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May 2021 School of Graduate Studies Newsletter

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EMBRY-RIDDLE AERONAUTICAL UNIVERSITY COLLEGE OF AVIATION

SCHOOL OF GRADUATE STUDIES

NEWSLETTER



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BEING THE BEST

Means Handling the Worst

Daytona Beach Campus

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ASSOCIATE DEAN'S MESSAGE



Dr. Steven Hampton

Factoids: One year on, and COVID 19 is still with us. Our faculty, staff, and students have made adjustments and continue to outperform! Thank you, everyone!

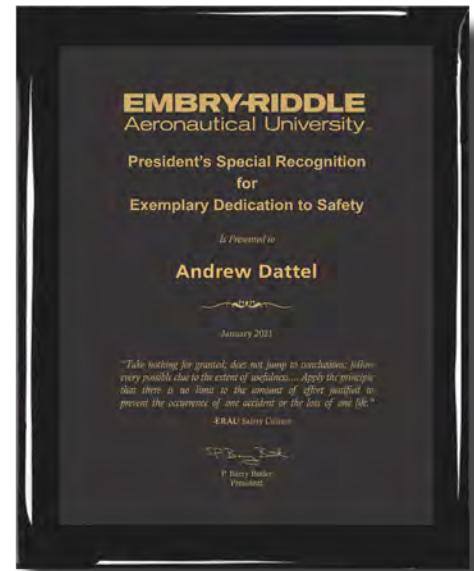
It's been a busy year so far. At its March meeting, the University Board of Trustees approved a new joint SGS and Worldwide academic program. The new Master of Science in Space Operations (MSSO) program will be taught online and focus on spaceflight operations. In the Spring 2021 semester, three thesis defenses and four dissertation defenses were successfully defended. The Ph.D. in Aviation program now has 50 graduates, a significant achievement and one all should be proud. The 2022 Ph.D. in Aviation cohort is coming together and looks to be another great group.

Please join me in congratulating **Dr. Andy Dattel** for receiving the **President Butler's Safety Award for 2021!**



Dean Stolzer presents Dr. Dattel with a plaque for the 2021 President's Safety award.

“ I was honored and surprised to receive the President's Exemplary Dedication to Safety. The award undoubtedly stems from the three face-mask studies I conducted with Instructor Pilots (IP) between May and July 2020. Attitudes of IPs were conducted before and after entering a flight simulator and flying a cross-country flight in an airplane. In addition, I tested IPs' carbon dioxide, oxygen saturation, respiration rate, and heart rate in the HAL Lab, simulating atmospheric pressure of 5,000 feet AGL. Also, I wrote the COVID-19 social distance, face mask adherence, and hygienic guidelines for the labs located in the AFSC building. ”



We have more good news and congratulations! **Dr. Scott Winter** was promoted to Associate Professor with tenure. **Dr. Jane Pan** was hired as an Assistant Professor and will start in the Fall term. **Dr. John Robbins** was appointed Chair of the Department of Aeronautical Science in the College of Aviation and will begin this role in July 2021.



Dr. Scott Winter
Tenured Associate Professor



Dr. Jane Pan
Assistant Professor



Dr. John Robbins
Chair, Department of Aeronautical Science

PH.D. IN AVIATION

NEWS



Dothang Truong, Ph.D.

Program Coordinator

I'm pleased to announce that our students continue to succeed despite the pandemic! We held four successful dissertation defenses in the January term. Please join me in congratulating **Dr. Kabir Kasim, Dr. David Thirtyacre, Dr. Marisa Aguiar, and Dr. Woojin Choi** for achieving their highest academic goal. We are very proud of them and their significant research contributions to the field of aviation.

Dr. Choi's defense marks a vital program milestone of a total of 50 graduates earning the honorable distinction of Doctor of Philosophy in Aviation! It is a remarkable achievement for an 11-year-old doctoral program considering this record is much higher than the national average. This significant feat could not have been reached without support from the COA leadership, faculty, and staff. Please accept my heartfelt gratitude to everyone who supports the success of our students and program!

Ms. Tracy Lamb was selected the 2021 Outstanding Ph.D. in Aviation Student Award in the College of Aviation for her exceptional academic achievement, integrity, selflessness, leadership, and service to the program, SGS, ERAU, and the world of aviation. Congratulations, Tracy! Your honor is well deserved!

