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College of Aviation

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December 2021 School of Graduate Studies Newsletter

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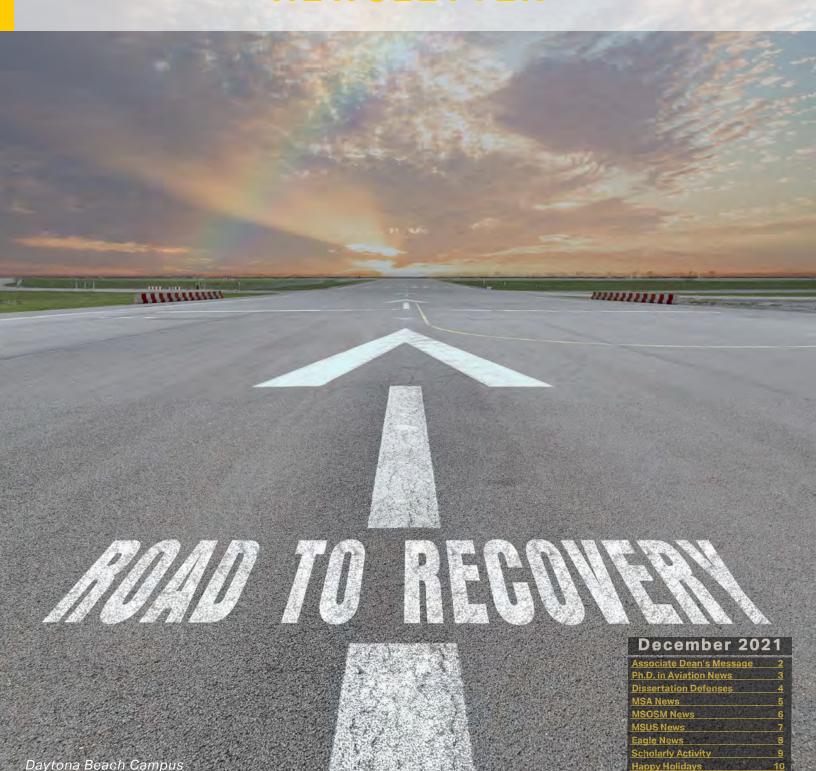
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EMBRY-RIDDLE AERONAUTICAL UNIVERSITY COLLEGE OF AVIATION

SCHOOL OF GRADUATE STUDIES

NEWSLETTER



ASSOCIATE DEAN'S

MESSAGE



Dr. Steven Hampton

We have reached the end of 2021, and the School of Graduate Studies faculty, staff, and students exceeded all expectations despite the pandemic continuing to challenge the world! Student attendance is strong in all of our programs.

We had a great Ph.D. in Aviation Residency in August and an outstanding Medallion Ceremony for students who graduated in 2019, 2020, and early 2021. Thank you to everyone who made it a success and to all of the students, families, and friends who attended! We look forward to the Graduate Hooding and Commencement Ceremony for our Fall 2021 graduate students at the Ocean Center on December 16th.

There are two new scholarship opportunities for College of Aviation graduate students. I encourage you to contribute to support our current and future students, because 100% of your donation will go to the scholarship you choose. Professor Emeritus and former Chancellor of the Daytona Campus, Dr. Thomas J. Connolly, passed away June 15, 2021. For nearly 40 years, he dedicated himself to the education, training, and career advancement of Embry-Riddle aviation professionals. In honor of his service, the Dr. Tom Connolly Memorial Endowed Scholarship has been established to support Master of Science in Aviation students at the Daytona Beach campus. Visit this Giving to Embry-Riddle site to donate online or to obtain the information on donating by mail.

The three founders of the Ph.D. in Aviation Program—(From left: Dr. Tim Brady, COA Dean Emeritus, Dr. Alan Stolzer, COA Dean, and Dr. Steven Hampton, SGS Associate Dean)—established the Ph.D. in Aviation Founders' Endowed Fellowship to help support a Ph.D. in Aviation residential student. This fund has been endowed with the expressed goal of growing it to support several residential students in the future. Visit this **Giving to Embry-Riddle site** today!



