited-release brews, exclusive to the Clearwater tap room, while others, like Sea Dog's famous Blueberry Wheat Ale, are produced on a larger scale with national distribution.





➤ **HIS RECIPES** include flavors like Maple Bacon Stout; Chocolate Cherry Custard Milk Stout; Reese's Peanut Butter Brown Ale; Sweet Potato Pie Brown Ale; Tri-Pepper IPA; Snickerdoodle Porter; Carrot Cake Brown Ale; and Cherry Sour Belgian Ale.

➤ **HIS FAVORITE** is Banana Split Milk Stout, which includes real bananas and chocolate. "It just has so much flavor. It is literally like dessert."

➤ **THE BIGGEST** job challenge is distribution. Baker works with multiple distributors in Florida, balancing quality and quantity of beer with delivery times and costs. "The logistics side is a lot more difficult than people imagine. It's like a giant chess match," he says.

➤ **CHEMISTRY AND** physics courses he took at Embry-Riddle have helped him in his career. He uses

chemistry in the brewing process and mechanical knowledge when working with the brewery equipment. "It's very related," he says.

➤ **CREATIVITY IS** necessary and one of his favorite parts of the job. "Creating something new and having customers come in and enjoy it, that's the best part."

➤ **HE ENJOYS** the hands-on aspects of his career and visiting other breweries. He recently attended a craft brewers' conference in Portland, Ore. "It's a tight-knit community and we help each other out."

➤ **ANY REGRETS?** "No," Baker says. "It just all kind of worked out. I totally feel I'm where I'm supposed to be now." 🍷

Art for Art's Sake

Helen Wessel infuses art and culture into the Daytona Beach Campus



TONY GIESE

BY MELANIE STAWICKI AZAM

From her beginnings as an art teacher in Cincinnati, Ohio, to her gifts of five iconic art displays to Embry-Riddle's Daytona Beach Campus, Helen Wessel has spent a lifetime supporting the arts and bringing beauty to the lives of students.

"Old art teachers never die, they don't fade away," she joked at a 90th birthday celebration held July 7, 2015, in her honor at the campus. "They blast away. So I thought I'd blast away at Embry-Riddle."

During the past two decades, Wessel has funded the installation of artwork at the Daytona Beach Campus that is now woven into the fabric of the student experience. "Embry-Riddle is forever grateful to Dr. Wessel for inspiring balance between the analytical and creative mind through her unique contributions," says Interim University President John R. Watret.

In addition to her contributions of art, Wessel established the Dr. Helen Wessel Arts and Cultural Experience Fund to support a wide variety of cultural programs and initiatives on the Daytona Beach Campus.

"The beauty to our campus and the enhanced educational opportunities provided by Helen Wessel's gifts truly provide a most important missing link for our university," says William Grams, dean of the College of Arts and Sciences.

Artful Foundation

Growing up in Cincinnati, Wessel was an avid artist from a young age. She studied at the Cincinnati Art Academy in high school and earned degrees in art and education from the University of Cincinnati College of Design, Architecture and Art. She went on to teach art in the Cincinnati public schools for 10 years.

While teaching in Massachusetts, Wessel became one of the first students to earn her master's degree from Harvard University's art education program. She earned a Ph.D. in Art Education from the University of Cincinnati, and then spent 20 years educating art teachers at the university, eventually becoming head of the department.

Shared Birth Year

Coincidentally, Wessel and Embry-Riddle were both born 90 years ago in Cincinnati, Ohio, but their



Helen Wessel is known as the unofficial minister of art and culture at the Daytona Beach Campus because of her iconic gifts of art to the university.

relationship solidified later in life. Wessel's late husband, Bob, an economist who also taught at the University of Cincinnati, was a savvy investor—the fruits of which resulted in the founding of the Wessel Foundation in 1996, with a goal of supporting art and education. He also loved to fly. His widow recalled a chance encounter she had earlier in life with the history of the Embry-Riddle Company, which was established on Dec. 17, 1925, at Lunken Field in Cincinnati.

"Bob flew a little yellow airplane, a Piper Cub," she says. "He would fly it out of Lunken Airport, where Embry-Riddle was started. One time we left the car there in the hangar, and I noticed a sign on the wall that said, 'Embry-Riddle University started here in 1925.' I thought, 'That's interesting, I started the same year in Cincinnati.'"

After moving to Daytona Beach, Fla., Wessel continued to create art in her home studio and advocate for art education for children and adults. Her relationship with Embry-Riddle started after she struck up a friendship with Col. Charles "Chuck" D. Fountain ('72, DB), who spent 18 years as the university's director of business and director of facilities. Fountain died in 2011. In 2012, Wessel donated a bronze plaque depicting "World War I, the Birth of Air Combat," in his honor. The plaque was installed in the Legacy Walk at the Daytona Beach Campus.

"I have collaborated with Helen on three of the sculptures installed at Embry-Riddle and have appreciated her unique blend of creativity and warmth," says Tim Brady, interim chancellor at the Daytona Beach Campus. "She has added immensely to the culture of the university." 🐦



WATCH

Honoring Helen Wessel on her 90th birthday. lift.erau.edu/videos-spring-2016



Professor Jason Kring works with students to convert an Airstream trailer into a lab for space habitat research.



CROWDFUNDING COMES TO EMBRY-RIDDLE

Embry-Riddle is giving flight to great ideas. This past fall the university launched a crowdfunding site at crowdfunding.erau.edu to garner awareness and support of student and faculty projects. Alumni and friends of the university can shop the site for the projects most relevant to their interests and choose to donate directly to them.

"Many initiatives and projects have immediate and substantial needs, and this tool allows donors to make a difference with the click of a button," says Bill Hampton, senior vice president for external relations and chief marketing officer.

At its launch, the site featured ambitious projects that go beyond the classroom, including building a space habitat simulator out of a 1976 Airstream trailer and launching a student-built rocket into space. A scholarship supporting the next generation of Embry-Riddle students in honor of the university's 90th anniversary is also a funding option.

Most projects have established fundraising goals and limited time frames by which to meet them. Visit crowdfunding.erau.edu today and help give flight to great ideas.

Art Makes a Campus a Home

Works commissioned by Helen Wessel for the Daytona Beach Campus:

PATHWAYS TO THE SKY

A stainless-steel sculpture at the James Hagedorn Aviation Complex. Artist: Peter Forster



SKY KING

A bronze American bald eagle sculpture in the Jim Henderson Administration and Welcome Center. Artist: Vic Payne



REACHING NEW HORIZONS

A glass sculpture in the Flight Operations Center. Artist: Kerry Transtrum



WINGS OF CHANGE

Hanging artwork in the College of Aviation Atrium. Artist: Raymond Karpuska



GREAT CASCADING FOUNTAINS

At the ICI Center



One Good Turn

Embry-Riddle created opportunities for **Jim Sokol** ('83, DB). Now he's returning the favor.

