

Timothy Takahashi

Professor of Practice - Aerospace Engineering
School for Engineering of Matter, Transport and Energy
Arizona State University, PO Box 876106, Tempe, AZ 85287
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Education

Santa Clara University School of Law, Santa Clara, CA

J.D. in Law May 2013
Certificate in High-Tech Law – with Honors
Thesis: “Drones and Privacy”

University of Rochester, Rochester, NY

PhD in Mechanical and Aerospace Sciences October 1993
Thesis: “Flow Beneath a Spinning Disk”
M.S. in Mechanical and Aerospace Sciences October 1990
B.S. with Distinction in Mechanical Engineering May 1988
Tau Beta Pi
Phi Beta Kappa

Professional Experience

Aug. 2012 – present **Professor of Practice - Aerospace Engineering**
Arizona State University, Tempe, AZ

May 2011 – Aug. 2011 **Law Clerk – Office of the Chief Counsel**
NASA/Ames Research Center, Moffett Field, CA

Mar. 2011 – May 2011 **Quarterly Term Professor - Dept. of Mechanical Engineering**
Santa Clara University, Santa Clara, CA

Sep. 2008 – July 2010 **Engineer 5 – Northrop Grumman**
Config. & Integration – Northrop Grumman Aerospace Systems, El Segundo, CA
Aerodynamics - Northrop Grumman Aerospace Systems, El Segundo, CA

Aug. 2007 – May 2008 **Adjunct Lecturer - Dept. of Aerospace Engineering**
Wichita State University, Wichita, KS

Aug. 2004 – May 2007 **Adjunct Lecturer - Dept. of Mechanical and Aerospace Engineering**
University of Arizona, Tucson, AZ

June 2002 – Sep. 2008 **Principal Engineer / Manager II / Sr. Principal Engineer - Raytheon**
Advanced Design - Raytheon Aircraft / Hawker Beechcraft, Wichita, KS
GN&C Systems Design / AeroMechanics - Raytheon Missile Systems, Tucson, AZ

Sep. 1996 – Mar. 2002 **Staff Engineer / Sr. Engineer Specialist / Sr. Engineer – Lockheed-Martin**
Advanced Design - Lockheed Martin Aeronautics Co., Marietta, GA
Aerodynamics - Lockheed Martin Aeronautics Co., Marietta, GA
Aerodynamics – Lockheed Martin Skunk Works, Palmdale, CA

Apr. 1994 – Sep. 1996 **NRC Postdoctoral Research Associate**
Low Speed Aerodynamics Branch, NASA/Ames Research Center, Moffett Field

1993-1995 **Research Consultant**
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY

Teaching Activities

- Aug. 2012 – present **Professor of Practice, Aerospace Engineering, Arizona State University**
MAE 564 – Advanced Aerodynamics (F2013, F2014, F2015, F2016)
AEE/MAE 468 – Aerospace Systems Design
(F2012, S2013, F2013, S2014, F2014, S2015, F2015, S2016, F2016, S2017, F2017, S2018)
MAE 400 – Engineering Profession (F2012, S2013, S2014, Sum2014, Sum2015, F2015, Sum 2016,
F2016, Sum 2017, F2017, S2018, Sum2018)
MAE 394 – Special Topics: Aeronautics in England (Sum2014, Sum2015, Sum2016,
Sum2017, Sum2018)
MAE 374 – Fluid Mechanics for Mechanical Engineers (S2016, S2017)
AEE 344 – Fundamentals of Aircraft Design – Performance & Sizing (S2015, S2016, S2017, S2018)
AEE/MAE 325 – Aerospace Structures & Materials (F2012, S2013, F2013, S2014, F2014, S2015)
ASU 101 – The ASU Experience (F2012, F2013, F2014, F2015, F2016, F2017)
- Mar. 2011 – May 2011 **Quarterly Term Professor, Mech. Eng., Santa Clara University**
MECH 145 – Introduction to Aerospace Engineering (S2011)
- Aug. 2007 – May 2008 **Adjunct Lecturer, Aerospace Eng., Wichita State University**
AE 527 - Numerical Methods (S2008)
AE 703 - Rotor Aerodynamics (Propeller/Helicopter) (F2007)
- Aug. 2004 – May 2007 **Adjunct Lecturer, Mech. & Aerospace Eng., University of Arizona**
AME 420 – Aero Senior Capstone Design I (F2004, F2005, F2006)
AME 422 – Aero Senior Capstone Design II (S2007)

Teaching and Research Interests

Aircraft Design. Weapons System Design. Multi-Disciplinary Optimization. Configuration Aerodynamics.
Aircraft Performance. Aircraft Stability and Control. Aircraft Weight Estimation. Aircraft Propulsion.
Numerical Methods. Fundamental Aerodynamics. Administrative Law. Transportation Public Policy.
Defense Systems Public Policy.

