



Burchan Aydin, Ph.D.

Academic Department: Engineering and Technology

Academic Ranking: Associate Professor

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EDUCATION

- Ph.D. Industrial Engineering, Texas Tech University, 2014.
- M.A.A. Organizational Development, University of the Incarnate Word, 2008.
- B.S. Industrial Engineering, Middle East Technical University, 2005

TEACHING EXPERIENCE

- 2021 – Present: Associate Professor, Engineering and Technology, Texas A&M University, Commerce
- 2015 - 2021: Assistant Professor, Engineering and Technology, Texas A&M University, Commerce
- Jan- June 2015: Adjunct Faculty, Engineering and Technology, Texas A&M University, Commerce.
- 2010-2014: Teaching and Research Assistant, Construction Engineering, Texas Tech University
- Jan-Aug 2010: Research Assistant, Industrial Engineering, Texas Tech University.
- Jan-May 2009: Teaching Assistant, Industrial Engineering, Texas Tech University

RESEARCH

Research Keywords: Unmanned Air Vehicles, Drones, Sustainability, Engineering Education

Grants Received:

- 'First Responder Search And Rescue Challenge 3.1' Stage 1 winners,
 - Unmanned Air Systems and Artificial Intelligence for Search And Rescue of Lost Persons in Thick Forested Areas
 - Funding Source: National Institute of Standards and Technology (NIST)
 - Funding Amount \$7,000
- 'Teachers Take Flight' Drone Workshop for Dallas ISD's 25 STEM teachers
 - Funding Amount : \$25,000
- Principal Investigator for
 - Unmanned Air Systems Assisted Fire Fighting
 - Funding Source: TEES, Texas A&M Engineering Experiment Station.

- Funding Amount \$2,500, 2017-2018 Fiscal year
- Principal Investigator for
 - Live Swarm Remote Sensing of Unmanned Air Vehicles
 - Funding Source: TEES, Texas A&M Engineering Experiment Station.
 - Funding Amount \$2,500, 2018-2019 Fiscal year
- Spring 2017 Faculty Development Grant, A&M Commerce.
Award: \$300
- Received Presidential GAR Initiative grant to hire a Graduate Research Assistant for Fall 2019, and Spring 2020
- Received Presidential GAR Initiative grant to hire a Graduate Research Assistant for Fall 2020, Spring 2021, and Summer 2021
- Received Student Worker Grant through Stahl Endowment for Drone Research for Fall 2021, and Spring 2021

Grant Work under Progress

- Use of Drones for Reforestation after Wildfires in Hard to Access Terrain
- Drone and Artificial Intelligence STEM Workshop

Refereed Articles

- Singha, S. **Aydin, B.** (2021). Automated Drone Detection Using YOLOv4. *Drones* **2021**, 5, 95. <https://doi.org/10.3390/drones5030095>
- Kim, S.; **Aydin, B.**; Kim, S. Simulation Modeling of a Photovoltaic-Green Roof System for Energy Cost Reduction of a Building: Texas Case Study. *Energies* **2021**, 14, 5443. <https://doi.org/10.3390/en14175443>
- **Aydin, B.**, Farris, N., Carpenter, S. Females Attitudes towards Drones, and Female Drone Pilots' Working Conditions. **Under Progress.**
- Working Conditions of Commercial Drone Pilots: A Survey Study. Manuscript Submitted to *Technology in Society*. **Under Review** since Nov-2020.
- Development of an Assessment Tool for Five Hazardous Pilot Attitudes for Commercial Drone Pilots. **Under Progress.**
- Hunter, H., Aydin, B. (2020). Knowledge, Attitude, and Practice of Emerging Technology in the Construction Sector: A Survey Study. IISE 2020 Conference Proceedings.
- Selvi, E., Aydin, B., Aponte, S., Sanchez, D. D. (2020). Design of a Drone System to use Fire Extinguishing Balls. IISE 2020 Conference Proceedings.
- Aydin, B. (2019). Public acceptance of drones: Knowledge, attitudes, and practice. *Technology in Society*, 59, 101180.
- Aydin, B., Selvi, E., Tao, J., & Starek, M. (2019). Use of Fire-Extinguishing Balls for a Conceptual System of Drone-Assisted Wildfire Fighting. *Drones* 3(1), pp. 17, doi:10.3390/drones3010017.
- Aydin, B., Yeon, J., Oh, E. (2019). Drones in Construction Sector: Knowledge, Attitudes, and Practice, a Pilot Survey Study. IISE Annual Conference Proceedings. Institute of Industrial and Systems Engineers.
- Aydin, B., Kim, S., Harp, D., & Ojemuyiwa, S. (2018, May). Designing an Automated Green Roof System. In IIE Annual Conference Proceedings. Institute of Industrial and Systems Engineers.
- Darwish, M., Aydin, B., Basora, Z. (2016). Approaches to Teaching Sustainable Development and Green Construction: Guest Experts & Fieldtrips. American Society for Engineering Education, GSW 2016.
- Aydin, B., Darwish, M. M., & Selvi, E. (2016). The State-Of-The-Art Matrix Analysis for Usability of Learning Management Systems. *The ASEE Computers in Education (CoED) Journal*, 7(4), 48.
- Aydin, B., & Moler, P. (2016). Cost Analysis of Open Source versus Proprietary Learning Management Systems. Proceedings of the International Conference of Technology Management (ICTM).