BY MELANIE STAWICKI AZAM

As a child, Jim Sokol ('83, DB) loved watching planes take off from the Atlanta airport and even learned to fly himself, but being a pilot didn't align with his natural talents.

"I was not great at flying," says the president of Maintenance, Repair and Overhaul (MRO) Services at HAECO Americas. "I enjoyed it, but I really felt more comfortable with operations and mechanical things."

Sokol went on to earn certificates in aircraft maintenance technology and airframe and powerplant from Embry-Riddle, and now has more than 33 years of experience in the aircraft maintenance industry. Grateful for the strong foundation he gained at Embry-Riddle and his resulting career success, he wants to return the favor by initiating scholarships, internships and other opportunities for students at his alma mater.

"The great thing about Embry-Riddle is it opened so many doors of opportunity," says Sokol. "Embry-Riddle is recognized as the No. 1 leader in the industry, and I'm proud of that."

HAECO Americas pledges \$50,000 to establish an endowed scholarship for Embry-Riddle students during an Oct. 13, 2015, visit to the Daytona Beach Campus.

Supporting the Next Generation

This fall, HAECO Americas representatives, including Sokol, pledged \$50,000 to establish an endowed scholarship benefiting aerospace engineering and aviation maintenance science students at Embry-Riddle's Daytona Beach Campus. In 2011, when Sokol was Southwest Airlines' vice president of maintenance operations, he helped establish a \$50,000 endowed scholarship from Southwest for undergraduate engineering students.

"Jim is an outstanding example of an alumnus who truly cares for the next generation of Embry-Riddle students and goes above and beyond to support them," says Chris Lambert, senior executive director of development at Embry-Riddle. "We are grateful for his commitment and support."

According to Sokol, there is a huge need to develop talented young people in the growing field of aviation, and he wants those opportunities to be available to students, especially at the university that helped him get his start. "Embry-Riddle provides the best training there is," he says. "If you're going to go into aviation, it is the school to go to."

A Rising Career Path

When Sokol graduated, he landed his first job at Emerald Airlines, a freight airline out of Austin, Texas, that was owned by Lady Bird Johnson. Then, Braniff International Airlines hired him as a mechanic, just as the company was reorganizing. "I was part of the folks behind the scenes working to get the fleet ready as a new mechanic," he says. "I had a lot of opportunities to be mentored and see a lot of unique things."

Two years later, Sokol became the youngest inspector to be promoted at Braniff. "I was 24 years old and looking at quality of maintenance," he says. His area spun off into an MRO station, and in 1994 he took a job at Southwest Airlines as a quality control





“The students coming through Embry-Riddle are the future of our industry.”

—JIM SOKOL ('83, DB)

in Greensboro, N.C. HAECO Americas, a wholly owned subsidiary of the HAECO Group based in Hong Kong, provides aircraft MRO services and manufactured products to commercial, government and private aerospace customers. It is known for being one of the largest global providers of MRO services, interiors products and engineering services.

Spreading the Word

As he did at Southwest, Sokol is working at HAECO to create greater awareness of Embry-Riddle and its students, while building ties between the company and the university.

A strong relationship benefits HAECO also, since scholarships and internships for top Embry-Riddle students

support manager. “They were just starting to grow as a small regional airline into a commercial airline that went beyond Texas,” Sokol recalls.

Getting in at the ground floor at Southwest allowed Sokol to experience a variety of work responsibilities and take leadership roles. He was promoted to the director level for quality control and assurance at the airline. About a year later, Sokol, then 37, was asked to interview for the job of vice president of maintenance with the company’s founders.

“Southwest had about 100 planes at that time,” he says. “I was very, very intimidated. The interview was four hours long, and they asked me all kinds of questions.” Sokol landed the job, and in 1999 he was promoted to vice president of maintenance and engineering for Southwest, which grew its fleet to more than 600 planes.

About a year ago, he was offered his current job at HAECO Americas, which is headquartered

provide an important talent pipeline, says Leonard Kazmerski, vice president of marketing and business development for HAECO Americas. “There is going to be a growing demand as we look ahead,” Kazmerski adds. “Efforts from folks like Jim to try to create opportunities and interest are going to become very important.”

Sokol is also coordinating with Embry-Riddle to encourage high school students in Lake County, Fla., and community college students in Greensboro to further their education at Embry-Riddle, especially in aviation maintenance science.

Sokol’s son, Preston, 21, is also in the business. An aircraft technician for the U.S. Navy, he works on F-18 aircraft and hopes to eventually continue his education at Embry-Riddle’s Worldwide Campus.

“It’s just connecting the dots with continuing education,” Sokol says. “The students coming through Embry-Riddle are the future of our industry.” ✎

ALUMNI NEWS

MESSAGE FROM THE ALUMNI ASSOCIATION

As I review this past year and all of the activities that took place among our Alumni Networks, I am amazed, impressed and humbled by your accomplishments.

I am especially proud of Eagles Help, a monthlong event held in November that rallied alumni to support their communities. Our Eagle networks partnered with service groups or organized their own volunteer projects. The result: Alumni built homes for Habitat for Humanity, donated and packaged Christmas gifts for needy children, visited veterans at local VA hospitals, and cleaned several beaches and parks. We hope to grow the Eagles Help initiative in 2016 to include even more Alumni Networks.

Time flies. How many times have you heard that expression?

It is at graduation that I realize just how quickly four years can evolve, as I see the growth and maturity of our graduates. It is also a time that I am incredibly proud of what Embry-Riddle does for our students, the industries they go on to support, our nation and the world. When I witness the bright minds crossing the stage and watch as our newest military officers are commissioned, I recall the oft-quoted Pope John Paul II, who said, "The future starts today, not tomorrow."

The future starts now, and as I see the enthusiasm and dedication of our graduates, I am reminded of how fortunate we are as an institution to be a part of their lives.

To those who worry about our youth and the future of our country, I challenge you to spend a moment in an Embry-Riddle classroom and witness the projects, patriotism, drive and commitment that emanate from our students. These new Eagles are eager to make a difference, just as you were, and they join seasoned alumni who have made a name for Embry-Riddle in our industry—a name synonymous with excellence and the Embry-Riddle way.

As Embry-Riddle celebrates its 90th anniversary this year (1926–2016), I encourage all alumni to return to campus, reconnect and spend some time with our students and new graduates. What you'll see in their eyes is the same spirit, drive and determination that you saw in the mirror when you became an Eagle.

Forever an Eagle!

Bill Thompson ('87, PC)
Executive Director



Eagles Help volunteers Donald Ritchie ('92, WW) and Kawanzasis Henderson ('13, WW)



Chancellor Frank Ayers, far left, with honorees, fellow graduates and staff at the Alumni Awards Dinner & 90th Anniversary Celebration.



Fireworks cap off the celebration.



Interim President John R. Watret welcomes guests.



Sarah Nilsson, assistant professor of law, and her husband, Bob Wilson, at the 1920s-themed 90th Anniversary Celebration.

