

Michael Frye, PhD
Professor of Electrical Engineering
DEPARTMENT OF PHYSICS AND ENGINEERING

ACADEMIC DEGREES

University of Texas at San Antonio, San Antonio, TX

Doctor of Philosophy in Electrical Engineering

Dissertation Advisor: Dr. Chunjiang Qian

Area of Concentration: Control and System Theory

Dissertation Title: Advanced Nonlinear Control: Robustness and Stability with Applications to Aircraft Flight Control Systems

Dates Attended: August 2003 to December 2006

University of Southern California, Los Angeles, CA

Master of Science in Electrical Engineering

Graduate Advisor: Dr. Edmond Jonckheere

Area of Concentration: Linear Control and System Theory

Dates Attended: August 1998 to December 1999

University of Houston, Houston, TX

Bachelor of Science in Electrical Engineering

Area of Concentration: Control and System Theory

Dates Attended: January 1992 to December 1996

UST FACULTY EXPERIENCE (AUGUST 2026 TO PRESENT)

Professor of Electrical Engineering – University of St. Thomas - Houston

Dept of Physics and Engineering

- *Founding PI and Director, Autonomous Vehicle System Research Laboratories*

UIW FACULTY EXPERIENCE (AUGUST 2007 TO MAY 2026)

Professor of Electrical Engineering – University of the Incarnate Word

Dept of Engineering, Computer Information Systems, and Cybersecurity Systems

- *Director and PI, Autonomous Vehicle System Research Laboratories*
- *Director and PI, GEMS STEAM and Programming Camps and Clubs*
- Supervisor for two Full-Time Lab staff on Grant funding from March 2021 to December 2024 at the AVS Lab.
- Undergraduate Courses Taught: Engineering Mathematics, Computer Programming, Numerical Methods, Introduction to Engineering, Electrical Circuits, Introduction to Control Theory, Machine Learning and Artificial Intelligence, Intelligent Controls, and Senior Capstone

August 2020 to May 2026

Constance and Miriam Jauchler Jones Endowed Chair of Electrical Engineering

Department of Engineering

June 2025 to May 2026

**Adjoint Professor of Electrical Engineering - University of Texas at San Antonio,
Department of Electrical and Computer Engineering**

- Graduate Advisor for two ECE Doctoral Students

January 2021 to Present

One Year Research Sabbatical – June 2022 to August 2023

Chair of ENGR/CIS/CSEC – University of the Incarnate Word

Dept of Engineering, Computer Information Systems, and Cybersecurity Systems

Professor and Interim Chair of Engineering teaching Electrical Engineering courses. Administrative responsibilities include managing the Engineering Program and merging both the Computer Information Systems and Cyber Security Systems Programs with Engineering. Responsibilities include growing the Engineering Department and ABET accreditation.

- ABET Coordinator: ABET IDEAL Scholar in Assessment and Evaluation
- Wrote Self-Study and managed ABET Accreditation for Fall 2010
- Wrote Academic Integrity portion of the NCAA Division I reclassification Self-Study
- Supervisor for 1 Full-time ENGR Staff

May 2020 to May 2022

Special Member, Graduate School – University of Texas at San Antonio

Special member with the UTSA Graduate School and the Department of Electrical and Computer Engineering (ECE). Responsibilities include mentoring and assisting graduate students on their research. Previous Co-advisor for two graduate students with the ECE Department. Committee member for two doctoral thesis committee with the ECE Department.

May 2013 to May 2016

Associate Professor of Engineering – University of the Incarnate Word

Tenured and Promoted August 2012

August 2012 to August 2020

Assistant Professor of Engineering – University of the Incarnate Word

August 2007 to August 2012

UTSA TEACHING EXPERIENCE (FALL 2004 TO SPRING 2007)

Engineering Lecturer I – University of Texas at San Antonio

Introduction to Electrical Circuits and Electronics

Fall 2004 and Spring 2005

Introduction to Engineering Freshman Seminar

Fall 2004, Fall 2005, Fall 2006, Spring 2007

INDUSTRY EXPERIENCE

Doctoral Student Researcher - Southwest Research Institute, San Antonio, Texas

Signal Exploitation and Geolocation Division

Researcher assisting in the research and development of techniques for the detection, estimation, and location of communication signals.

- Developed an analog television decoding algorithm using MATLAB
- Developed an OOK detection and decoding algorithm using MATLAB and C
- Developed a QAM state level estimation technique using MATLAB
- Developed an Ultra-Wideband deconvolution technique using the CLEAN Algorithm
- *Held a Secret Clearance*

August 2003 to October 2006

Associate Director – AT&T Communications, San Antonio, TX
Data Product Development and Design, Business Data Marketing Group

Program Manager assigned to the AT&T National Telecomm Portfolio with the responsibility of implementing a nationwide ATM and Frame Relay network in the top 25 US Metropolitan regions.

- Responsible for the AT&T Telecom ATM and Frame Relay network architecture
 - Assisted in the development of the AT&T Telecom Revenue and Costing Models
- November 2002 to June 2003

AT&T Leadership Development Program, a three-year corporate management training program with rotations through various Corporate SBC Business Units:

- Graduate of the AT&T Directors Camp, Grand Prairie, TX Fall 2002
 - Manager, Advanced Intelligent Network, Southwestern Bell (*4 Direct Reports*), Richardson, TX (February 2002 to November 2002)
 - Manager, Corporate Finance, AT&T Corporate, San Antonio, TX (February 2001 to February 2002)
 - Manager, Special Services, Southwestern Bell (*11 Direct Reports*), Richardson, TX (January 2000 to February 2001)
 - Graduate of the AT&T Managers Camp, Grand Prairie, TX Spring 2000
- January 2000 to June 2003

Graduate Student Researcher - NASA Ames Research Center - Moffett Field, CA

Graduate Student Researcher in the Army/NASA Rotorcraft Directorate assisting in the development of modeling, simulation, and control of rotorcraft vehicles while attending the University of Southern California.

- Developed a nonlinear equation of motion model for the Yamaha R-50 helicopter
 - Developed robust and linear quadratic controllers for autonomous rotorcraft vehicles
 - Worked on-site at NASA Ames from May to August 1999
- March 1999 to December 1999

Avionics Engineer – Lockheed Martin Skunk Works, Palmdale, CA
U-2S Program

Engineer and lead Project Manager for the U-2S Autopilot and Airdata System. Responsibilities included lead for a multi-discipline integration team and project coordinator with the manufacturing, hangar, and flight-testing organizations. Program development responsibilities included proposal development, documentation, program costing, project scheduling, and budget tracking.