As our enrollments grow across our four graduate programs, our SGS faculty and staff continue to grow and change as well. Please join me in welcoming three new SGS faculty, Dr. Barbara Holder, Dr. Cynthia Pugh, and Dr. Chris Johnson. Dr. Holder started in 2021. As the Presidential Research Fellow for our college, her primary role is to expand research opportunities, but she will also co-teach human factors courses beginning this spring. Dr. Pugh starts in January 2022 and will begin teaching in the MSOSM program this spring. Dr. Johnson will come on board in the fall to teach in the MSUS program. Join me in also welcoming a new staff member, Steve Anest, who will transfer from the Worldwide Campus in Dr. Barbara Holder January. Jan Neal retires on January 13, 2022 after working as the instructional designer for the Ph.D. in Aviation Program since its inception. Steve will assume her position and role as the editor/designer of the SGS Newsletter. We thank Jan for all she has done supporting the program and SGS and wish her well.





Dr. Cynthia Pugh





Dr. Chris Johnson



Steve Anest

Each year we hold an SGS retreat to discuss our degree programs and research projects, focusing on ways to improve student learning and maintain academic quality. Some of the recent changes include wider use of professional editors and online writing tools like Grammarly, greater emphasis on student research and publishing, and requiring thesis and dissertation committee chairs to be full-time SGS faculty. We continue to be heavily engaged in research, and are pleased many students are taking advantage of research opportunities with faculty within their academic discipline.



From left: Dothang Truong, Katie Esguerra, Scott Winter, Jane Pan, Andy Dattel, Dahai Liu, Steven Hampton, Jennifer Thropp, Mark Friend, Jan Neal, Dave Esser, Haydee Cuevas, Bee Bee Leong, Frank Ayers, Don Metscher, and Susie Sprowl

I hope you have a safe and enjoyable holiday! I'm looking forward to an even brighter year ahead for all.

PH.D. IN AVIATION

NEWS

Dothang Truong, Ph.D.

Program Coordinator



I am pleased to announce we held a successful in-person Ph.D. in Aviation Residency in August 2021 on the Daytona Beach campus. Twenty five current students attended. We organized various activities, including the poster session, keynote and guest speakers, round tables with graduates and dissertation chairs, writing workshops, and seminars on program policies, APA, iThenticate, statistics, research methodology. Plus, students met with their with advisors. Many thanks to the presenters, faculty, Jan Neal, Susie Sprowl, Katie Esguerra, Bee Bee Leong, and SGS graduate assistants Shivanee Patron, Trong Nguyen, and Angel Wang for their support in making everything go smoothly.

We were honored to have **Dr. Maj Mirmirani** as our keynote speaker. He is a Professor of Mechanical Engineering and former Dean of the College of Engineering at the Daytona Beach Campus. He shared his insights on emerging technologies and applications to aviation, focusing on the zero-emission aviation goal by 2050. In addition, we had **Dr. Remzi Seker**, Associate Provost for Research, as our guest speaker, who talked about Embry-Riddle's strategic research plan and activities. I would like to thank these speakers for their time, shared knowledge, and encouragement.

As with the previous residencies, all of the attending students participated in the poster session, making it a great learning experience. I would like to thank **Dr. Haydee Cuevas**, Chair of the poster committee, for coordinating this important event. Also, many thanks to poster committee members, **Drs. Frank Ayers, Marisa Aguiar, Bruce Conway, Mark Friend, Jennifer Thropp, Stephanie Fussell, Dahai Liu, Jane Pan,** and **Baron Summers**, and Ph.D. Candidate **Danita Baghdasarin** for their service, expertise, and feedback. Three poster winners are **Lana Laskey** (DAV 701), **Mike Pettit** (DAV 702), and **Jennifer Herr** (DAV 703). Congratulations to Lana, Mike, and Jennifer for jobs well done!



Lana Laskey receives her award for the best DAV 701 poster from **Dr. Hampton**.