PHOTOS BY DAVID MASSEY

facebook.com/ERAUAlumni

twitter.com/ERAU_Alumni

Search Embry-Riddle Aeronautical University Official Alumni Group

Join the Eagle Network:
alumni.erau.edu/join

instagram.com/erau_alumni/

90th Anniversary Kickoff

Wings Out West/October West Alumni Homecoming Weekend in Prescott, Ariz., launches yearlong celebration

Sept. 30 - Oct. 3, 2015



Embry-Riddle's sponsored pilot Matt Chapman, left, and aerobatic pilot Bill Stein.



Aerobatic pilot Melissa Pemberton ('13, PC/WW), left, with fans.



Skydiver Rex Pemberton presents the colors, as his wife, Melissa Pemberton ('13, PC/WW), circles his descent in her aircraft.

The 26th Annual Alumni Golf Tournament's winning foursome: Tim Van Ness ('13, PC), Ethan Harman ('14, PC), Calli Gallacher ('17, PC) and her father, Kevin Gallacher.



Air show guests salute the flag.

SUPER SEVEN

Embry-Riddle Honors Alumni Standouts

Embry-Riddle honored seven noteworthy alumni in October during the Prescott and Daytona Beach campus homecoming celebrations. Four alumni were honored with 2015 University Alumni Awards and three others were inducted into the Prescott Chancellor's Alumni Hall of Fame.

The alumni receiving 2015 University Alumni Awards include Robert Ewing ('94, DB); retired U.S. Marine Corps Lt. Col. Charles Schwarm ('97, PC); Seboseso "Sebo" M. Machobane ('94, PC); and Joseph Murphy ('13, DB).

Ewing, who is the aviation academy director at Admiral Farragut Academy in St. Petersburg, Fla., and a certified flight instructor, received the Alumni Service Award for his commitment and endless enthusiasm for the university through service, support, leadership and recruitment. Over the years, he has provided flight experiences to a least 500 youth and helped transition at least 100 graduates from Admiral Farragut to attend Embry-Riddle.

Schwarm was presented with the Military Achievement Award for his outstanding service to the country. Schwarm has logged more

than 2,300 military flight hours in five types of aircraft. During his 17 years of active duty service, he flew more than 200 combat missions over Iraq and Afghanistan and traveled to more than 40 foreign countries. He retired from the Marine Corps in 2014 and is now a pilot for GoJet.

Machobane was honored with the Alumni Achievement Award. A regional officer for air traffic management and search and rescue for the International Civil Aviation Organization, based in Nairobi, Kenya, he is considered "Mr. Airspace" in Africa, for his leadership in improving safety and efficiency of the Africa-Indian Ocean airspace. Through his efforts, 65 new, efficient and user-preferred route trajectories were established for the Africa-Indian Ocean regional air traffic services (ATS) route network and a new ATS route network was approved. The new route network reduces the former by 4,797 nautical miles and cuts carbon dioxide emissions by an estimated 144 million metric tons.

Murphy was named Embry-Riddle's Outstanding Young Alumnus. At the age of 23, Murphy says, he landed his "dream job," working for Lockheed Martin. He is a flight test engineer for the F-35 fighter jet at Lockheed Martin, Edwards Air Force Base in Palmdale, Calif.



Robert Ewing



U.S. Marine Corps
Lt. Col. Charles Schwarm



Seboseso "Sebo" M. Machobane



Joseph Murphy



William L. Cusick



Gabriel L. Navarrete



Melissa D. Pemberton

Prescott Chancellor's Alumni Hall of Fame

Three accomplished Prescott Campus alumni were inducted into the Chancellor's Alumni Hall of Fame at a special awards reception held during OctoberWest. They are William L. Cusick ('84, PC); Gabriel L. Navarrete ('88, PC); and Melissa D. Pemberton ('13, WW/PC).

Prescott Chancellor Frank Ayers ('87, WW) established the Hall of Fame in 2012 to recognize the significant contributions of alumni to their profession, the community, the Prescott Campus and the university as a whole.

Cusick is vice president for Spares and Customer Support at Zodiac Aerospace in Phoenix, Ariz. Part of the Prescott Campus' inaugural freshman class, he has served on the board of visitors since 2013.

Navarrete is president and CEO of Urban Tactical Group in San Jose, Calif., and has more than 26 years of global security experience. Navarrete supports the campus as a recent member of the board of visitors.

Pemberton is an award-winning aerobatic pilot, a free-flying skydiver and a champion rock climber. She and her Edge 540 aircraft perform with the U.S. Unlimited Aerobatics Team. Pemberton earned the majority of her undergraduate degree credits at the Prescott Campus but left before graduating to pursue her aerobatic flying career. She ultimately completed her degree at Embry-Riddle's Worldwide Campus.



Operation Bootstrap Revisited

Embry-Riddle commemorates 50 years in Daytona Beach during Alumni Homecoming Weekend

Oct. 7-10, 2015



Students, alumni, faculty and staff gathered for a historic all-campus photo at the Operation Bootstrap 50th Anniversary celebration. The campus-community party included games and activities, a band, dancing, food trucks, a beer garden, and fireworks to commemorate the 50th anniversary of Operation Bootstrap, Embry-Riddle's move from the Miami Campus in 1965 to Daytona Beach, Fla.



Alumni tour the largest university research telescope in Florida, located atop the College of Arts and Sciences building.



A total of 25 faculty, staff and student groups competed in the Pull-A-Plane contest. Team Army was the winner, pulling the 44,000-pound Gulfstream III 15 feet in 9.3 seconds. Pictured is the Hunt Library team.



Alumni members of the Alpha Eta Rho professional aviation fraternity enjoy the Fly-In Static Display.

The ERA of U: 90 Years of Embry-Riddle

It's your time to reminisce! Help Embry-Riddle celebrate its 90th anniversary (1926–2016) by sharing your memories at alumni.erau.edu/ERAU90.

Read some of your submissions here.



Then and Now

My husband, **Stephen Vaughn Tate** ('81, DB), and I met at the University Center (UC) at the Daytona Beach Campus during orientation week in 1978. Being one of about 50 incoming female freshmen, needless to say it was slightly daunting. Steve claims that he asked to sit next to me at the UC during orientation and I responded, "If you dare," although I thought I said, "I don't care!"

Fast forward 37 years later, we are still together. We have two daughters, one son-in-law, and both of our children have amazing careers in the aviation/travel industry. Steve is a former U.S. Air Force B-52 air crewman, now an American Airlines (AA) Captain on the B-737 based at Miami International Airport. I spent the earlier part of my career working as a dispatcher/supervisor at American Eagle, and then went to work for AA on the Sabre Automation Technology side. We have both worked for AA/Sabre now for the past 25 years.

Embry-Riddle's dean of student affairs at the time believed that we were the first married couple to graduate from Embry-Riddle.