- Managed the system design, integration, and flight testing of a \$1M flight control actuator upgrade
 - Developed the proposal and was awarded a \$1M contract for the integration of an angle-of-attack sensor for the U-2S autopilot system
 - *Held a Secret Clearance*
- January 1997 to January 1999

SCHOLARSHIP

Funded Research Grants

1. **Submitted for review: USDA APHIS PPDM DPP** with TAMU CBTS for \$117K for one year (August 5, 2025) “Field Testing of a Semi-Autonomous (AI) Drone Pest Detection and Plant Health Inspection System.” USDA Plant Protection Act 7721 2026. Subcontract to TAMU CBTS.
2. **Submitted for review: NASA MUREP AAM** with UTSA for \$180K for three years (June 16 2025) “Turbulence Resistant UAV Platforms with Real-Time Digital Twin of Urban Area of San Antonio and Integrated WRF Simulations” NASA MUREP Aeronautics Community Engagement Impact Research (ACEIR) 2.0. Subcontract to UTSA.
3. **Department of Homeland Security Follow-on Grant** for \$100K awarded in October 2024, “*Autonomous Inspection And Survey Of South Texas Prickly Pear Using Air Vehicles And AI.*”
4. **Department of Homeland Security Summer Research Team** 2024 Fellowship May to August 2024, “*Autonomous Insect Detection Using Collaborative Robotic Swarms with AI.*”
5. **NSF Enabling Partnerships to Increase Innovation Capacity (EPIIC) Grant**, Award ID 2331218, Awarded \$400K in August 2023, “*Collaborative Research: EPIIC: Enabling Meaningful External Research Growth in Emergent Technologies (EMERGE).*”
6. **CPS Energy Phase IV MOU**, Awarded \$80K in May 2022 for Research in the use of Autonomous Drone Power Line Inspection using Machine Learning and Deep Learning.
7. **DoD Research and Education Program for HBCU/MI Equipment Grant**, Proposal No. 78133-RT-REP. Awarded March 2021 for \$596K for the UIW Autonomous Vehicle Systems Laboratory SWARM Lab for Human and Autonomous System Collaboration. (*Grant Contract No. W911NF-21-1-0163*)
8. **CPS Energy Phase III MOU**, Awarded \$100K in May 2021 for Research in the use of Autonomous Drone Power Line Inspection using Machine Learning and Deep Learning.
9. **DoD Basic Research Program for HBCU/MI Grant**, Proposal No. 76111-RT-REP, Awarded May 2020 for \$644K for Autonomous Control for Unmanned Vehicles. (Grant Contract No. W911NF-20-1-0260). Period of Performance May 2020 to July 2024.
10. **CPS Energy Phase II MOU**, Awarded \$100K in Sept 2019 for Research in the use of Autonomous Drone Power Line Inspection using Machine Learning and Deep Learning.
11. **CPS Energy Phase I MOU**, Awarded December 2017 for \$90K for Research in the use of Autonomous Drone Power Line Inspection using Machine Learning and Deep Learning.
12. **DoD Research and Education Program for HBCU/MI Equipment Grant**, Proposal No. 68848-RT-REP. Awarded September 2016 for \$457K for the UIW Autonomous Vehicle Systems Laboratory Phase II Research Expansion. (*Grant Contract No. W911NF-16-1-0511*)
13. **DoD Research and Education Program for HBCU/MI Equipment Grant**, Proposal No. 64685-EG-REP. Awarded January 2014 for \$486K for the UIW Autonomous Vehicle Systems Laboratory Phase I Research. (*Grant Contract No. W911NF-14-1-0054*)

Funded Educational Grants and Local San Antonio Funding for Community Outreach

1. Collegium Catalyst Grant for \$5K submitted on September 15, 2025. Awarded on October 28, 2025. Travel funds to visit St. Clare College in Bengaluru, India to discuss Synodality plan between UIW and SCC for 2026.
2. Sisters of Charity CCVI Grant for \$5K submitted on October 24, 2024. Awarded on December 12, 2024.
3. AEOP UNITE Grant for \$12.5K submitted on November 30, 2023. Awarded \$12.5K on January 26, 2024 for GEMS AEOP Research Internship Summer 2024.

4. Texas Workforce Commission Coding Camp for Girls, TWC Contract No. 2023TAN003. Awarded on February 2023 for \$33K for the miniGEMS STEAM and Programming Camps Summer 2023 hosted by the AVS Research Labs.
5. ARO AEOP REAP Grant follow on award for \$16K on November 7, 2022 for GEMS AEOP Research Internship Summer 2023.
6. AEOP UNITE Grant follow on award for \$19K on October 24, 2022 for GEMS AEOP Research Internship Summer 2023.
7. Sisters of Charity CCVI Grant for \$5K submitted on November 23, 2021. Awarded on December 12, 2022.
8. Texas Workforce Commission Coding Camp for Girls, TWC Contract No. 2022TAN003. Awarded on February 2022 for \$100K for the miniGEMS STEAM and Programming Camps Summer 2022 hosted by the AVS Research Labs.
9. Sisters of Charity CCVI Grant for \$5K submitted on November 23, 2021. Awarded on December 9, 2021.
10. AEOP UNITE Grant for \$19K submitted on December 2, 2021. Awarded \$19K on January 28, 2022 for Summer 2022 GEMS AEOP Research Internship.
11. ARO AEOP REAP Grant for \$7,000 submitted on October 29, 2021. Awarded \$16,000 on Dec 3, 2021 for Summer 2022 GEMS AEOP Research Internship.
12. ARO AEOP HSAP/URAP Grant for \$16K Awarded on November 10, 2021 for the Summer 2022 GEMS AEOP Research Internship.
13. Texas Workforce Commission Coding Camp for Girls, TWC Contract No. 2021TAN005. Awarded on January 2021 for \$100K for the miniGEMS STEAM and Programming Camps Summer 2021 hosted by the AVS Research Labs.
14. DoD ARO HSAP/URAP Grant for \$16K and DoD ARO REAP Grant for \$12K for the Summer 2021 GEMS AEOP Research Internship. Awarded in Dec 2020.
15. NASA MUREP INCLUDE subcontract grant from UTSA for \$7,500. Awarded in August 2020.
16. Texas Workforce Commission Governor's Summer Merit Program. Awarded March 3, 2020 for \$42K for the megaGEMS Summer 2020. *Contracted canceled by TWC due to Covid-19 in April 2020.*
17. Texas Workforce Commission Governor's Summer Merit Program, TWC Contract No. 2019SMP003. Awarded February 2019 for \$100K for the megaGEMS STEAM and Programming Camp hosted by the AVS Lab.
18. Texas Workforce Commission Coding Camp for Girls, TWC Contract No. 2019TAN004. Awarded February 2019 for \$100K for the miniGEMS STEAM and Programming Camp hosted by the AVS Lab.
19. Najima Family Foundation Grant for \$20K for GEMS Summer 2019.
20. Rackspace Foundation Grant for \$12K for GEMS Summer 2019.
21. Texas Workforce Commission Coding Camp for Girls, TWC Contract No. 2018TAN003. Awarded April 2018 for \$100K for the miniGEMS STEAM and Programming Camp hosted by the AVS Lab.
22. Rackspace Foundation Grant for \$11K for miniGEMS Summer 2018.
23. Texas Workforce Commission Coding Camp for Girls, TWC Contract No. 2017TAN004. Awarded March 2017 for \$95K for the miniGEMS STEAM and Programming Camp hosted by the AVS Lab.
24. San Antonio Area Foundation High School Completion Grant, SAAF Contract No. 201752177. Awarded June 2016 for \$45K for the miniGEMS STEAM and Programming Camp hosted by the AVS Lab.