Our Admission Committee, led by **Dr. Scott Winter**, reviewed 56 complete applications and recommended admitting the top 18 applicants for Cohort 13 and 15 are currently confirmed. Many thanks to our Marketing Coordinator, **Ms. Katie Esguerra**, for her diligent work in processing the applications, communicating with applicants, coordinating the interviews, and documenting everything involved in this process.

We are planning for the full reopening of program activities. The 2021 Ph.D. in Aviation Residency will be held in person on the Daytona Beach campus, just as it was before the pandemic. In addition, we will incorporate the medallion ceremony to celebrate the crowning achievement of our recent graduates. If you are planning on attending, please be advised that ERAU's safety protocols will be in place. Contact **Ms. Susie Sprowl** if you have any questions about precautions such as wearing masks, getting a daily safety check upon arriving on campus, and vaccine information. We look forward to seeing everyone in person!



Tracy Lamb (Cohort 10), 2021 Outstanding Ph.D. in Aviation Student of the Year

One of our traditions is to change Ph.D. in Aviation banner periodically. The original banner reflected our program's reach in aviation around the world. Last year, we revised the banner to celebrate our program's 10-year anniversary. This year, we decided to create an entirely new banner reflecting the establishment of our program in 2009, its administration by the School of Graduate Studies, its focus on aviation, alluding to the early days of flight and Embry-Riddle's heritage, and using a color scheme representing the university's blue and gold colors. Many thanks to our graphic (and instructional designer), **Ms. Jan Neal**, for designing our new program banner and the new DAV Canvas splash pages. We hope you like our new look as much as we do!



DISSERTATION DEFENSES



Congratulations to **Kabir S. Kasim, Ph.D.**, (Graduate 47), for his successful defense on February 3, 2021 of "*An Investigation of Factors that Influence Passengers' Intentions to Use Biometric Technologies at Airports*" ([video stream](#)). [ERNIE login is required to access ERAU's Microsoft Stream site.] Pictured from top left to right: **Dr. Tyler Spence, Dr. Scott Winter (Chair), Dr. Joseph Keebler, Dr. Carolina Anderson, Dr. Kabir Kasim, Dr. Dahai Liu, Dr. Dothang Truong.**



Congratulations to **David L. Thirtyacre, Ph.D.**, (Graduate 48), for his successful defense on March 26, 2021 of "*The Effects of Remotely Piloted Aircraft Command and Control Latency During Within-Visual-Range Air-To-Air Combat*" ([video stream](#)). Pictured from top left to right: **Dr. David Cross (chair), Dr. Scott Winter, Dr. Dothang Truong, Dr. David Thirtyacre, Dr. Ryan Wallace.**



Congratulations to **Marisa D. Aguiar, Ph.D.**, (Graduate 49), for his successful defense on April 7, 2021 of "*Development of a Safety Performance Decision-Making Tool for Flight Training Organizations*" ([video stream](#)). Pictured from left to right: **Dr. Greg Woo (remote), Dr. Ken Byrnes, Dr. Carolina Anderson (chair), Dr. Marisa Aguiar, Dr. Dothang Truong, Dr. Kim Szathmary.**



Congratulations to **Woojin Choi, Ph.D.**, (Graduate 50), for his successful defense on April 20, 2021 of "*Cost Optimization Modeling for Airport Capacity Expansion Problems in Metropolitan Area*" ([video stream](#)). Pictured from left to right: **Dr. Bruce Conway, Dr. Dothang Truong (chair), Dr. Isaac Martinez, Dr. Woojin Choi, Dr. Robert Walton, Dr. Rafael Echevarne.**



MSAv NEWS

Don Metscher, D.B.A.

Program Coordinator



Please join me in congratulating the Spring 2021 MSA graduates: **Mohammad Abdelmageed, Nazia Afreen, William Bruno, Elie Choi, Peiheng Gao, Miouke Kharbouch, John, Ludlow, Tucker Mead, Andrew Seward, Henrique Sosa Rodriguez, Gleason Thompson**, and in offering special congratulations to **Sojung An, Paul Cairns, Kevin Konvit, Sang-A Lee, Shreya Mittal, Hui Wang, and Zihao Zhang** for graduating with distinction (4.0 GPA).