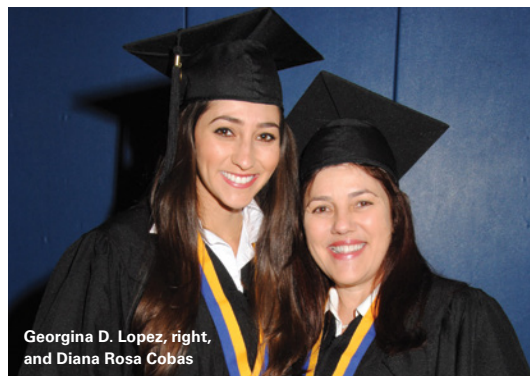
Andrea Miller Tate ('81, DB)



Semper Fi

A dozen other veterans and I started the Embry-Riddle Veterans Association at the Daytona Beach Campus in 1968. Semper Fi.

Bob "Stambo" Stambovsky
('72, DB; '85, WW), retired U.S. Marine



Memorable Instructors

My memories are of Roy Jones' stories about his three tours of Vietnam. Also, my favorite flight instructor, Jim Harvey. I will never forget them.

Dave Koch ('88, PC)

Aviation Dream

Living most of my life in Cuba, a country where flying was and still is a luxury, I could only dream of being close to an airplane. In 1977, I enrolled in the telecommunication engineering program at the Technical University (TU) of Havana. I graduated in 1982 and became an engineer in charge of tools, test equipment and documentation for testing and troubleshooting of radio communication equipment in an aviation repair station servicing the military. That was the closest I came to aviation in Cuba.

Later, I became a telecommunication professor at TU, Havana. Looking for the human liberties that we were denied in my country, I immigrated with my family to the United States in 1999, and my life changed completely. My first job in this country, which I am proud to say I am now a citizen of, was as an avionics technician for a Federal Aviation Administration (FAA) Part 145 repair station. For the first time in my life, three months after I arrived in the United States, I was on a path to accomplish my dream. I was part of the aviation community.

Today, I am a graduate of the Master of Aeronautical Science program at Embry-Riddle's Worldwide Campus, and I had the privilege of walking at the graduation ceremony beside my youngest daughter, **Diana Rosa Cobas** ('14, WW).

I feel I have accomplished in 16 years much more than I did in the 40 years that I lived in my country. Presently, I work for the FAA as a safety inspector. I am a member of Women in Aviation, and I have a lot of plans for the future. Today, thanks to this great country, the only part of my dream that is still pending is to be a pilot. Although I think time is catching up with me, I still believe that I can do it.

That day, from the skies, I will be giving thanks one more time to this country for the opportunity to make my dreams come true.

Georgina D. Lopez ('14, WW)



MARK YOUR CALENDARS

Wings Out West/OctoberWest Alumni Homecoming Weekend and AOPA Regional Fly-In PRESCOTT, ARIZ.

- | | | |
|---|--|---|
| THURSDAY, SEPT. 29 <ul style="list-style-type: none"> • Industry/Career Expo • eagleNIGHT | FRIDAY, SEPT. 30 <ul style="list-style-type: none"> • AOPA Regional Fly-In* http://www.aopa.org/Community-and-Events/AOPA-Fly-In/2016 • Awards Reception • AOPA Barnstormers Party • 27th Annual Alumni Golf Tournament | SATURDAY, OCT. 1 <ul style="list-style-type: none"> • Wings Out West • AOPA Regional Fly-In • Breakfast & Static Display <p><small>*AOPA Regional Fly-In activities are open to alumni</small></p> |
|---|--|---|



Wings & Waves Air Show and Alumni Homecoming Weekend DAYTONA BEACH, FLA.

- | | | |
|---|--|---|
| THURSDAY, OCT. 6 <ul style="list-style-type: none"> • Industry/Career Expo • eagleNIGHT | SATURDAY, OCT. 8 <ul style="list-style-type: none"> • Wings & Waves Air Show • 90th Anniversary Tribute & Epic Reunion | SUNDAY, OCT. 9 <ul style="list-style-type: none"> • Wings & Waves Air Show <p>—All dates and events are tentative and subject to change—</p> |
|---|--|---|

To register and for up-to-date information:
alumni.erau.edu/homecoming

CAREER CORNER

SAVE THE DATE

2016 Industry/Career Expos:

THURSDAY, SEPT. 29
 Prescott, Ariz.

THURSDAY, OCT. 6
 Daytona Beach, Fla.

For additional information and job resources:
careerservices.erau.edu.



2015 Industry/Career Expos Recap

DAYTONA BEACH CAMPUS

Employers: 97
 Job Seekers: 3,000

PRESCOTT CAMPUS

Employers: 73
 Job Seekers: 1,200

LIFELONG LEARNING

Embry-Riddle Professional Education

Embry-Riddle offers educational opportunities for professionals and organizations in the aviation and aerospace industry.

View upcoming seminars and certificate courses at
proed.erau.edu.



WATCH

Employer representatives who are also alumni tell why their companies prefer Embry-Riddle graduates.
lift.erau.edu/videos-spring-2016



EVENTS ON THE RADAR

For the most up-to-date list of events, visit alumni.erau.edu/events.

APRIL 5-12

Sun 'n Fun
 Lakeland, Fla.

APRIL 11

Veterans Appreciation Day
 Daytona Beach, Fla.

APRIL 12

Lift, Off the Page
 Daytona Beach, Fla.,
 Prescott, Ariz., and online

MAY 7

Prescott Campus Commencement
 Prescott, Ariz.
Worldwide Campus Commencement
 Daytona Beach, Fla.

MAY 10

Daytona Beach Campus Commencement
 Daytona Beach, Fla.

MAY 22

Worldwide Campus Commencement
 Seeheim, Germany

MAY 28

Worldwide Campus Commencement
 Pensacola, Fla.

JUNE 10

Worldwide Campus Commencement
 San Diego, Calif.

JULY 11-17

Farnborough International Airshow
 Farnborough, England

JULY 25-31

EAA AirVenture
 Oshkosh, Wis.

SEPT. 10

Worldwide Campus Commencement
 Seattle, Wash.

SEPT. 17

Worldwide Campus Commencement
 Ford Island (Oahu), Hawaii

CLASS NOTES

To share your Class Notes with *Lift* and your fellow alumni, join Embry-Riddle's online community at alumni.erau.edu/join today; or submit your announcements through email to eralumni@erau.edu. For guidelines, visit alumni.erau.edu/notes_guidelines.

Career News

1960s

Bob Minter ('61, MC) received the Kentucky Aviation Association's highest award, the Henry Ogradzinski Excellence in Aviation Award, for his five decades of airport awareness and advocacy in the region.

1980s

Patrick Lane ('80, PC) is a B-777 captain at Turkish Airlines. Previously,

he was a B-777 captain for Emirates Airlines, where he flew for more than seven years.

James O'Grady ('81, DB) is president of Air Transport International.

Fr. Thomas Woodhouse ('81, DB) is a priest at St. Patrick Church in Cumberland, R.I. He attended seminary and was ordained a priest in 2013.