Awards, Activities and Professional Affiliations

Awards

- 2017-8 Arizona State University – Outstanding Fulton School Faculty Advisor – Air Devils
2017 Ford Faculty Fellow Award – included award stipend
2013-4 Arizona State University – Outstanding Fulton School Faculty Advisor – Air Devils
- 2013 Santa Clara University School of Law - High Tech Law Certificate with Honors
2012 Santa Clara University School of Law - High Tech Excellence Award for the 2011-2012 AY.
2012 Santa Clara University School of Law - Witkin Award for Academic Excellence - Privacy Law
- 2009 France Beaupré Award (as a team-member for the “Development of a Propulsion Design
Optimisation Tool”) for TTCP Activities
- 2006 American Institute of Aeronautics and Astronautics (AIAA) - Associate Fellow
2006 Raytheon Engineering Honors (Sr. Principal Engineer w/ Honors)
2004 Raytheon Engineering Honors (Principal Engineer w/ Honors)
2003 Raytheon Excellence in Technology Award (for Multi-Disciplinary Optimization)

Professional Society Affiliations

- 1994-present American Institute of Aeronautics and Astronautics (Life Member)
2013-2015 Society of Automotive Engineers
1998-2002 Treasurer Atlanta Section AIAA

Awards, Activities and Professional Affiliations (cont'd)

Peer Review / Journal Editor

2012-13 Santa Clara Computer and High Technology Law Journal, Lead Articles Editor.
2008-present Reviewer for AIAA Journal of Aircraft
2013-present Reviewer for The Aeronautical Journal
2015-present Reviewer for CEAS Aeronautical Journal
2015-present Reviewer for Aerospace Science & Technology
2013-present Textbook reviewer for John Wiley & Sons

Government and Industrial Committees

2006-present AIAA Conceptual Aircraft Design Working Group (CADWG) – chair (2009→)
2005-present AIAA Aircraft Design Technical Committee (Non-Voting 2005-12; Voting 2013→)
2008-10 USAF AFRL Multi-Disciplinary Science & Technology Center (MSTC) Virginia Tech
Collaboration Steering Committee
2005-07 US/UK/Canada/Australia/New Zealand Technical Cooperation Weapons Group (TTCP
WTP-4/KTA 4-30-03)
2004-17 AIAA Multidisciplinary Optimization Technical Committee

Conference Chair

2018 Organizing Committee – AIAA AVIATION Conference – Aircraft Design Sessions
2017 Organizing Committee – AIAA AVIATION Conference – Aircraft Design Sessions
2015 Organizing Committee – AIAA Sci Tech Meeting – MDO Sessions
2014 Organizing Committee – AIAA Sci Tech Meeting – MDO Sessions
2013 Organizing Committee – AIAA Aerospace Sciences Meeting – MDO Sessions
2012 Organizing Committee – AIAA ATIO/MAO Conference – Joint Sessions
2012 Organizing Committee – AIAA Aerospace Sciences Meeting – MDO sessions
2010 Track Lead – AIAA ATIO/MAO Conference – Joint Sessions
2008 Track Lead – AIAA Aerospace Sciences Meeting – MDO Applications Sessions
2005-present Reviewer for AIAA Conference Papers (various technical committees)

Student Sections of Professional Organizations

2012-present Team Advisor for the ASU Air Devils AIAA DBF Competition Team
2014 Wichita, KS 17/80 teams
2015 Tucson, AZ 23/100 teams
2016 Wichita, KS 14/145 teams
2017 Tucson, AZ 32/138 teams
2018 Wichita, KS 41/ 138 teams
2016-present Faculty Advisor for AIAA @ ASU (Student Chapter)
2015-present Faculty Co-Advisor for Tau Beta Pi (Engineering Honor Society)

Grants, Funding and Consulting

Consulting: Jenner & Block, LLP, Chicago, IL – Expert Witness Aviation, 2017 → 2018

Consulting: General Atomics Aeronautics Systems, Poway, CA –Aircraft Design, 2017 →

Grant: DragonFly Aeronautics, LLC (Division of Net Jets), Alpharetta, GA –Grant for Modeling & Simulation of Aircraft Performance, 2016-2017 - approx. \$75,000

Contract: United States Air Force Test Pilot School, Edwards AFB, CA – Teaching Methods for Aircraft Handling Qualities, 2015-2016 – approx. \$25,000.