Mike Pettit with his award for the best DAV 702 poster.



Jennifer Herr with her award for the best DAV 703 poster.

Due to the lack of global availability of coronavirus vaccines, we were unable to hold our regular Medallion Ceremony for our 2020 and Spring and Summer 2021 graduates. Consequently, we held the ceremony at this residency for 16 Ph.D. in Aviation graduates! Nine graduates were able to attend along with their families. The hooding ceremony was performed in the Henderson building by **Dean Alan Stolzer** and the dissertation chairs. **President Bary Butler** and **Provost Lon Moeller** participated, congratulating the graduates on their distinguished academic achievement. Faculty, staff, family, and friends, were there as well to support our graduates. Visit this **EAGLE Gallery link** (University log-in is required) to see the pictures taken at the event. Congratulations again to **Drs. Rich Cole, Sabrina Woods, Lakshmi Vempati, Edwin Odisho, Rachelle Strong, Susan Archer, Kenneth Ward, Jennifer Edwards, Stephanie Fussell, David Carroll, Bradley Baugh, James Hartman III, Kabir Kasim, David Thirtyacre, Marisa Aguiar, and Woojin Choi. Please join me in congratulating our four newest graduates: Drs. Tanya Bulleigh, Robert Allen, Mary O'Connor,** and **Bob Brents.** Well done everyone!

I also want to thank our COA and SGS leadership, faculty, and staff for their continued support of the Ph.D. in Aviation. We wish everyone a productive and successful 2022 academic year!

DISSERTATION

DEFENSES



Congratulations to Tanya K. Bulleigh, Ph.D., (Graduate 51), for her successful defense on June 24, 2021 of "Developing a Predictive Model of Depression and Suicidal Tendencies in Pilots" (video stream). [ERNIE login is required to access ERAU's Microsoft Stream site.] Standing from left to right: Dr. Ryan Wallace, Dr. Dothang Truong, Dr. Tanya Bulleigh, and Dr. Scott Winter (chair). Remote from top left to right: Dr. Emma Blackmore, Dr. Todd Hubbard, Dr. David Cross, and Dr. David Esser.

Congratulations to **Robert D. Allen, Ph.D.,** (Graduate 52), for his successful defense on September 2, 2021 of "Pilot Perception of Cockpit Organizational Framework's Impact on Flight Safety and Subordinate Pilot Behavior" (video stream). [ERNIE login is required.] Standing from left: **Dr. Dothang Truong, Dr. Richard Steckel, Dr. Robert Allen,** and **Dr. Andy Dattel** (chair). Remote from left: **Dr. Marti Klemm** and **Dr. Dave Esser.**





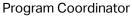
Congratulations to Mary B. O'Connor, Ph.D. (Graduate 53) for her successful defense on September 29, 2021 of "Identification of Factors Associated with Fume Events Using Text Mining and Data Mining" (video stream). [ERNIE login is required.] Standing from left: Dr. Frank Ayers, Dr. Dothang Truong (chair). Dr. Mary O'Connor, Dr. Mark Friend, Dr. Dave Esser, and Dr. Robert Maxson (remote).

Congratulations to Robert G. Brents, Jr., Ph.D. (Graduate 54) for his successful defense on December 10, 2021 of "Intention to Complain About Unmanned Aircraft System Noise: A Structural Equation Analysis" (video stream). [ERNIE login is required.] Standing from left: Dr. Scott Winter (chair), Dr. Robert Brents, Dr. Dothang Truong, Dr. David Thirtyacre. Remote from top left: Dr. Bruce Conway, Dr. Joseph Keebler, and Dr. Valerie Gawron.











Master of Science in Aviation student enrollment remains strong with 100 students in the Fall 2021 Term. We are continuing to evolve our degree program with relevant subjects. The new Space Studies Specialization is doing excellent and continues to grow. We currently rely on faculty in the College of Aviation's Department of Applied Aviation Sciences who are teaching in the B.S. in Space Operations program. They are excited to participate in our program and are in the process of creating new courses in Space Studies for our specialization.