Retired U.S. Navy Lt. Cmdr. Jeffrey M. Post ('82, DB) is president of Sargent Aerospace and Defense.

Barry Fischer ('83, PC) retired from a successful career in airport management. After graduation, he went on to manage air carrier, general aviation and military airports. He was also an FAA airport inspector. He resides with his family in the Los Angeles area.

Mackenzie Ogweng ('83, DB) was appointed a member of the Board of Directors of Uganda Civil Aviation Authority.

Suren Ratwatte ('83, WW; '99, PC) is chief executive of SriLankan Airlines.

Paul Zurawski ('83, DB) is a B-757 captain for FedEx, based in Memphis, Tenn.

Helen Dalman "Pat" Knight ('84, '92, WW), a 10-time Master Certified Flight Instructor (CFI) and a founding member of the Society of Aviation and Flight Educators, recently renewed her Master CFI accreditation. Knight is an aviation safety inspector with the FAA Flight Standards program at Alliance Airport in Fort Worth, Texas. She was the second aviation educator to earn the Master designation when the program was introduced by the FAA.

Capt. Kathy La Sauce ('85, WW) was chosen as a 2016 inductee into the Women in Aviation International Pioneer Hall of Fame. She is one of

the first 10 female officers to graduate from the Air Force Undergraduate Pilot Training Program on Sept. 2, 1977.

Tim Farley ('86, WW; '02, DB) is now vice president of design engineering at Daniel Defense.

Retired U.S. Air Force Chief Master Sgt. Richard E. Russell ('86, WW) was knighted in the Royal Order of Scotland, an appendant body of Masonic bodies, in Indianapolis, Ind.

Dennis Garner ('87, WW) retired from federal civil service as a helicopter flight instructor in December 2011, and retired from the U.S. Air Force Reserve in 1995.

Debbie Martinez ('87, DB) won a Career Achievement in Government award from NASA's Langley Research Center in Hampton, Va. She is the execution manager for the Convergent Aeronautics Solutions Project.

Astronaut Nicole Stott ('87, DB), retired on June 1, 2015, from the Astronaut Office after a 27-year career with NASA. She is a member of Embry-Riddle's Board of Trustees, and has started a new adventure as an artist, speaker and supporter of SciArt education.

Lt. Col. Joseph M. Vallone ('87, '13, WW) earned FAA Type Ratings in the MIG-15 and MIG-17.

Michael Weymer ('87, PC) was promoted to captain at Atlas Air. He pilots a Boeing 767.



Paul Zurawski



Barry Fischer



Lt. Col. Joseph M. Vallone



Pat Knight



Nicole Stott



Michael Weymer



Dennis Garner

CAMPUS LEGEND

| | |
|------|--------------------------------------|
| MC | Miami Campus |
| DB | Daytona Beach, Fla. |
| PC | Prescott, Ariz. |
| WW | Worldwide Campus |
| BFTS | No. 5 British Flying Training School |



Rick Napper



Lt. Col. John Eubanks



Capt. Dana R. Gordon



Chris Battaglia



Capt. Hernán Le Pera



Sara McCook



Kaare Erickson and Laura Campbell

Maj. Jeffrey L. Snyder ('89, DB) assumed command on Nov. 2, 2014, of the 512th Operations Support Squadron of the U.S. Air Force Reserve at Dover Air Force Base, Del., where he is also a C-17 instructor/evaluator pilot. Snyder also recently upgraded to B757/767 captain at United Airlines.

1990s

Tina Quigley ('90, PC) was appointed to the Nevada High-Speed Rail Authority. She is the general manager of the Regional Transportation Commission of Southern Nevada.

William D. Miller ('91, DB) celebrated 11 years at Dassault Falcon Jet Corp., including 10 years as manager of sales engineering.

Robert L. Jordan ('92, WW) was named a 2015 Central Florida Humanitarian Award honoree. Jordan is chairman, president and CEO of Genesis VII, a procurement and logistics company based in Titusville, Fla.

Rick Napper ('93, WW) was named the new market president of the St. Joseph Health System, located in Bryan, Texas.

Lt. Col. John Eubanks ('94, DB; '05, WW) is a U.S. Navy combat systems officer trainer and flight instructor at Naval Air Station Pensacola, Fla. Previously, he completed a two-year assignment as the Air Force ROTC leader at Det. 490 at the New Jersey Institute of Technology. Eubanks has

also served as a missile launch instructor, missile combat crew member and master navigator.

Barry Russell ('95, WW) is vice president of Gulfstream Aerospace Corporation's Worldwide Service Center Operations.

Timothy Mayer ('96, '02, WW) retired July 1, 2014, after completing more than 33 years in the U.S. Coast Guard, including tours in the Alaska Patrol and Polar Operations Division.

Julie Vazquez ('96, WW) was inducted into the National Association of Professional Women's VIP Woman of the Year Circle. She is a transportation planning associate with the Los Angeles, Calif., Department of Transportation. She has served in the U.S. Navy and Army National Guard.

Capt. Dana R. Gordon ('97, WW) is commanding officer of the U.S. Navy's USS Iwo Jima (LHD 7).

Delta Air Lines First Officer Helena Reidemar ('97, DB) received the Air Line Pilots Association (ALPA) International's Air Safety Award on July 23, 2015, for her contributions to aviation safety. The first female pilot to receive this award, Reidemar was presented the honor at ALPA's 61st Air Safety Forum in Washington, D.C.

Shahryar Shaghghi ('97, DB) was named national practice leader of BDO Consulting's Technology Advisory practice.

Timothy Reichert ('98, PC) is a precise point mensuration certification team lead for the U.S. Air Force at Offutt Air Force Base, Neb. Mensuration is the study of measurement for combat mission planning, including missiles. Reichert spent 21 years in the U.S. Air Force, including 12 years in aircraft armament systems and nine years in intelligence operations. He and his wife, Kathleen, have been married 26 years and have four children: Ryan, Meagan, Aaron and Sean.

2000s

Chris Battaglia ('01, DB) is director of charter sales at Meridian, a private aviation company based at Teterboro Airport in New Jersey.

Kaare Erickson ('01, DB) and his wife, **Laura Campbell ('00, DB)**, attended a recent Rolls-Royce Centennial celebration in Indianapolis, Ind. Campbell is the aerospace engineering engine family turbine and rotatives technical lead at Rolls-Royce. Erickson is the chief of advanced propulsion concepts in the Rolls-Royce Liberty Works division.

Herbert Johnson Jr. ('01, WW) retired from the U.S. Navy after 22 years of service.

Lonny Rosenblum ('01, WW) is a full-time instructor at Wilson Technical Institute in Suffolk County, N.Y. He teaches general curriculum in the Aviation Maintenance Technology program.

Dan McCabe ('02 DB) was elected president and principal facility representative of the National Air Traffic Controllers Association's Atlanta ARTCC Local. He began a two-year term in January 2016.