25. Texas Higher Education Coordinator Board Engineering Summer Program grant for \$12K for Summer 2017.
26. Rackspace Foundation Grant for \$7K for miniGEMS Summer 2017.
27. Office of Naval Research SeaPerch grant for \$1K for miniGEMS Summer 2017.
28. Texas Higher Education Coordinator Board Engineering Summer Program grant for “miniGEMS 2016” for \$14K for Summer 2016.
29. Texas Higher Education Coordinator Board Engineering Summer Program grant for “miniGEMS 2015: Roaches and Robots!” for \$15K for Summer 2015.
30. Office of Naval Research SeaPerch grant for \$2K for Summer 2015 for miniGEMS 2015.

Editor

Guest Co-Editor for the *International Journal of Robust and Nonlinear Control, Special Issue on New Advances in Flight Control Systems Design, October 2013, Volume 23, Number 15.*

Peer-Reviewed Journal Publications

1. “Design and Real-Time Implementation of a Cascaded Model Predictive Control Architecture for Unmanned Aerial Vehicles,” Patricio Borbolla-Badillo, David Sotelo, Michael Frye, Luis E. Garza-Castañón, Luis Juárez-Moreno, and Carlos Sotelo, *Journal of Mathematics, Special Issue on Dynamics and Control Theory with Applications*, 2024, 12(5), 739. *Submitted for review on December 17, 2023. Revised on February 1, 2024. Accepted on February 12, 2024.*
2. “Global Finite-Time Stabilization Using Bounded Feedback for a Class of Nonlinear Systems,” Haibo Du, Chunjiang Qian, Michael Frye, and Shihua Li, with the *Institution of Engineering and Technology (IET) Control Theory and Applications, Volume 6, Issue 14, pg. 2326-2336, Sept. 2012.*
3. “Fast Convergent Observer Design for Output Feedback Stabilization of a PVTOL Aircraft,” Michael Frye, Shihong Ding, Chunjiang Qian, and Shihua Li. *IET Control Theory & Applications, Volume 4, Issue 4, pg. 690-700, April 2010.*
4. “A Dual Observer Design for Global Output Feedback Stabilization of Nonlinear Systems with Low-Order and High-Order Nonlinearities,” Ji Li, Chunjiang Qian, and Michael Frye. *International Journal of Robust and Nonlinear Control, Wiley InterScience, Volume 19, Issue 15, pg 1697-1720, October 2009.*

Peer-Reviewed Conference Papers

1. “Autonomous Vehicles in Agriculture: A Framework for Deploying Health Monitoring Models,” by Logan Nijland, Adam Gower, Claire Walton, and Michael Frye, 23rd IFAC World Congress, Busan, Republic of Korea, August 23-28, 2026.
2. “COPNet: Compositional Orthogonal Polynomial Networks for Compact and Reliable Nonlinear Modeling,” by Halah Jaber, Franco Eulises, Michael. Frye, and Claire Walton, 23rd IFAC World Congress, Busan, Republic of Korea, August 23-28, 2026.
3. "Implementing an Autonomous Navigation Stack in ROS2: Simulation on the Bumperbot Platform," by Fernando Ruvalcaba Cruz, Claire Walton, and Michael Frye, 2025 Modeling, Estimation and Control Conference (IFAC MECC), Pittsburgh, Pennsylvania, October 5 - 8, 2025.
4. “Application of Computer Vision for Pest Monitoring and Biological Control in Precision Agriculture”, by George Sikazwe, Sergio Shimura, Logan Nijland, Adam Gower, and Michael

- Frye, 2025 Modeling, Estimation and Control Conference (IFAC MECC), Pittsburgh, Pennsylvania, October 5 - 8, 2025.
5. "Precision Georeferenced Mapping with Drones for Pest Detection in Opuntia ficus-indica Crops using SLAM and RTK-NTRIP," Sergio Shimura, Arthur Alves Miyazaki and Michael Frye, 11th International Conference on Sensors and Electronic Instrumentation Advances (SEIA 2025), Ibiza, Spain, September 24-26, 2025.
 6. "*Bridging Gaps in Robotics Education: Insights from Team Surveys on FIRST Tech Challenge*," Angela LuoJia Zhang and Michael Frye, 2025 ASEE Annual Conference and Exposition, Montreal, Canada, June 22 to 25, 2025.
 7. "*Inspiring Young Minds: Translating Advanced STEM Technology for High School Students for College and Workforce Readiness within the GEMS Programs*," Gabriella Marie Luna, Stephanie Weiss-Lopez, and Michael Frye, 2025 ASEE Annual Conference and Exposition, Montreal, Canada, June 22 to 25, 2025.
 8. "*Development of Control Engineering Curriculum for Advanced Research and Undergraduate Education: A Practical Approach to Bring Theory Closer to Practice Using QuanserR Products*," David Sotelo, Carlos Sotelo, Michael Frye, Felix Martinez-Jimenez, Carlos Vazquez-Hurtado, Ricardo Swain Oropeza, and Jose Isabel Gomez Quinones, 2025 ASEE Annual Conference and Exposition, Montreal, Canada, June 22 to 25, 2025.
 9. "*United We Achieve: Mutual Support Provided by a Cohort of Institutions under the NSF EPIIC Program*," Diane L. Peters, Michael Frye, Andrew Ritenour, and Isaac Wanasika, 2025 ASEE Annual Conference and Exposition, Montreal, Canada, June 22 to 25, 2025. (Poster Abstract)
 10. "Application of Autonomous Vehicles and Artificial Intelligence System for Plant Disease Detection," Sergio Shimura, George Sikazwe, and Michael Frye, 6th South American Conference on Industrial Engineering and Operations Management, Sorocaba, Sao Paulo, Brazil, May 13-15, 2025.
 11. "How to Develop a Culture of Coding for the Future: A Case Study of the megaGEMS Coding Academy," George Sikazwe, Stephanie Weiss-Lopez, Diane Peters, and Michael Frye, Proceedings of the ASEE 2024 Annual Conference and Exposition, Portland, OR, June 23 to 26, 2024.
 12. "Staggered Ackerman Steering Geometry for Autonomous Driving of a Paired E-Scotter System," William Qian and Michael Frye, 2023 IEEE 6th Student Conference on Electric Machines and Systems (SCEMS), Huzhou, China, December 7-9, 2023.
 13. "Application of AI for Autonomous Flight on a micro-Drone", Lane, C, Jones, O., and Frye, M., Proceedings of the 2022 IEEE/AIAA 41st Digital Avionics Systems Conference, Portsmouth, VA, September 18-22, 2022.
 14. "Guidance and Navigation for Drone Swarm Applications," Beck, C., Avila, J., and Frye, M., Proceedings of the 2022 IEEE/AIAA 41st Digital Avionics Systems Conference, Portsmouth, VA, September 18-22, 2022.
 15. "Instance Segmentation Graph Neural Network for Detecting Faculty Insulators Using the FLIR SkyRanger R70 UAS", Vemula, S. and Frye, M., Proceedings of the 2022 IEEE/AIAA 41st Digital Avionics Systems Conference, Portsmouth, VA, September 18-22, 2022.
 16. "Overview of the megaGEMS AEOP Summer 2021 Research Apprenticeship Camp," Weiss-Lopez, S and Frye, M., 2022 ASEE Annual Conference & Exposition, Minneapolis, MN, June 26-29, 2022.