We also proposed some changes beginning with the 2022–2023 course catalog. Regrettably, we found it necessary to recommend deleting the Aviation/Aerospace Education Technology specialization from the MSA curriculum. There has been only one student at a time in this specialization during the last 5 years. No one is currently enrolled in this specialization, and we are unable to continue offering courses for only one or two students. Students had been taking these courses with the Worldwide Campus, but this specialization has also been deleted from their catalog.

Second, "sustainability" is now a very hot topic in the aviation industry and is the subject of many recent conferences. In addition, we have received inquiries from potential students asking if we have courses about aviation sustainability. Sustainability means meeting our own needs without compromising the ability of future generations to meet their needs. In addition to natural resources, we also need social and economic resources. Sustainability within our domain involves determining the complex environmental, economic and social impacts that are defining aviation's future. We already have sustainability subjects in most of our Aerospace/Aviation Management specialization courses and related sustainability topics have always been in our curriculum, but were not reflected in the Master Course Outlines (MCOs).

We submitted changes to our MCOs to reflect the related sustainability topics and submitted a request to add a specific Sustainable Aviation and Aerospace Perspectives course (MSA 600). This course will address the significant challenges associated with forming a sustainable future in the aviation industry. It is designed to provide students with an understanding of the economic, social, and environmental impact of the aviation industry. Students will apply critical thinking skills and problem-solving techniques in determining the positive and negative consequences present in the global aviation industry. They will also formulate sustainable strategies and environmental management systems applicable to aviation and aerospace industries. Four of the MCOs in the Aviation Management Specialization have been changed to reflect the sustainability topics being covered in the courses. Also, the title of this specialization will be changed to "Aviation Management and Sustainability." All of these curriculum changes will better prepare our current and future MSA students to handle the diverse challenges they will encounter in their aviation careers.

Please join me in congratulating the Fall 2021 Master of Science in Aeronautics graduates: **Ibrahim Ahmed, Mohanad Nasser Alssati, Aidos Berdibayev, Pin Chun Chi, Ruidong Gao, Kai-Hao Ko, Zidi Liu, Adam Lo Bianco, Syaza Raehah Mohamad Haris, Jiyong Park, Irfan Hisamuddin Parker, Cilia Salam, Ruitian Sun, Timothy John Sweeney, Hanzi Xie, and Master of Science in Aviation graduate, Akhil Varghese.** We are very proud of all of our graduates and wish them continued success!



Also join me in congratulating **Syaza Haris** on her successful thesis defense on November 30, 2021. The title of her research is "Noise and Time Pressure Effects on Situation Awareness and Aviation Maintenance Tasks." Great job, Syaza!

From left: Mitch Geraci, Ayaza Haris, and Dr. Andy Dattel (chair)



Mark Friend, Ed.D.

Program Coordinator



The <u>Master of Science in Occupational Safety Management (MSOSM)</u> program had its first three graduates at the end of the Spring Term, and all are employed full-time in the field of safety! Approximately thirty students are currently enrolled in the MSOSM program. Please join me in welcoming the new students: **Melissa Cornell, Nicholas Distefano, Althea Gibbons, Maxwell Katich,** and **Lea Mahoney.** Some of our new and returning MSOSM students are pictured below.



Please join me in welcoming new Assistant Professor, **Dr. Cynthia Pugh**. She starts teaching full-time in the MSOSM program in January. She has B.S. degrees in Chemistry and Biochemistry from Michigan State University, an M.S. in Industrial Hygiene from the University of Michigan, and a Ph.D. in Safety Sciences from Indiana University of Pennsylvania. Her dissertation focused on the characterization of occupational exposures to engineered nanomaterials. She began her career as an industrial hygiene analytical chemist and has worked as a laboratory scientist, garnering extensive experience in analytical industrial hygiene chemistry in public and private sectors. She is also a Board Certified Safety Professional.

