



Burchan Aydin, Ph.D.

**Academic Department:** Engineering and Technology

**Academic Ranking:** Assistant 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

- 2015 – Present: Assistant Professor, Engineering and Technology, Texas A&M University, Commerce
  - M.S. Technology Management Program
  - B.S. Technology Management Program
  - B.S. Industrial Engineering Sophomore Courses
  - B.S. Construction Engineering Sophomore Courses
  - B.S. Electrical Engineering Sophomore Courses
- 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:

- 'Teachers Take Flight' Drone Workshop for Dallas ISD's 25 STEM teachers
  - Dallas ISD allocated \$25,000 for this 5-day workshop
  - Organized by Dr. Aydin and Kashmir World Foundation
  - Teachers were provided the knowledge and hands-on experience to build drones from scratch, and to fly them manually and autonomously.
- 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

### Grant Work under Progress

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

### Refereed Articles

- Working Conditions of Commercial Drone Pilots: A Survey Study. Manuscript Submitted to *Technology in Society*. **Under Review** since Nov-2020.
- Return on Investment for Drone Investments: Cost-benefit Analysis. **Under Progress**.
- 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 Subroto 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
- **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
- **Judge** for
  - Annual Federation Graduate Student Research Symposium in Denton, Texas on Friday, March 31, 2017.
  - 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

<b>PROFESSIONAL TRAININGS AND WORKSHOPS</b>
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- 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:
  - 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.

<b>HONORS AND PROFESSIONAL MEMBERSHIPS</b>
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- **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
- Member, Alpha-Pi-Mu - The Industrial Engineering Honor Society.
- Member, Tau-Beta-Pi - The Engineering Honor Society.