17. "Indoor Autonomous Powerline Inspection Model," Avial, J, Brouwer, T, and Frye, M., Proceedings of the 2021 IEEE/AIAA 40th Digital Avionics Systems Conference, San Antonio, TX, October 3-7, 2021.
18. "Multi-head Attention Based Transformers for Vegetation Encroachment Over Powerline Corridors using UAV," Vemula, S. and Frye, M., Proceedings of the 2021 IEEE/AIAA 40th Digital Avionics Systems Conference, San Antonio, TX, October 3-7, 2021.
19. "A heterogeneous autonomous collaborative system for powerline inspection using human-robotic teaming," Vemula, S., Marquez, S., Avila, J., Brouwer, T., and Frye, M., Proceedings of the 16th Annual IEEE System of Systems Engineering Conference 2021, Vasteras, Sweden, June 14-18, 2021.
20. "Real-Time Powerline Detection System for an Unmanned Aircraft System," S. Vemula and M. Frye, Proceedings of the 2020 IEEE International Conference on Systems, Man, and Cybernetics, Toronto, Canada Oct. 11-14, 2020.
21. "Mask R-CNN Powerline Detector (MRPD): a Deep Learning Approach with Applications to a UAV," Srikanth Vemula and Michael Frye, Proceedings of the 39th Annual AIAA/IEEE Digital Avionics Systems Conference, San Antonio, TX, Oct 11 to 15, 2020.
22. "Out-of-school Time STEM: Teach Programming Using Python for High School Girls," Chaoyi Wang, Srikanth Vemula, and Michael Frye, Proceedings of the 2020 IEEE Integrated STEM Education Conference (ISEC), Princeton, NJ, July 30 – August 1, 2020.
23. "Laguerre Polynomials and Gradient Descent Approach for Linear Quadratic Optimal Control," Halah Jaber and Michael Frye, Proceedings of the 7th International Conference on Electrical and Electronics Engineering, Antalya, Turkey, April 14-16, 2020.
24. "megaGEMS Research Camp: Designing a STEAM Summer Research Experience for High School Girls," Chaoyi Wang, Srikanth Vemula, Julianna Trevino, and Michael Frye, Proceedings of the 2019 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE), Yogyakarta, Indonesia, December 10-13, 2019.
25. "miniGEMS 2018: A Mixed Methods Study Exploring the Impact of a STEAM and Programming Camp on Middle School Girls' STEM Attitudes," Chaoyi Wang and Michael Frye, Proceedings of the 2019 ASEE Annual Conference & Exposition, Tampa, FL, June 25-25, 2019.
26. "*miniGEMS 2018 Summer Camp Evaluation: Empowering Middle School Girls in STEAM*," Chaoyi Wang and Michael Frye, Proceedings of the 2019 IEEE Integrated STEM Education Conference (ISEC), Princeton, NJ, March 16, 2019.
27. "*Measuring the Influences of a STEM Enrichment Program on Middle School Girls' Self-efficacy and Career Development*," Chaoyi Wang and Michael Frye, Proceedings of the 2019 IEEE Integrated STEM Education Conference (ISEC), Princeton, NJ, March 16, 2019.
28. "miniGEMS STEAM and Programming Camp for Middle School Girls", Michael Frye, Sreerenjini Nair, Chaoyi Wang, Sr. Walter Maher, and Yvonne Burns, Proceedings of the 2018 ASEE CoNECD – The Collaborative Network for Engineering and Computing Diversity Conference, Crystal City, VA, April 29-May 2, 2018.
29. "*The Practices of Play and Informal Learning in the miniGEMS STEM Camp*," Conference Paper, Chaoyi Wang, Dr. Michael Frye, and Dr. Sreerenjini Nair, Proceedings of the 2018 ASEE Gulf Southwest Section Conference, The University of Texas at Austin, April 4-6, 2018.
30. "Evaluation of miniGEMS 2015 –Engineering Summer Camp for Middle School Girls," Michael Frye and Sreerenjini Nair, 2017 ASEE Annual Conference & Exposition, Columbus, OH, June 25-29, 2017.

31. *"Multi Autonomous Vehicle Collaboration,"* Paper, Tomas Goldaracena, Miguel Reyes, Sreerenjini Nair, and Michael Frye, 2017 ASEE Gulf Southwest Section Conference, Richardson, TX, March 12 to 14, 2017.
32. *"miniGEMS: Engineering Summer Camp for Middle School Girls,"* Michael Frye and Sreerenjini Nair, 3rd Biennial Latina Researchers Conference, San Antonio, TX, July 13-16, 2016.
33. *"Evaluation of miniGEMS 2015 –Engineering Summer Camp for Middle School Girls,"* Michael Frye, Sreerenjini Nair, and Angela Meyer, 2016 ASEE Annual Conference & Exposition, New Orleans, LA, June 26-29, 2016.
34. *"Particle Swarm Optimization for the Control of a Swarm of Biological Robots,"* Sree Nair, Michael Frye, Tomas Goldaracena, and Christopher Arguello, 12th IEEE India International Conference, INDICON 2015, on Electronics, Energy, Environment, Communication, Computer, Control, (E3-C3), Dec 17-20, 2015, Jamia Millia Islamia, New Delhi, India.
35. *"Swarm Intelligence for the Control of a Group of Robots,"* Sree Nair, Michael Frye, Erik Coronado, and Yong Qin, Proceedings of the 10th Annual IEEE System of Systems Engineering Conference, May 17-20, 2015, San Antonio, TX.
36. *"Direct Inverse Control using an Artificial Neural Network for the Autonomous Hover of a Helicopter,"* Michael Frye and Robert Provence, Proceedings of the 2014 IEEE International Conference on Systems, Man, and Cybernetics, San Diego, CA Oct. 5-8, 2014.
37. *"Modeling and Control of a Nonlinear Electric Power Utility Boiler System,"* Jeff Langston, Mike Harris, Michael Frye, and Chunjiang Qian, Proceedings of the 55th Annual ISA POWID Conference, June 3-8, 2012 Austin, TX.
38. *"Global Stabilization of a Class of Upper-Triangular Systems Using a Generalized Homogeneous Method,"* Weisong Tian, Chunjiang Qian, Haibo Du, and Michael Frye, Proceedings of the 2012 American Control Conference, June 27-29, 2012, Montreal, Canada.
39. *"Global Output Feedback Stabilization of a Class of Upper-Triangular Systems with Input Delay,"* Haibo Du, Chunjiang Qian, Shihua Li, and Michael Frye, Proceedings of the 2012 American Control Conference, June 27-29, 2012, Montreal, Canada.
40. *"Finite Time Convergent Observer Using Homogeneous Method,"* Weisong Tian, Chunjiang Qian, and Michael Frye, Proceedings of the 2011 American Control Conference, San Francisco, CA, June 29 – July 1, 2011.
41. *"Global Finite-Time Stabilization Via Output Feedback for Upper-Triangular Systems with Unknown Output Gain,"* Junyong Zhai, Chunjiang Qian, and Michael Frye. Proceedings of the 49th IEEE Conference on Decision and Control, Atlanta, GA, December 15-17, 2010.
42. *"Getting Science Students to PASS UIW: A Successful Collaboration Between Students, Staff, and Faculty,"* Cristina Ariza, Julian M. Davis, Michael Frye, and Earl Harmsen, accepted for publication in Fall 2011 in The Learning Assistance Review (TLAR). Final Paper sent on July 11, 2011 for publication.
43. *"Nonlinear Digital Control of Continuous Uncertain Systems,"* Jeff Langston, Chunjiang Qian, and Michael Frye, Proceedings of the 2011 ASEE Gulf-Southwest Annual Conference, Houston, Texas, March 9 - 11, 2011.
44. *"Global Finite-Time Stabilization of a Class of Nonlinear Systems via Bounded Output Feedback Controllers,"* Haibo Du, Chunjiang Qian, Michael Frye, and Shihua Li, Proceedings of the 18th International Federation of Automatic Control, Milan, Italy, August 28 – Sept 2, 2011.