Beginning with the ERAU 2021-2022 course catalog, the name of our degree will change from Master of Science in Aeronautics (MSA) to Master of Science in Aviation (MSAv). Aeronautics focuses on the science, design, and manufacture of flying vehicles, while Aviation focuses on flying or operating an aircraft and various mechanical flight and aircraft industry activities. Although the terms are very similar, we believe the term 'Aviation' is more current and appropriate for the Daytona Beach degree with its numerous aviation-related specializations. The name change also helps to differentiate the Daytona Beach campus program from the Worldwide campus program, because the Worldwide MSA program made some significant changes to its courses and specializations. While there is no longer a common MSA program, a few courses and specializations are still the same or similar and our course IDs will retain MSA.

Our program has continued to evolve and improve its research-based courses to prepare students for advanced graduate degrees. We have maintained a vigorous research-based approach with a strong emphasis on Statistics, Research Methods, and the Capstone/Thesis courses. This name differentiation will help us market to potential students whom the Master of Science in Aviation (MSAv) degree would best serve. Plus, the change provides an incentive to students in our program to continue their graduate education by enrolling in the Ph.D. of Aviation program.

We have also added several new combined Bachelor's/Master's Pathway programs. These changes allow students to take up to 9-credit hours (3-courses) of 500 level courses in their undergraduate program and have them also count toward our MSAv degree. The current Pathway programs are the B.S. in Aeronautics to MSAv and the B.S. in Aviation Maintenance Management to MSAv. The three new MSAv Pathways programs being added this Fall are the B.S. in Aeronautical Science, B.S. in Meteorology, and B.S. in Unmanned Aircraft Systems.

We are adding a new course in the Fall 2021 semester as part of the Aviation Operation and Aviation Management specializations. The MSA 573: Fundamental Concepts of Agent-Based Modeling (ABM) course provides hands-on experience using AnyLogic simulation software to model complex systems, primarily aviation and aerospace engineering systems. Upon completing the course, students can use these skills and knowledge to creatively and critically solve real problems using computer simulation in their future careers.

We are happy to report that the MSAv program was re-certified in January 2021 by the Aviation Accreditation Board International (AABI). Our program was first evaluated for AABI approval in 2016, but reapplication must be done every 5 years. Our program received favorable comments for our specializations and was again accredited in February 2021.

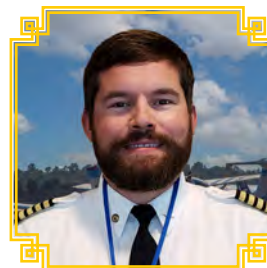


Dr. Metscher presents Sang-A Lee the 2021 Outstanding MSA Student of the Year Award.

Congratulations to **Sang-A Lee** for being chosen for the 2021 Outstanding MSA Student of the Year! We also want to congratulate **Ms. Lee, Paul Cairns, and Angel Hui Wang** on their successful thesis defenses and for being accepted into the Ph.D. in Aviation Pathway program. The title of Ms. Lee's thesis is "*The Effects of Carry-on Baggage on Aircraft Evacuation Efficiency.*" Mr. Cairns' is "*Gold Standards Training and Evaluator Calibration of Pilot School Check Instructors.*" Angel Hui Wang's thesis is "*Air Traffic Controllers' Occupational Stress and Performance in the Future Air Traffic Management.*"



Sang-A Lee



Paul Cairns



Angel Hui Wang



MSOSM NEWS



Mark Friend, Ed.D.

Program Coordinator

Our first MSOSM graduates, **Amanda Dargie** and **Michael Shekari** will be in the Spring of 2021. **Mackenzie Dickson** Successfully defended his thesis on April 22, 2021. **Justin Grillot** was selected as the 2021 Outstanding MSOSM Student of the Year! Congratulations all on your well-earned achievements!

Our graduates and students are seeking employment and internships opportunities this summer. Our graduates are well qualified to begin their careers in the safety and health profession across numerous industries and service organizations. Please contact me at mark.friend@erau.edu if you know of any employment openings for our students.

Several students participated in the [4th annual Southeast Regional Research Symposium](#), a collaboration between the NIOSH Educational Research Centers and Agricultural Centers in four states. Researchers shared results, sparked ideas, and encouraged collaboration. As part of the ERC at the University of South Florida, the following students participated. (Tap the link following the title of each student's research to view their contribution to the symposium.)



Amanda Dargie

"Covid-19 in the Aviation Industry" [\(Abstract\)](#)

Learning Objective:

- It is important to have a ventilation system that is compatible with the location and air flow.