- Aydin, B. (2014). Development of a Decision Tool for Cost Justification of Usability. Dissertation. Texas Tech University.
- Aydin, B. & Beruvides M. G. (2014). Development of a Decision Tool for Cost Justification of Usability. *International Journal of Information Technology and Business Management*, Vol. 28, pp 45 - 73.
- Aydin, B., Beruvides, M. G. (2014). Development of a Decision Tool for Usability Cost Justification. Proceedings of the 2014 Industrial and Systems Engineering Research Conference.
- Aydin, B., Palikhe, H. and Beruvides, M. G. The Impact of Usability on the Cost of Quality. American Society of Engineering Management 2012 International Annual Conference Proceedings, Virginia Beach, VA, 2012.
- Aydin, B., Millet, B., and Beruvides, M. G. The State-Of-The-Art Matrix Analysis for Cost-Justification of Usability Research. American Society of Engineering Management 2011 International Annual Conference Proceedings, Lubbock, TX, 2011.
- Millet, B., and Aydin, B. Empirical Evaluation of Text Entry Performance of the Apple iPhone and a Hard-key Mini QWERTY Keyboard Smartphone. International Society for Occupational Ergonomics, ISOES 2010 Annual Conference Proceedings, Tempe, AZ, 2010.

Abstracts, Presentations and Workshops:

- Aydin, B. and Kashmir World Foundation (2018). Teachers Take Flight' Drone Workshop for Dallas ISD's 25 STEM teachers
- Aydin, B. (2016). Sustainability Analysis for an Emerging Technology: Drones. Presentation at Association of Technology Management and Applied Engineering (ATMAE) Conference.
- Organized Drone Programming Workshop as part of the Adventures in Mathematics Event at A&M-Commerce in 2019, and 2020.
- Organized a workshop titled: 'Introduction to drones for middle school students and building drones from LEGOs', as part of the Engineering STEM Summer Camp at A&M-Commerce, June 2017
- Organized a Workshop titled: 'Drone Programming Basics for STEM teachers and students', at STEAM WORKSHOP, 2017 at Mesquite Center:
- Darwish, M., Basora, Z., & Aydin, B. (2017). Preparing the Construction Industry for Climate Change through Resilience and Adaptation. Abstract. International Sustainable Buildings Symposium ISBS 2017.

Mentored Student Research

- **Title:** An Assistant to Firefighting: Drone Design
 - Student Poster Presentation at National Conference on Undergraduate Research (NCUR 2017)
 - Authors: Nicole Buczkowski, Christian Carter, Harrison Clark, Kyle Crews, Michelle Espinal, and Julie Summers (Jacksonville University)
 - Faculty Mentors: Emre Selvi (Jacksonville University, Engineering Department) and Burchan Aydin (Texas A&M University - Commerce, Department of Engineering and Technology)
- **Title:** A Comprehensive Analysis on Fire Extinguishing Supplementary Tools
 - International Conference of Industrial Engineering and Technology Management (IC-IETM 2017) (Sub-division: Safety)
 - Authors: 2 IE majors, and 2 MS TMGT students Engineering and Technology, Texas A&M University - Commerce
 - Faculty Mentor: Burchan Aydin
- **Title:** "Knowledge, Attitude, and Practice of Emerging Technologies in Construction Sector."
 - Student Poster Presentation at Pathway Research Symposium, 2019
 - Honors Student: Hunter Hammontree
 - Faculty Mentor: Burchan Aydin