James Holzer ('04, WW) is director of the Office of Government Information Services at the National Archives and Records Administration.

Capt. Hernán Le Pera ('05, DB) launched an app for Apple devices called Flight Threats, which is a situational awareness improvement tool. Le Pera is a captain with Aerolíneas Argentinas flying the Boeing 737 NG in Buenos Aires, Argentina.

Sara McCook ('06, DB), who is project manager of design and construction, corporate real estate for United Airlines, was a guest speaker at the Reaching Out LGBT MBA & Business Graduate Conference, held Oct. 8–10 in Chicago, Ill. She served on the panel "Run Like a Girl," which discussed what it means to be a modern day woman and a feminist, and how to maintain authenticity.

Anthony Vareha ('06, DB) was selected by NASA as one of five new flight directors to manage International Space Station operations.

Peter Berg ('07, PC) received NASA's Space Flight Awareness Honoree Award, recognizing NASA civil servants and contractors for their commitment to quality and flight safety.



Jason M. Osterhage



Ricardo Garcia



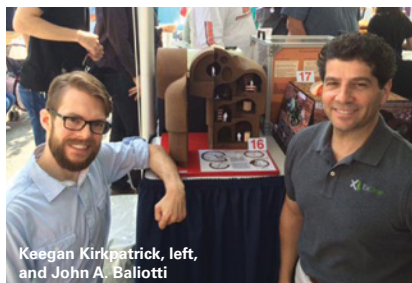
Costas Sivyllis



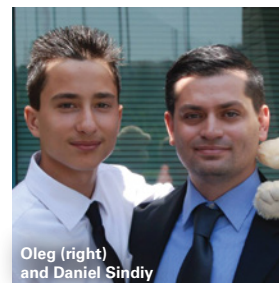
Joseph R. Williams Sr.



Matthew Grasso



Keegan Kirkpatrick, left, and John A. Baliotti



Oleg (right) and Daniel Sindi

Jason M. Osterhage ('07, WW) is chief lending executive at Alliant Credit Union based in Chicago, Ill. Following early professional years in airline operations, Osterhage transitioned into the financial services industry. Alliant Credit Union was founded in 1935 to serve employees of United Airlines. Today it serves a broader field of sponsoring groups, including students, alumni and faculty of Embry-Riddle.

Martin J. Cool ('08, PC) finished his master's degree at Georgetown University in Washington, D.C., on May 15, 2015. He completed the security studies program at the Walsh School of Foreign Service.

Matthew Minguela ('08, DB) was honored with a Hispanic Heritage Award by the Puerto Rican Action Committee of Southern New Jersey. Based in Philadelphia, he is a captain for Air Wisconsin Airlines (US Airways Express).

Shane Ballman ('09, WW) is founder and CEO of SynapseMX, a Georgia-based company that makes cloud-based software to help commercial aircraft maintenance teams. Recently, Ballman's startup was selected to be part of 500 Startups, a four-month accelerator program in Mountain View, Calif.

2010s

Heather Sterzick ('11, WW) received The Ninety-Nines Award of Achievement for Humanitarian Efforts.

Ricardo Garcia ('12, WW) manages the government resources program at the University of Central Florida Business Incubation Program.

Software developer **Matthew Grasso** ('12, DB) designed software for a fleet of FAA-approved advanced aviation training devices for one-G simulation, a Seattle, Wash., company. Grasso, who resides in Seattle, was instrumental in the programming of one-G Access, a program that places a one-G AATD in flight schools on a pay-per-use basis.

Costas Sivyllis ('12, DB) is a first officer at United Airlines on the Boeing 757/767 aircraft. He also serves on the Embry-Riddle College of Aviation Industry Advisory Board for the Daytona Beach Campus and is the chairman of the National Education Committee for the Air Line Pilots Association International.

Joseph R. Williams Sr. ('12, WW) recently retired from the U.S. Navy, completing his fifth and final deployment on Oct. 17, 2015. His 20-year career was focused on aviation maintenance management, nondestructive inspection and flight line operations management. Most recently, he was forward deployed to the Middle East, where he was the detachment leading petty officer in the Kingdom of Bahrain, providing flight line operations and personnel management at the Bahrain International Airport.

Adam Cellini ('13, DB) is a reporter at WWSB, ABC Channel 7 in Sarasota, Fla.

Keegan Kirkpatrick ('13, PC) is the team lead at Redworks, a 3D printing company based in Lancaster, Calif. His team's design for a 3D printable Mars habitat placed in the top 30 finalists of the America Makes 3D Printed Habitat Challenge, selected to debut at the 2015 New York Maker Faire. He is pictured with John A. Baliotti, director of marketing and business development at ExOne.

Daniel M. Salinas ('14, WW) retired from the Air Force with more than 36 years in aviation. Now employed at Boeing Aerospace, he was elected for the Boeing Legend Atlas Award in 2013. He is currently pursuing a master's degree in Human Factors through Embry-Riddle's Worldwide Campus.

William M. Morrison ('14, DB) was sworn in Aug. 3, 2015, as a U.S. Army chaplain candidate at the Edwin Cardinal O'Brien Pastoral Center, headquarters of the Archdiocese for the Military Services, USA. He is a Catholic seminarian at John Paul II Seminary from the Archdiocese of Washington.

Zachary Goff ('15, DB) is a systems engineer for Rockwell Collins.

Antonio S. Santiago ('15, WW) was selected to attend U.S. Air

Force Officer Training School. He will complete training and commission as a second lieutenant to become an aircraft maintenance officer by March 2016.

Family News

1990s

Nathaniel Burt ('98, DB) and his wife, Suzanne, welcomed their second child, Nathaniel Charles, on May 1, 2015. Charlie joins big sister, Katherine, at home in York, Pa. Burt is a principal software engineer and program manager at Exceptional Software Strategies in Linthicum, Md.

2000s

Matthew Callander ('01, '09, WW) and his wife, Athalia, celebrated the birth of their first child together, Savannah Abigail, on Sept. 17, 2015. Savannah arrived at 12:07 a.m. She weighed 8 pounds, 12 ounces and was 21 inches long.

Oleg Sindi ('04, PC) adopted a son, Daniel, on June 2, 2015. Sindi is a systems architect at NASA's Jet Propulsion Laboratory. He is currently working on the design of the Asteroid Redirect Robotic Mission and Europa Clipper spacecraft.

Andy Castro ('08, DB) and his wife, Pita, welcomed their second child, Andrew Kane, on July 5, 2015. Castro is general manager at Sheltair Aviation in Lakeland, Fla.

Marriages/ Engagements

2000s

Patrick Mahan ('07, DB) married **Kelly Dowell** ('09, '12, WW) on April 25, 2015, in Solana Beach, Calif. Mahan is a captain for SkyWest Airlines, and Dowell works for JetSuite, a part 135 operator, as supervisor of flight scheduling. They reside in Carlsbad, Calif.