45. "Control of a PVTOL Aircraft Using Finite-Time Output Feedback," Michael Frye, Shihong Ding, and Chunjiang Qian. Proceedings of the AIAA Guidance, Navigation, and Control Conference, Chicago, IL, August 10-13, 2009.
46. "Global Finite-time Stabilization of a PVTOL Aircraft by Output Feedback," Michael Frye, Shihong Ding, Chunjiang Qian, and Shihua Li. Proceedings of the 48th IEEE Conference on Decision and Control, Shanghai, P.R. China, December 16-18, 2009.
47. "Particle Swarm Optimization for PID Tuning of a BLDC Motor" Alberto Portillio, Michael Frye, and Chunjiang Qian, Proceedings of the 2014 IEEE International Conference on Systems, Man, and Cybernetics, San Antonio, TX Oct. 11-14, 2009.
48. "Modeling of Full Body Balance Dynamics Using an Artificial Neural Network," Roseann Trevino, Michael Frye, and Chunjiang Qian, Proceedings of the 2014 IEEE International Conference on Systems, Man, and Cybernetics, San Antonio, TX Oct. 11-14, 2009.
49. "Control Of An Airship Using Particle Swarm Optimization and Neural Network" Ruting Jia, Michael T. Frye, Chunjiang Qian, Proceedings of the 2014 IEEE International Conference on Systems, Man, and Cybernetics, San Antonio, TX Oct. 11-14, 2009.
50. "A QFT Based Control System Design for the Wraith UAV," Michael Frye and Richard Colgren, Proceedings of the AIAA Guidance, Navigation, and Control Conference, Honolulu, HI, August 18-21, 2008.
51. "The R-max UAV Flight Control Testbed," Michael Frye and Richard Colgren, Proceedings of the 2008 IEEE Multi-Conference on Systems and Control, San Antonio, TX, Sept 3-5, 2008.
52. "A Dual Observer Design for Global Output Feedback Stabilization of Nonlinear Systems with Low-Order and High-Order Nonlinearities," Ji Li, Michael Frye, and Chunjiang Qian, Proceedings of the 46th IEEE Conference on Decision and Control (CDC), New Orleans, LA, December 12 - 14, 2007.
53. "Decentralized Output Feedback Control of Interconnected Systems Using Low Gain-High Gain Feedback Domination," Michael Frye, Chunjiang Qian, and Richard Colgren, Proceedings of the 17th International Federation of Automatic Control (IFAC), Seoul, Korea, July 6 – 11, 2008.
54. "Model Development, State Estimation, and Controller Design of a Nonlinear Utility Boiler System," Michael Frye, Chunjiang Qian, and Edward Aranda, Proceedings of the IEEE International Conference on Industrial Technology Control (ICIT), Chengdu, China, April 21-24, 2008.

Invited Speaker

1. *Using the Quanser Autonomous Vehicle Research System for the GEMS High-School Outreach Program.* Invited presentation at Quanser Youser Webinar, March 8, 2023.
2. *AVS Research Labs – SWARM Lab,* ONR AVS Lab Briefing for the Science of Autonomy Program Review, Arlington, VA, August 2, 2022.
3. *Heterogeneous Autonomous Collaborative System for Powerline Inspection using Human-Robotic Teaming,* Srikanth Vemula, Jovany Avila, and Michael Frye, Invited Guest Speakers, System of Systems Engineering Collaborators Information Exchange (SoSECIE), SoSECIE Webinar, sponsored by NDIA and Mitre, December 14, 2021.
4. *HBCU/MI REP Equipment Award: SWARM Lab for Human and Autonomous System Collaboration,* ONR AVS Lab Briefing for the Science of Autonomy Program Review August 12, 2021.
5. *Autonomous Vehicle Systems Lab at the University of the Incarnate Word.* Invited presentation at Quanser Youser Webinar, April 26, 2018.

6. *The miniGEMS STEAM and Programming Camp: Addressing Gender Diversity in STEM*. Alliance of Hispanic Serving Institution Educators (AHSIE 2018), University of Illinois at Chicago, Chicago, IL, March 26 and 27, 2018.
7. *The Role of the AVS Research Laboratory in the Educational Mission of UIW*. Invited presentation at Fifth International Conference on Transformations in Engineering Education (ICTIEE 2018), Symposium on Societally Relevant Engineering Curriculum, Madurai, India, January 8 and 9, 2018.
8. *UAV Research at the Autonomous Vehicle Systems Lab at UIW*, Invited presentation at University of Incarnate Word Bajio, , September 28 2017, Irapuato, Mexico.
9. *Global Mechatronics Teaching Workshop*. Invited presentation at National Instruments NI Week 2017, May 23, 2017, Austin, Texas.
10. *An Introduction to the Control of UAVs with Application to Airships*, 4th Forum of Mechatronics in the Industry, Invited presenter, October 8 to 10, 2008, Sonora Norte - Tecnológico de Monterrey, Hermosillo, Sonora, México.

Program Assessment

2016 - NCAA Division I Institutional Performance Program (IPP) Self Study Assessment and Evaluation for Academic Success. Self-Study for transition from Division II to Division I.

2010 – ABET Self-Study for the Bachelor of Science in Engineering Management Program.

ABET Training

1. Attended ABET IDEAL Assessment Training August 2007
2. Attended ABET CQI Training June 2009
3. Attended ABET Assessment Training February 2014
4. Attended ABET Self-Study Workshop April 2016
5. Planned and Managed ABET Site Visit Consultant June 2016

AVS Lab Student Posters and Presentations

Avila, E., Jaber, H., and Frye, M., “Improving Drone Control: Achieving Strong Stability and Adaptability Using Online Reinforcement Learning,” Poster, 2024 American Control Conference, July 8-12, 2024, Toronto, Canada.