- **Title:** “A Multiple Regression Analysis Study Examining the Price of Drones.”
 - Student Poster Presentation at Pathway Research Symposium, 2019
 - Graduate Research Assistant: Subrato Singha
 - Faculty Mentor: Burchan Aydin
- **Title:** “Optimal Facility Layout Design for Sustainable and Continuous Beer Production”
 - Advisor for Honors thesis of Industrial Engineering Undergraduate student Mina Kim
- **Title:** “An Examination of the Impact of Recruitment Strategies on Student Enrollment in an Online Master’s in Biological Sciences”
 - Dissertation Committee Member for Shaine Marsden
- **Title:** “Gaze based Mind Wandering Detection Using Deep Learning”
 - Committee member of Subrato Singha for MS Computational Sciences thesis

Creative Scholarly Research Based Activities:

- **Chair** of International Conference of Industrial Engineering and Technology Management (2017- to present) <http://edusolutions.org>
 - 2017, Dallas
 - 2018, New York
 - 2019, San Antonio
- **Co-Chair** of International Sustainable Buildings Symposium (ISBS, 2019, Dallas, TX) <http://www.isbs2019.gazi.edu.tr/>
- **International Executive Board** for International Sustainable Buildings Symposium-ISBS 2015, 2016, 2017, 2018
- **Program Committee Member** for FEMIB 2020, International Conference on Finance, Economics, Management, And IT Business <http://www.femib.scitevents.org/>
- **Reviewer** for the following academic journals:
 - Sustainability MDPI,
 - Remote Sensing MDPI,
 - Energies MDPI
 - Technology Forecasting and Social Change, EVISE
 - IEEE Transactions on Human-Machine Systems
- **Reviewer** for the following conference proceedings:
 - American Society for Engineering Education (ASEE) Annual Conference Proceedings
 - Association of Technology Management and Applied Engineering (ATMAE) Conferences Abstracts
 - Institute of Industrial and Systems Engineering (IISE) Conference Proceedings
 - FEMIB
- **Judge** for
 - Annual Federation Graduate Student Research Symposium in Denton, Texas on Friday, March 31, 2017.
 - Annual Federations Research Symposium Judge, 04/09/2021
 - Annual Research Symposium (ARS), Texas A&M University-Commerce, April 9, 2019.
- **Founded the Drone Development Laboratory at A&M-Commerce, 2017**
 - Built two drones with payload capacities over 15 kg from scratch.
 - The cost of each drone was around \$1,600. Same payload capacity drones are at least \$10,000 in the marketplace. (
 - One of these drones is used for firefighting research, while other one is used for reforestation, planting trees.
- **Advisor Committee Member** for EagleRay Fixed-wing Drone by Kashmir World Foundation
- **Technical committee member** for IEEE Aerial Robotics and Unmanned Aerial Vehicles

PROFESSIONAL TRAININGS AND WORKSHOPS

- Professional License:
 - United States Department of Transportation, Federal Aviation Administration F.A.A., REMOTE PILOT for Small Unmanned Air Systems
 - Certificate Number: 4061218
 - Date of Issue: Oct 14, 2017, renewed on 2019
- Certifications:
 - FAA's The Recreational UAS Safety Test (TRUST) Completion Certificate, Chippewa Valley Technical College, 11/16/2021
 - Six Sigma Green Belt Certificate, Six Sigma Global Institute, 2019
 - Completion of Teachers Take Flight Workshop
 - "DaVinci Challenge: Build a Drone for Education"
 - Location: Foxcroft School, Middleburg, Virginia
 - Date: August 2017
 - Completion of Webinar:
 - "Drones on Campus: Policies to Achieve Institutional Compliance and Minimize Risk"
 - Organizer: paperclip communications
 - Date: September 2017
 - Completion of Webinar:
 - "Creating a Timeline for Developing & Submitting a Grant and Crafting Specific Aims or Objectives"
 - Organizer: Texas A&M Engineering Experiment Station (TEES)
 - Date: November 2017
- Six Sigma White Belt Certificate of Achievement, Aveta Business Institute, 2016.

HONORS AND PROFESSIONAL MEMBERSHIPS

- **Dr. Augustine "Chuck" Arize Junior Faculty Award**, by The University's Chapter of Texas Association of Black Personnel in Higher Education in conjunction with the Faculty Senate Academic Practices Committee. 2018
- Faculty Senate Recognition **Award for Professional Excellence: "Fearless Investigation"** 2017, Texas A&M University - Commerce
- Member, Alpha-Pi-Mu - The Industrial Engineering Honor Society.
- Member, Tau-Beta-Pi - The Engineering Honor Society.