Instructors in our program have been keeping students engaged this semester in different ways. **Dr. Haydee Cuevas** invited numerous speakers to SF 619: Human Factors and Ergonomics. **Jakob Rouleau**, Safety Specialist, Environmental Health & Safety, shared his day-to-day activities as a Safety Specialist for ERAU and highlighted several safety risks he encounters while performing his duties. Drawing from his expertise and experience in aviation accident investigation, **Anthony Brickhouse**, Associate Professor of Aerospace and Occupational Safety, shared steps taken to ensure the safety of investigation teams while on crash sites. **Kenneth Scott**, ERAU Groundskeeper provided insights on what and how he hears, sees, and senses in the environment while performing his tasks. **Deputy Fire Chief Noble Taylor** of the Ponce Inlet Fire Department, discussed how occupational safety and risk management intertwine in every aspect of operations in any industry. In SF 600: Occupational Safety and Health Management, **Dr. Rick Pagan**, Deputy Superintendent at the National Mine Health and Safety Academy of the U.S. Department of Labor's Mine Safety and Health Administration, spoke about professional safety from his perspective and career opportunities in the field of mining. Also, students in SF 600 have visited four local manufacturing companies and provided each with written guidance for moving forward with their occupational safety programs. These site visits were arranged by the Volusia Manufacturers Association. We plan to continue these types of activities in future semesters.



Left to right: Leroy Samuel, Sydney Piling, Hunter Kerr, Govindan Ramchander, Collins Maude

Collins Maude said, "Conducting an inspection of a local business was a great way to apply our knowledge and skills to a real-world scenario. Our team goal was to provide information which will enhance the safety culture within the company and lead to a more successful local business."



Left to right: **Justin Grillot, Nicole Hester, Cameron Pike**



Left to right: Daniel Sokol (Angel), Althea Gibbons, Bill Fearn, Cristhian Padilla, Irina Gheorghieva

Bill Fearn said, "The health and safety consultation visit was a valuable learning experience. The opportunity brought home the complexities of occupational health and safety by providing insight into the practical challenges of reconciling production and safety goals. The team was

required to apply the general to the specific in regards to the safe management of people, machines, facilities, and processes within a functioning industrial enterprise."



Left to right: **Nelson Pusquin-Nieves, Holly Scammon, Nicholas Nieves, Alberto Carrillo, Lea Mahoney**



Scott Winter, Ph.D.

Program Coordinator



There are several exciting developments with the <u>Master of Science in Unmanned Systems (MSUS)</u> program. First, I am happy to announce **Dr. Chris Johnson** will be joining the SGS team in 2022 to support the MSUS program! He has extensive experience in manned and unmanned aviation and a background as an engineer, scientist, consultant, Air Force Veteran, entrepreneur, commercial pilot and flight instructor. His research interests include manned and unmanned vehicle systems, remote sensing, artificial intelligence, data science, human performance, system safety, user experience and man-machine interaction.

Four changes were proposed and will become effective in the next academic year (2022–2023). There will be the inclusion of a 3-credit open elective. This elective course will allow for a more versatile program for students. Students wishing to take an extra research/statistics course, internship or thesis will benefit from the extra three credits available in the revised degree program.

We are excited by the creation of three accelerated undergraduate to graduate degree programs! Students in the Bachelor of Science in Aeronautics, Aeronautical Science, and Unmanned Aircraft Systems will now be eligible to apply for the 4 plus 1 option to complete the MSUS degree. With this accelerated program, students will apply in their junior year, and be able to use three courses (9 credits) of MSA 500-level courses toward their undergraduate plan of study in place of open-elective credits. These credits will then be transferred into the master's program after the student obtains their undergraduate degree. This accelerated program will help shorten the time required to complete the MSUS degree.