Jones, O., Avila, J, and Frye, M., “Use of Unmanned Aerial Systems in Infrastructure Inspections – A Close Look at Advanced Skyraider R70 Payloads,” 125th Annual Meeting of the Texas Academy of Science, University of Houston Clear Lake, Houston, TX, Feb 25-27, 2022. (*1st Place Physics and Engineering Oral Presentations*) Student Oral Presentation

Beck, C., Avila, J, and Frye, M., “Guidance and Navigation Controls for Drone Swarm Applications,” 125th Annual Meeting of the Texas Academy of Science, University of Houston Clear Lake, Houston, TX, Feb 25-27, 2022. (*2nd Place Physics and Engineering Oral Presentations*) Student Oral Presentation

Avila, J., Brouwer, T., Castillo, N., IV., Michael Frye, and Okan Caglayan (2021). Project Raven: Quanser QDrone Powerline Recognition and Tracking System Design. *American Society for Engineering Education Gulf-Southwest (ASEE- GSW)*. Baylor University, March 24-26, 2021.

“AVS Lab Powerline Inspection System,” Srikanth Vemula, Jovany Avila, and Tristan Brouwer, IEEE AESS/SMC Lonestar Section, December 17, 2020. (Virtual Presentation)

“GEMS (Girls in Engineering, Math, and Science) 2020,” Calista Burns, Stephanie Weiss-Lopez, Vishali Baker, Monali Baker, and Michael Frye, Texas Women and Girls in STEM Summit December 4, 2020, UT Austin, TX. (Virtual Presentation)

“*Microscale Forecasting for Drone Flight Planning to develop a Microclimate Model*”, Jenny Stewart, Bryce Kuchan, Stephanie Weiss-Lopez, 2020 American Meteorological Society 100th Annual Meeting, 12-16 January, 2020, Boston, MA.

“Lightning Talk: megaGEMS – STEAM Enrichment for High School Girls”, Jenny Stewart, Stephanie Weiss-Lopez, and Michael Frye, Texas Women and Girls in STEM Summit December 6, 2019, UT Austin, TX.

“Overview of the GEMS STEAM and Programming 2019 Summer Camp”, Calista Burns, Srikanth Vemula, Chaoyi Wang, and Michael Frye, Texas Women and Girls in STEM Summit December 6, 2019, UT Austin, TX.

“Employing Deep Reinforcement Learning in Autonomous UAVs for Powerline Inspections”, Srikanth Vemula, Chaoyi Wang, and Michael Frye, UTSA AI Summit, November 11, 2019, UTSA San Antonio, TX.

“Literature Review: Artificial Intelligence to K12 Education”, Chaoyi Wang, Srikanth Vemula, and Michael Frye, UTSA AI Summit, November 11, 2019, UTSA San Antonio, TX

“Microscale Forecasting for Unmanned Aerial Systems,” Jenny Stewart, Stephanie Weiss-Lopez, and Michael Frye, Proceedings of the 2019 American Meteorological Society 99 Annual Meeting, Phoenix, AZ, Jan 6-10, 2019

2018 - Micro-Scale Forecasting for UAVs, Jenny Stewart and Stephanie Lopez, UTSA COS 2018

2018 - Autonomous Air Vehicle for Power Line Inspections, Zhifeng Han, UTSA COS 2018

2018 - Quanser Aero for Teaching Control Engineering Courses, Halah Jaber, UTSA COS 2018

2018 - Haptic Research in Telemedical Applications, Darnell Campbell and Sander Countryman, ASEE GSW 2018

2018 - Overview of miniGEMS 2018, Chaoyi Wang and Calista Burns, UTSA COS 2018

2018 - Haptic Research in Telemedicine Applications, Darnell Campbell and Jordan Epps, UTSA COS 2018

2018 - CPS Energy UAS Program, Jordan Epps, Darnell Campbell, Zhifeng Han, UTSA COS 2018

2018 - Haptic Research in Telemedicine Applications, Darnell Campbell and Sander Countryman, American Physician Scientist Association South Regional Meeting 2018

2018 - Quanser Aero for Teaching Control Engineering Courses, Halah Jaber, SACNAS 2018

2017 - UAV Control Based on Neural Network, Youmeiyi Pan, UTSA COS 2017

2017 - Haptic Research in Telemedical Applications, Darnell Campbell and Awista Nawim, UTSA COS 2017.

- 2017 - Overview of the miniGEMS Programming Camp, Alina Garza and Alejandra Flores, UTSA COS 2017.
- 2017 - Application of PSO to a Swarm of Ground Robots, Zhifeng Han and Max Martinez, UTSA COS 2017.
- 2017 - A Collaborative Approach to Multi-Autonomous Vehicle Missions, Tomas Goldaracena, UTSA COS 2017.
- 2016 - Robo-roach: Biologically-inspired Robots Using the Lego Mindstorm EV3, Erik Coronado and Alina Garza, UTSA COS 2016.
- 2016 - Multi-Autonomous Vehicle Collaboration, Miguel Reyes and Tomas Goldaracena, UTSA COS 2016.

UNIVERSITY SERVICE

UIW COMMITTEES AND SERVICE

1. University AI Fellowship for Teaching and Learning, Representing the School of Math, Science, and Engineering, Spring 2024 to Present
2. Search Committee for the Director of Campus Ministry (November 2024 to February 2025)
3. UIW Intellectual Property Taskforce, Fall 2024
4. Chair Search Committee Mission and Ministry Admin Assist to the Vice President of M&M (Jan to March 2024)
5. New Faculty Mentoring Program – Fall 2023/Spring 2024 and Fall 2024/Spring 2025
6. UIW Mission Academy – Migration (Fall 2023 and Spring 2024)
7. Committee Member UIW University Research Council (URC), Fall 2019 to Present
8. Committee Member UIW Mission and Ministry Council (UMMC), Fall 2020 to Present
9. Department Chair, Engineering, Computer Information Systems, and Cyber Security Systems, May 2020 to May 2022
10. Engineering Department Faculty Mentor for new Faculty Fall 2014 and Fall 2015
11. Chair for the new School of Engineering and Accreditation Taskforce, Fall 2014 to May 2022
12. Senator-at-Large for Faculty Senate from Fall 2014 to Spring 2016
13. MSE Faculty Representative on the University Athletic Advisory Council (AAC) for Division I Reclassification from Fall 2014 to Spring 2017
14. Co-Chair of the Academic Integrity Sub-committee of the ACC for Spring 2015 to Spring 2017
15. MSE Representative on the Mission Effectiveness Committee from Fall 2008 to Fall 2014
16. Chair of the Health Professions Taskforce, Spring 2013 to Spring 2014
17. Presented the UIW Board of Trustees on UIW Meet the Mission Overview on Oct 4, 2013
18. Co-Chair on the Meet the Mission Steering Committee for Spring 2013 and Fall 2013. We Report to Sr. Walter, VP of Mission and Ministry.
19. Co-Chair with Chris Edelman on the Meet the Mission Steering Committee for Spring 2012 and Fall 2012. We Report to Sr. Walter, VP of Mission and Ministry.
20. UIW Faculty Senate Nominating Committee Member for Fall 2010 and Fall 2011
21. Faculty Co-Advisor for the American Society of Engineering Management Spring 2012 and Fall 2012
22. Faculty Advisor for the Learning Assistance Center Physics PASS program. Supervise four PASS instructors for General Physics I and Physics I and General Physics II and Physics II
23. Task force for the Asst. Dean Position for MSE, Fall 2012
24. Jones Endowed Chair Selection Committee Spring 2013