Doug Dickey ('08, PC) and **Jennifer Borge** ('01, PC) married on Oct. 10, 2015, at McMenamins Edgefield in Troutdale, Ore. Borge is an admissions counselor for Embry-Riddle's Prescott Campus and Dickey is an industrial engineering manager at The Boeing Company. They live in Seattle, Wash. There were 14 Prescott alumni at the wedding, including bridesmaid **Katie Pribyl** ('00, PC), bridesman **Jared Testa** ('01, PC), and groomsmen **Cody Hargreaves** ('07, PC) and **Michael Buttenob** ('06, PC).

Zack Smith ('08, DB) and **Amy Robbins** ('09, DB) married on Aug. 29, 2015, in Stockton Springs, Maine. The couple lives in Los Angeles, Calif.

2010s

Jason Cole ('12, DB) and **Tiffany Musholt** ('12, DB) were engaged on Aug. 1, 2015, in Myrtle Beach, S.C. Cole is an aerospace engineer at Samson Motors and Musholt is an aerospace engineer at the National Air and Space Intelligence Center. They live in Dayton, Ohio.

Rose Wanjiku Njogu ('13, DB) and **Zhande Mwangi** married on May 9, 2015, in Nairobi, Kenya. The couple resides in Kenya.

Taylor Matta ('14, PC) married Jennessa Charbeneau on June 21, 2015, at Embry-Riddle's Fred and Fay Haas Interfaith Chapel at the Prescott Campus.

Other

James Ladesic ('67, DB), professor and associate dean of industry relations, Sully Ferritto, and Trustees Emeriti **Jay Adams Jr.** (HonDoc '08) and **Phil Elliott Jr.** (HonDoc '04; '72, DB, Non-degree) were honored at Embry-Riddle's 50th Gala Celebration held Oct. 29, 2015, in the Duva Ballroom at the Henderson Welcome Center and Administration Building at the Daytona Beach Campus. The gala commemorated Operation Bootstrap, Embry-Riddle's move from Miami to Daytona Beach in 1965, and recognized special guests for their support of the momentous effort. The foursome shared their poignant and often amusing stories of the historic move in a talk show format hosted by radio personality Marc Bernier.

An all-Embry-Riddle crew worked on the B-777 FedEx Flight 5225 on Aug. 10, 2015, from Cologne, Germany, to Memphis, Tenn. They are: **Capt. Wayne Lane** ('74, DB); **First Officer Doug Carpenter** ('85, PC); and **First Officer Dani Johnson** ('90, DB), who also commissioned out of Embry-Riddle's Air Force ROTC Det. 157.

Fr. Patrick Kokorian ('98, DB) received a surprise visit from former Embry-Riddle classmate **Fitz Walker** ('98, DB) at his home at the Most Holy Trinity Monastery in Petersham, Mass., after Walker read an article about him in *Lift* [A Higher Calling, fall 2014]. "Fitz came here as a direct result of the article about me. I hadn't seen him since we graduated in 1998," says Kokorian.

Alaska Airlines is Eagle strong. Alumni who work at Alaska Airlines' Seattle headquarters building recently posed for a group photo. Pictured are **Clint Ostler** ('00, PC), media and market manager; **Marietta Landon** ('01, DB), manager of revenue management; **Elliott Pesut** ('07, PC), manager of brand strategy and integration; **David Scotland** ('08, DB), manager of

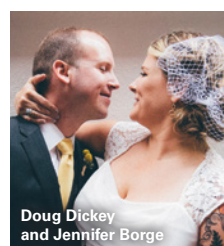
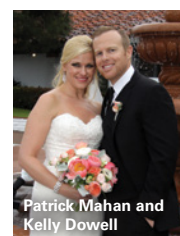
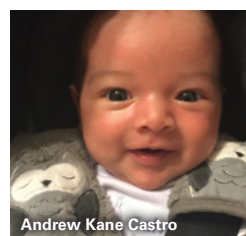
inflight connectivity & entertainment; and **Joe Sprague** ('90, DB), senior vice president of communications & external relations. Not pictured is **Alex Corey** ('07, DB), director of revenue analysis, who also works at the headquarters building.

Mike Semmelmeier ('13, PC) recently participated in a volunteer panel addressing the topic of

unmanned aircraft systems at the Lafayette Library and Learning Center in Lafayette, Calif.

John Easum ('15, DB) received the Young Person's Achievement Commendation from the Royal Aeronautical Society on Nov. 30, 2015, in London. He is a Ph.D. candidate at Penn State University in electrical engineering.

Savannah Abigail Callander



EAGLE AUTHORS

ON THE BOOKSHELF

James F. Peters, Embry-Riddle adjunct faculty, authored *Return to Flight*, published in 2015, a true story about the Space Shuttle Columbia disaster that killed seven astronauts.

"It is the story of the most difficult period in the history of the Shuttle Program, a period of self-doubt, reflection, fear and anguish, during which astronauts, engineers and scientists had to work together to ensure a third shuttle disaster would not light up the sky," says Peters, who served as the Shuttle Debris Integration Chair, and was responsible for correcting the debris problems that led to the Columbia accident.

Peters has more than 25 years of manned spaceflight experience, and is currently working at NASA's Johnson Space Center on the Commercial Crew Program.



J. Brian "Bear" Lihani ('96, WW) authored *NORAD and Cheyenne Mountain AFS*, a pictorial history of the North American Aerospace Defense (NORAD) Command and the Cheyenne Mountain Air Force Station, published in 2015. Lihani is the deputy chief at NORAD headquarters' Aerospace Warning Branch.

Retired U.S. Air Force Col. Cedric "Ric" Hunter ('81, WW) authored *Firehammer*, a novel based on a true story. Published in 2014, *Firehammer* received the 2014 Military Writers Society of America Book Award Finalist for historical fiction.

Gabriel "Gabe" Bentz ('15, PC) co-authored *The Space Economy*, published in 2015.

Jonathan Rupprecht ('09, WW) co-authored the American Bar Association book, *Unmanned Aircraft in the National Airspace: Critical Issues, Technology and the Law*, published in 2015. Rupprecht is an attorney, commercial pilot and flight instructor.

Joe Bassi, assistant professor of arts and sciences for Embry-Riddle's Worldwide Campus, authored *A Scientific Peak: How Boulder Became a World Center for Space and Atmospheric Science*. Published in 2015 by the American Meteorological Society Press, the book earned an honorable mention award in the Atmospheric Science Librarians International history category.

Richard S. "Sam" Baty, retired Embry-Riddle Worldwide Campus faculty, authored a historical novel series, published from 2008 to 2013. The series includes four titles: *Footsteps to Forever*, *Darkness Into Light*, *Forever We Serve* and *Legends Live On*.

In Memoriam

Embry-Riddle pays tribute to our Eagles who have passed. Death notices are published as they are received/reported to the office of Alumni Relations. Notifications should be sent to eralumni@erau.edu. For an up-to-date list, visit alumni.erau.edu/passings.