Rebecca Demian

"A Cost Analysis of Compliance and Repairs in Historical Fires" [\(Abstract\)](#)

Learning Objective:

- Create a checklist for safety managers to make a case for safety reform in any industry.



Justin Grillot

"Selecting and Using a Sit-Stand Desk" [\(Abstract\)](#)

Learning Objectives:

- Awareness of sit-to-stand desks
- Awareness of the design differences
- Set expectations of the pros and cons



Jakob Rouleau

"Selection of Safety Gloves" [\(Poster\)](#)

Learning Objective:

- How to properly select safety gloves.



Michael Shekari

"Using JHA to Control Risks from Traditional and COVID-19 Hazards in Evacuation Shelters" [\(Poster\)](#)

Learning Objectives:

- Demonstrate the need for systematic hazard analysis in emergency evacuation shelters.
- Show how a job hazard analysis (JHA) tool can be used by shelter workers to analyze and control hazards.
- Introduce how COVID-19 risk can be assessed and controlled in shelters using the JHA framework.



Dr. Hampton presents **Justin Grillot** with the 2021 Outstanding MSOSM Student of the Year Award.

ALUMNI NEWS



Dr. Shareef "Reef" Al-Romaithi (Graduate 8), a captain with Etihad Airways in the UAE, received the Sinopharm coronavirus vaccine. The airline is the first in the world to vaccinate all pilots and cabin crew on board against the COVID-19 and to require PCR testing of all crew and passengers at both departure and arrival sites.



Dr. Reef Al-Romaithi getting a Covid-19 vaccination (Khaleej Times, 02/10/21)



Dr. Woojin Choi

Dr. Woojin Choi (Graduate 50) has been working as a lead design manager at the project management office to develop the Western Sydney Airport project, which is expected to be inaugurated in late 2025 as the second international airport in Sydney area. He was recognized by the government project company as a best performer in the first quarter of 2021 in appreciation of successful completion of the conceptual design of the terminal complex.



Dr. Sabrina Woods

Dr. Sabrina Woods (Graduate 36) has been working to complete several research projects.



I'm working with **Dr. Scott Winter** and **Dr. Lakshmi Vempati** (Graduate 37) on pilot perspectives on Urban Air Mobility operations in their airspaces. This work is actually a continuation of Dr. Lakshmi's doctoral dissertation. As an FAA representative, I'm interested in the results of this research because we know that human perceptions and opinions on things help to inform actions. We (the FAA) are currently developing integration protocols for these new types of operations so that we can continue to ensure a safe and secure National Airspace System. The more we know and can predict how different pilots will react (and therefore perform), the more we can tailor regulations and address concerns ahead of time to smoothen that transition.

I'm also continuing research on the "startle effect" and how it affects pilot performance. **Dr. Travis Whittmore** (Graduate 33) and I polished a paper we did when we were students and submitted it for publication. It is titled "Analysis on the Negative Emotional, Physiological, and Cognitive Responses Elicited from the Activation of a Stall Alarm" and will be published in the next edition of the Journal of Aviation/Aerospace Education & Research (JAAER).

I'm expanding the JAAER study into a solo project to help determine the link between the startle effect and automation failure effects. One of my concerns (stemming from my job as a human factors investigator in accident investigation) is that pilots don't always know what their automation "looks like" when it fails, under what parameters the automation will fail, or how to detect and recover from automation failure. This lack of knowledge leads to the pilot being startled, followed by poor aeronautical decision making should the startle precipitate into a full amygdala hijack, also known as the fight, flight, or freeze effect.

My other research activities are focused on cognitive biases, in particular the biases that pilots are most susceptible to. This endeavor is a continuation of my dissertation on pilot willingness to persist from VFR flight into IMC and in which I highlighted several biases that come into play to influence decision-making. I'm developing easy-to-digest talking papers and presentations to give to GA pilots across different forums. While they won't meet the rigor of formal research or requirements for peer-reviewed publications, these works are targeting laypeople who arguably need access to this kind of information the most and need to have it presented in a way they will readily appreciate and understand. My experience presenting at safety down days, FAA Safety Team forums, industry (NetJets, Joby Aviation, Mission Safety) safety days, EAA AirVenture (Oshkosh), military safety down days, and both national and international aviation accident investigation forums has taught me that there is a strong need to keep safety messages simple!



SCHOLARLY ACTIVITY



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