25. Member of the MS Applied Statistics Faculty Oversight Committee Spring 2013 and Fall 2013

UIW McNair Scholars/Undergraduate Research

1. McNair Scholar Faculty Mentor for Christian Rios for the Summer 2008. Topic: High Altitude Autonomous Airships for Weather Tracking
2. McNair Scholar Faculty Mentor for Katy Bateman for the Summer 2008. Topic: The Control of Chaotic Dynamic Systems
3. McNair Scholar Faculty Mentor for Christine Clark for the Summer 2009. Topic: 18q- Patient Balance Model: Data Collection
4. McNair Scholar Faculty Mentor for Christine Clark for the Summer 2010. Topic: 18q- Patient Gait Prediction using Particle Swarm Optimization
5. McNair Scholar Faculty Mentor for Christine Clark for the Summer 2011. Topic: Introducing Robotics to High School Students: LEGO MINDSTORMS NXT
6. McNair Scholar Faculty Mentor for Carmen Cortazar for the Summer 2011. Topic: The Application of Genetic Algorithms to Artificial Life
7. McNair Scholar Faculty Mentor for Carmen Cortazar for the Summer 2012. Topic: The Application of Genetic Algorithms to Artificial Life
8. McNair Scholar Faculty Mentor for Valerie Velez for the Summer 2012. Topic: Control of a Self-Balancing Two Wheeled Robot
9. Erik Coronado robo-roach Research Fall 2014 to Summer 2015

UTSA GRADUATE SCHOOL THESIS COMMITTEES

1. Doctoral Thesis Committee for Halah Jaber at UTSA ECE “COPNet: Compositional Orthogonal Polynomials Network”, Spring 2023 to Fall 2025.
2. Doctoral Thesis Committee for Sergio Montufar Chavez at UTSA ECE “Design, Construction and Reinforcement Learning Control of a Wheel-Legged Biped Robot”, Spring 2023 to Summer 2025.
3. Doctoral Thesis Committee for Johnathan Votion at UTSA ECE, “Distributive Estimation of the Operational State for Multiple Agents Experiencing Uncertain Communication and Agent Attrition” Fall 2015 and Spring 2016.
4. Doctoral Thesis Committee for Song Yang at UTSA ECE, “Stabilization, Synchronization and Tracking of Nonlinear Systems by Feedback Domination Approach” Fall 2015.
5. Graduate Thesis Committee for Nick Grady at UTSA ECE, “Adaptation of Fuzzy Control Methods in Model Proven Real World Systems,” Spring 2013 and Summer 2013.
6. Graduate Thesis Committee for Brandy Alger at UTSA ECE, “Sampled-Data Output Feedback Control of Uncertain Nonholonomic Systems” Summer 2013.

Tec De Monterrey GRADUATE SCHOOL THESIS COMMITTEES

1. Thesis Committee for Patricio Borbolla Burillo at Tech de Monterrey, “Design and Implementation of a cascaded MPC With a Dynamic Battery-Aware Auxiliary Reference for Unmanned Aerial Vehicles” Spring and Summer 2025. May 21 and June 11, 2025.

PROFESSIONAL ACTIVITIES

1. NSF Reviewer for the TIPS Directorate March 26&27 and May 7&8 2026
2. Licensed Engineer in Training (EIT No. 24122), State of Texas
3. Member on the Texas Aerospace Research and Space Economy Consortium (TARSEC) (Texas Space Commission), April 2025 to Present

4. FAA Part 107 Remote Pilot #4094333 (Drone Operator License), February 2018
5. Member, American Society of Engineering Education
6. Senior Member, Institute of Electrical and Electronics Engineers (IEEE)
7. Associate Fellow, American Institute of Aeronautics and Astronautics (AIAA)
8. Graduate of the San Antonio FBI Citizens Academy, December 2, 2021.
9. UTM/ATM Track Co-Chair, 41st IEEE/AIAA Digital Avionics Systems Conference DASC, September 18-22, 2022, Portsmouth, VA.
10. UTM/ATM Track Co-Chair, 40th IEEE/AIAA Digital Avionics Systems Conference DASC, October 3-7, 2021, San Antonio, TX.
11. Committee Member of the Alamo STEM Ecosystem University Committee from Sept 2018 to Present
12. Committee Member on San Antonio Hispanic Chamber of Commerce Education Committee from Sept 2018 to Present
13. Committee Member of the Dee Howard Foundation Advisory Council from Sept 2017 to Present
14. Committee Member of the Dee Howard Foundation STEM Education Excellence Award Committee from Sept 2017 to Present
15. Local Arrangement Co-Chair IEEE SMC 2009 held in San Antonio, Oct 2009
16. Local Arrangement Co-Chair IEEE MSC 2008 to be held in San Antonio, Sept 2008
17. International Program Committee Member Chinese Control and Decision Conference July 2008
18. Technical Program Committee Member Tenth International Conference on Control, Automation, Robotics, and Vision, December 2008
19. Chair for the IEEE Central Texas Section Graduates of the Last Decade (GOLD) Affinity Group for 2009
20. Vice-Chair for the IEEE Central Texas Section Technical Management Council (TMC) for 2010
21. Chair for the IEEE Central Texas Section Technical Management Council (TMC) for 2011
22. Vice-Chair for the IEEE Central Texas Section Technical Management Council (TMC) for 2012
23. Vice-Chair for the IEEE Central Texas Section Technical Management Council (TMC) for 2013
24. Vice-Chair for the IEEE Central Texas Section Technical Management Council (TMC) for 2014
25. Member, Eta Kappa Nu, Honor Society of IEEE
26. IEEE CSS Technical Committee on Smart Grids (IEEE CSS TC-SG)

UIW AWARDS AND RECOGNITIONS

1. Nominated for the **Presidential Teaching Award** 2015, 2016, 2017, 2018
2. Received the **Mission Continues Service Award** 2012 on January 10, 2013
3. Received a **Legacy Teaching Award** for 2009-2010 on April 30, 2010

COMMUNITY SERVICE

1. Volunteer with the South Texas VA - Audie Murphy VA Center, Bone Marrow Transplant Unit and Chemotherapy Clinic. Volunteer about 3 hours during the weekend.