1940s

John Broome ('41, BFTS, Non-degree)
Aug. 19, 2015

Ray J. Kerry ('41, BFTS, Non-degree)
Aug. 9, 2015

Arthur S. Rushworth ('41, BFTS, Non-degree)
Jan. 12, 2015

Nancy M. Graham ('42, MC)
Dec. 3, 2015

Retired U.S. Air Force Col. Alfred V. Fidrocki ('43, MC, Non-degree)
June 22, 2015

Joseph C. Miles ('44, MC, Non-degree)
July 13, 2015

Jim A. Moxom ('44, BFTS, Non-degree)
Aug. 1, 2015

1950s

Robert B. Kuba ('51, MC)
June 26, 2015

Donald C. Bryan ('54, MC)
May 24, 2015

William O. Wiley ('56, MC)
April 11, 2015

Franklin T. Basham ('58, MC)
Jan. 6, 2015

Charles W. Durkin ('58, MC)
Dec. 12, 2015

1960s

Claude Thomas "Tommy" Redmon ('61, MC)
April 30, 2015

Retired U.S. Army Maj. Fredrick M. Harker ('63, MC)
July 3, 2015

Danny R. Basinger ('64, MC)
Oct. 23, 2015

Richard Cook ('69, DB)
Sept. 6, 2015

Thomas R. Drake ('69, DB)
May 21, 2015

Mark E. Lemmer ('69, DB)
Sept. 25, 2015

Gerald S. Penberthy ('69, DB)
July 22, 2015

Charlene N. Sellers ('69, DB)
Jan. 2, 2015

1970s

James "Jimmy" Barry Dodge ('72, DB)
Aug. 19, 2015

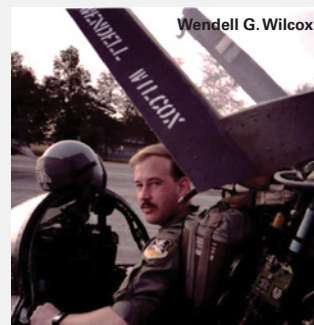
Daniel A. Pinkham ('77, DB)
Aug. 15, 2015

Dennis Ray McGee ('78, DB)
Oct. 22, 2015

1980s

Terrel L. Thomas-Harmon ('81, PC)
June 8, 2015

Retired U.S. Air Force Capt. Wendell G. Wilcox ('82, DB)
Dec. 12, 2015



Claude A. Samuels Jr. ('83, DB)
Feb. 2, 2015

Retired U.S. Air Force Lt. Col. David R. Lambert ('84, '85, WW)
April 13, 2015

Obong G. Ekanem ('85, WW)
Dec. 10, 2015

Harry James Geraty ('85, WW)
Aug. 5, 2015

Gary A. Peterson ('86, '88, DB)
June 22, 2015

Alan E. Boissonneault ('87, WW)
Jan. 6, 2015

Donald G. Hammonds ('87, WW)
Sept. 4, 2015

James Burleigh Steffen Jr. ('88, DB)
Nov. 22, 2015

Clarence P. Williams Jr.
('86, '87, WW)
Dec. 10, 2014

1990s

Gregg Zimmerman ('90, DB)
July 16, 2015

Daniel A. Bloomfield ('92, '99, WW)
Sept. 3, 2015

Retired U.S. Air Force Lt. Col. Brian P. Burns ('95, WW)
March 30, 2015

Christopher A. Pyle ('88, '95, DB)
Jan. 12, 2016

Mortimer R. Feinberg (HonDoc '96)
Dec. 10, 2015

Thomas W. Polec ('98, WW)
Aug. 1, 2015

2000s

Ronald S. Rosenthal ('03, WW)
Oct. 10, 2015

Demico O. Black ('04, DB)
Dec. 25, 2015

Robin W. Yarber ('04, WW)
Jan. 8, 2015

Patrick Brent Gustin ('05, DB)
Sept. 3, 2015

Bonnie M. Morrison ('05, WW)
June 17, 2015

Eric J. Kunins ('08, WW)
July 15, 2015

Heather M. Martin-Demichina
('08, '10, DB)
Sept. 30, 2015

Joshua M. Perras ('08, DB)
Oct. 15, 2015

Brian L. Moore ('11, WW)
Nov. 16, 2015

Colin M. Rainey ('12, DB)
Sept. 17, 2015

Other

John B. Wing (Former trustee of the board)
July 6, 2015

Khrystyna Gavryushenko
(Student, PC)
Aug. 25, 2015

Torrey Barnes (Student, DB)
Sept. 6, 2015

Ralph J. Weiger (Prescott Board of Visitors member)
Dec. 1, 2015

Jeffrey Luong ('11, DB)

OCT. 10, 2015



Jeffrey Luong ('11, DB) "had a larger-than-life personality," says Embry-Riddle student and Phi Delta Theta brother Douglas Carcamo-Castro. "He leaves a lasting impact on all of those who knew him."

Luong, 27, was a resident of Port Orange, Fla. He died of injuries suffered in an aircraft crash in Volusia County, Fla. Two of his fellow fraternity brothers, Mark Michael Repanshek Jr. ('11, DB), the pilot, and Jarrett Bruckner ('13, DB), another passenger, were injured but survived.

Luong earned a B.S. in Aviation Maintenance with a minor in Aviation Safety from Embry-Riddle. As a student, he

was active in multiple organizations, including the campus radio station WIKD 102.5 FM, Touch-N-Go Productions, the First Generation Student Association, Broken Arrow Scenario Club, Jeep & 4X4 Club and Phi Delta Theta Fraternity.

"The hearts of the entire Embry-Riddle community are with the family and friends of this young man," says Interim University President John R. Watret. "It deeply saddens us to lose one of our own."

More than 400 people attended an Oct. 13 memorial service, hosted by the Phi Delta Theta Fraternity at the Spirit Rock on the Daytona Beach Campus. Following a time of remembrance and storytelling, attendees had the opportunity to light candles in Luong's honor.

"It's hard on all of us as we mourn, but we lean on each other and move forward, just like Jeff would have wanted us to," says Phi Delta Theta Chapter President Andres Martinez.



Capt. Jonathan J. Golden ('10, WW) and Staff Sgt. Ryan Hammond (Student, WW)

OCT. 2, 2015

Capt. Jonathan J. Golden ('10, WW) and Staff Sgt. Ryan Hammond, a Worldwide Campus student, were among six Air Force personnel who died on Oct. 2, 2015, when a C-130J Super Hercules transport aircraft crashed upon takeoff at Jalalabad Airfield in Afghanistan.

Golden, 33, and Hammond, 26, were serving in Afghanistan as members of the 39th Airlift Squadron at Dyess Air Force Base, Texas.

"Our thoughts are with the families of Capt. Golden and Staff Sgt. Hammond," says Worldwide Chancellor Brad L. Sims. "We are grateful for the sacrifices these airmen made for our country, and it was a privilege to support them in their education. These young men and their loved ones will always be part of our Embry-Riddle family."



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