Effective with the Daytona Beach 2022–2023 Catalog, undergraduate students in the Bachelor of Science in Aeronautics, Aeronautical Science, and Unmanned Aircraft Systems may be eligible to complete an accelerated Bachelors to Master's program in Unmanned Systems. Interested students should apply at the start of their junior year. To be eligible, students must:

- Have earned at least 75 semester credit hours
- Have an cumulative GPA of 3.00 or better
- Have two letters of recommendation from undergraduate faculty members
- Complete an application and interviews with both their undergraduate and the MSUS program coordinators

Once admitted to the accelerated program, ideally, students will take one 500-level course in their last three semesters in place of open-electives on their undergraduate plan of study. After the undergraduate degree, these three courses will transfer into their graduate degree plan of study. A cumulative GPA of 3.00 must be maintained the entire time the student is in the accelerated program, and a grade of A or B must be earned in the graduate-level courses for credit to be earned toward both degrees. If either of these requirements is not met, the credit will only be counted on the transcript for undergraduate plan of study.

The MSUS information session held in this Fall Term attracted 11 students interested in the program. We are excited about these new program updates and the continued interest from the student body. This fall, we also held the MSUS Orientation for our new students. Thank you to all who attended both events. It was a pleasure meeting everyone and discussing what this program has to offer.



Seuggyun Jin, Hunter Cartwright, and Dr. Scott Winter at the MSUS Fall Orientation.



Several students attended the Fall 2021 MSUS information session.

EAGLENEWS





Jamarius Reid, Cohort 13 Ph.D. in Aviation student, worked with DRONERESPONDERS as an intern for NASA Aeronautical Research Institute at Ames Research Center in Silicon Valley. The Electronic Exchange Platform for Drone Use in Disasters project incorporated ESRI (ArcGIS), database enhancements and surveying to produce the nation's first Unmanned Aerial Systems (UAS) directory for public safety. Since launching spring of 2021, the DRONERESPONDERS Public Safety UAS directory/map has over 900 entries from the U.S. and 20 other countries. Currently, the database is the largest public safety drone directory and map in the world providing program information and location. The directory facilitates regional teams, training, regulatory updates, and safety bulletins across the globe. "Specifically, Jamarius' work kicked us off. From a supply chain perspective, it provides insight to aircraft flown, payloads and capabilities" Chief Charles L. Werner (Emeritus-RET) Director, DRONERESPONDERS Public Safety Alliance.



Dr. Jonathan Velázquez (Ph.D. Graduate 12) is the new Dean of the School of Aeronautics at the Inter American University of Puerto Rico! Jonathan brings 20 years of experience in academia and industry. Prior to his current role, Dr. Velázquez worked as an aviation faculty member, a Chief Instructor for a 14 CFR Part 141 Flight School, and a First Officer with Merlin Airways. As the new Dean, he plans to leverage his membership within the FAA Safety Team (FAAST), University Aviation Association (UAA) Board of Trustees, and Aviation Accreditation Board International (AABI), and his industry and academic background to benefit the next generation of aviation professional who graduate from the Inter American University of Puerto Rico.



Dr. Barry Hyde and Bravo

MSA alumnus ('07), **Dr. Barry Hyde**, and his guide dog **Bravo**, were recently honored with **Embry-Riddle's 2021 Distinguished Alumnus Award** for his achievements distinguishing him in his field.

On June 1, 1998, while flying as a passenger, he survived a plane crash with traumatic head injuries and a loss of smell, taste, and sight. On May 7, 2007, graduated from ERAU with an M.S. in Aeronautics degree with distinction, becoming the first and only blind graduate. Since then, he has made incredible efforts to improve aviation safety. He has a doctorate in Business Administration with a specialization in Aeronautical Safety and his research centers on prevention of similar aviation accidents. He works for the FAA and recently published his book, Seeing New Horizons: A Blind Aviator's Journey After Tragedy (2021).

You can read about Dr. Hyde and the other recipients of the 2021 Eagle Alumni Award in the **Spring/Summer 2021 issue of the Lift Alumni Magazine**.



SCHOLARLY

ACTIVI⁻



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Mappy Molidays!

As 2021 comes to an end, all of us in the School of Graduate Studies wish you and your loved ones a joyful holiday season and a very bright new year!



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