Publications as Ph.D. Student and Industry (1998 to 2009)

1. "REU Site: Nonlinear Control and its Application to Unmanned Air Vehicles and Ground Vehicles," Yufang Jin, Chunjiang Qian, and Michael Frye, 2009 NSF Engineering Education and Centers Awardees Conference, Reston, VA, Feb. 1-3, 2009.
2. "Multipath-Exploiting Location Algorithms" Michael Koets (SwRI), Michael Frye (UIW), and Amanda Hinojoso (SwRI), presented at the DARPA Urban Propagation Workshop, Booz Allen Hamilton, Arlington, VA, July 15-16, 2008.
3. "The 6-DOF Dynamic Model and Simulation of the Tri-Turboprop Remote-Controlled Airship," co-authored with Stephen Gammon and Chunjiang Qian, Proceedings of the 2007 American Control Conference, New York, NY, 11 - 13 July 2007.
4. "Robust Receding Horizon Control of the Tri-Turboprop Airship," co-authored with Roseann Trevino, Justin Franz and Chunjiang Qian, the Sixth IEEE International Conference on Control and Automation, Guangzhou, China, May 30-June 1, 2007.
9. "Output Feedback Stabilization of Nonlinear Feedforward Systems using Low Gain Homogeneous Domination," co-authored with Chunjiang Qian, invited paper, the Sixth IEEE International Conference on Control and Automation, Guangzhou, China, May 30-June 1, 2007.
10. "Finite Energy Management and Flight Control for a System of Airships Systems," co-authored with Chunjiang Qian, Proceeding of the 2007 IEEE International Conference on System of Systems Engineering, San Antonio, TX, 16 - 18, April 2007.
11. "The Development of the Twenty Foot Airship Aerostatic SolidWorks Three Dimensional Model," co-authored with Stephen Gammon and Chunjiang Qian, Proceedings of the 2007 ASEE Gulf-Southwest Annual Conference, South Padre Island, Texas, March 28 - 30, 2007.
12. "The Development of a Rotorcraft UAV Simulation for Undergraduate Flight Control Research," co-authored with Nickolas Grady and Chunjiang Qian, Proceedings of the 2006 AIAA Guidance, Navigation and Control Conference, Keystone, Colorado, 21-24 Aug 2006.
13. "The Development of the Tri-Turboprop Airship Model for Autonomous Flight Control Research," co-authored with Stephen Gammon, Roseann Trevino, and Chunjiang Qian, Proceedings of the 2006 AIAA Guidance, Navigation and Control Conference, Keystone, Colorado, 21-24 Aug 2006.
14. "The Raptor 50 6-DOF Simulation Environment for Flight Control Research," co-authored with Sudodh Bhandari and Richard D. Colgren, Proceedings of the 2006 American Control Conference, Minneapolis, MN, pp. 1038-1043, 14 June - 16 June 2006.
15. "The Development of a High Performance UAV for Flight and Control Research," co-authored with Nickolas Grady and Chunjiang Qian, Proceedings of the 2006 IEEE Region 5 Conference, San Antonio, TX, 7 April 2006.
16. "The Mathematical Model of the Tri-Turboprop Airship for Autonomous Formation Control," co-authored with Stephen Gammon and Chunjiang Qian, Proceedings of the 2006 IEEE Region 5 Conference, San Antonio, TX, 7 April 2006.
17. "Receding Horizon Control of a 6-DOF Model of the Raptor 50 Helicopter: Robustness to Changing Flight Conditions," co-authored with Chunjiang Qian and Richard D. Colgren, 2005 IEEE Conference on Control Applications, Toronto, Ontario, Canada, pp. 185-190, 28 - 31 August 2005.
18. "A Scheduling Min-Max Receding Horizon Control Technique with Applications to the Raptor 50 LPV Model," co-authored with Sudodh Bhandari and Richard D. Colgren, 7th International Symposium on Quantitative Feedback Theory and Robust Methods, Lawrence, KS, 9 - 11 August 2005.
19. "Nonlinear Equations of Motion in the Simulation of the Raptor 50 V2 Remote Controlled Helicopter," co-authored with Mythri Pinnamaneni, Chunjiang Qian, and Richard D. Colgren,

- Proceedings of the 2005 AIAA Guidance, Navigation and Control Conference, San Francisco, CA, 15 – 18 August 2005.
20. "Robust Receding Horizon Control of a Linear Parameter Varying Model of the Raptor 50 Helicopter," co-authored with Chunjiang Qian and Richard D. Colgren, Proceedings of the 2005 AIAA Guidance, Navigation and Control Conference, San Francisco, CA, 15 - 18 August 2005.
 21. "Decentralized Output Feedback Control of Large-Scale Nonlinear Systems Interconnected by Unmeasurable States," co-authored with Chunjiang Qian and Richard D. Colgren, Communications in Information and Systems, Vol. 4, Num. 3, pp. 191-210, 2004.
 22. "Controller Development and Simulation using the Raptor 50 Helicopter Longitudinal Model," co-authored with Richard D. Colgren, Proceedings of the 2004 AIAA Guidance, Navigation and Control Conference, Providence, RI, 16 - 19 August 2004.
 23. "Decentralized Output Feedback Control of Large-Scale Interconnected Nonlinear Systems with Applications to Multi-Vehicle Systems," co-authored with Yuanlin Lu and Chunjiang Qian, Proceedings of the 2004 AIAA Guidance, Navigation and Control Conference, Providence, RI, 16 - 19 August 2004.
 24. "Finite-Time Stabilization of Planar Systems with Actuator Saturation Constraints: An Application to the Reaction Control System," co-authored with Ji Li and Chunjiang Qian, Proceedings of the 2004 AIAA Guidance, Navigation and Control Conference, Providence, RI, 16 - 19 August 2004.
 25. "Decentralized Output Feedback Control of Large-Scale Nonlinear Systems Interconnected by Unmeasurable States," co-authored with Yuanlin Lu and Chunjiang Qian, Proceedings of the 2004 American Control Conference, Boston, MA, pp. 4267-4272, 30 June - 2 July 2004.
 26. "Finite-Time Stabilization of the NASA CEV Reaction Control System with Actuator Saturation and by Position Measurements," co-authored with Ji Li and Chunjiang Qian, Proceedings of the 2004 IEEE Region 5 Conference, Oklahoma, OK, pp. 93-98, 2 April 2004.
 27. "Rapid Prototyping and Evaluation of Control System Designs for Manned and Unmanned Applications," co-authored with M. Hossein Mansur and Michael Montegut, Proceedings of the American Helicopter Society 56th Annual Forum, Virginia Beach, VA, 2-4 May 2000.
 28. "A Proposed System Architecture for Estimation of Angle-of-Attack and Sideslip Angle," co-authored with Richard D. Colgren and Wayne Olson, Proceedings of the 1999 AIAA Guidance, Navigation and Control Conference, Portland, OR, Volume 2 of 3, pp. 743-750, 9-11 August 1999.
 29. "Yamaha R-50 Configuration Description Document for ARMCOP", Michael Frye, NASA Ames Research Center, Moffet Field, CA, June 1999.
 30. "The Design and Integration of Electromechanical Actuators within the U-2S Aircraft," Michael Frye and Richard D. Colgren, Proceedings of the 1998 AIAA Guidance, Navigation and Control Conference, Boston, MA 10-12 August 1998.