Consulting: DragonFly Aeronautics, LLC (Division of Net Jets), Alpharetta, GA – Aircraft Performance, 2015-2017

Consulting: Aerion, Inc, Reno, NV –Aircraft Performance & Design Certification, 2014-2016.

CATALYST Award – Arizona State University – Compact Residential Wind Power System – proof of concept construction, 2013-2014 – approx. \$11,000.

Grants, Funding and Consulting (cont'd)

Consulting: MD Helicopters, Mesa, AZ – Helicopter Rotor Aerodynamics and Mechanical Design, 2013→

Consulting: YAM Captial, Scottsdale, AZ – Consultant – Wind Energy Technology Concept Evaluation, 2013.

Extensive industrial experience with government contractor proposals.

Typical government customers: USAF, USN, DARPA, ONR, USAF-AFRL, and other agencies.

USAF/AFRL Summer Faculty Fellowship – Contractor through UTC. ESAV (Efficient Supersonic Air Vehicle) Performance and Sizing - July 2013. (Fellowship also paid for one graduate student).

USAF/AFRL Revolutionary Concepts in Energy Efficiency (RCEE) – Northrop Grumman
Co-investigator – Phase I Technical Lead - contract awarded 2009

ONR/DARPA RATTLRS Phase I – Raytheon Missile Systems
Air Vehicle Design Lead – contract awarded 2005

ONR FastShips Program Phase II – Lockheed Martin Aeronautical Systems – ADP “Skunk Works”
Chief Engineer – contract awarded 2000

Northrop Grumman Internal Research and Development Manager

Multi-Disciplinary Analysis & Optimization Disciplines (MDAO) – approx. \$1,100,000 (2009)

Multi-Disciplinary Analysis & Optimization Disciplines (MDAO) – approx. \$1,500,000 (2008)

Raytheon Missile Systems Internal Research and Development Manager

Multi-Disciplinary Analysis & Optimization (MDA/MDO) – approx. \$500,000 (2006)

Multi-Disciplinary Analysis & Optimization (MDA/MDO) – approx. \$500,000 (2005)

Multi-Disciplinary Analysis & Optimization (MDA/MDO) – approx. \$500,000 (2004)

Books

1. **Takahashi, T.T.**, Aircraft Performance & Sizing, Vol. I: Fundamentals of Aircraft Performance, Momentum Press, New York, NY, 2016. 200 pages. **ISBN-13:** 978-1606506837
2. **Takahashi, T.T.**, Aircraft Performance & Sizing, Vol. II: Applied Aerodynamic Design, Momentum Press, New York, NY, 2016. 276 pages. **ISBN-13:** 978-1606509456
3. **Takahashi, T.T.** and Bays, L.V., Aircraft Takeoff & Landing Performance, Elsevier, Oxford, UK, (in preparation)

Archival Journal Articles

1. **Takahashi, T.T.**, “The Rise of the Drones – A Need for the Comprehensive Federal Regulation of Robot Aircraft,” Albany Government Law Review, Vol. 8, No. 1, 2015, pp. 63-128.
2. **Takahashi, T.T.**, “Regulatory Changes to Enable the Development of More Efficient Transport Category Aircraft,” AIAA Journal of Aircraft, Vol. 50, No. 5, pp. 1353-1368, Sep-Oct 2013. (DOI: 10.2514/1.C031633).
3. **Takahashi, T.T.**, “Drones and Privacy,” Columbia Sci. & Tech. Law Rev, Vol. XIV, No. 1, Fall 2012, pp. 72-114.
4. **Takahashi, T.T.**, "Drones in the National Airspace," SMU Journal of Air Law and Commerce, Vol. 77, No.3, Summer 2012, pp. 489-533.

Archival Journal Articles (cont'd)

5. **Takahashi, T.T.**, German, B.J., Shajanian, A., Daskilewicz, M., and Donovan, S. "Form Factor and Critical Mach Number Estimation for Finite Wings," AIAA Journal of Aircraft, Vol. 49, No. 1, Jan-Feb 2012. (DOI:10.2514/1.C031466).
6. **Takahashi, T.T.**, "Optimum Transverse Span Loading for Subsonic Transport Category Aircraft," AIAA Journal of Aircraft, Vol. 49, No. 1, Jan-Feb 2012. (DOI:10.2514/1.C031512).
7. **Takahashi, T.T.**, "Optimum Aspect Ratio for Subsonic Air Vehicles," AIAA Journal of Aircraft, Vol.48, No. 6, Nov-Dec 2011, pp. 1984-1993. (DOI:10.2514/1.C031402).
8. Daskilewicz, M. J., German, B.J., **Takahashi, T.T.**, Donovan, S., and Shajanian, A., "Effects of Disciplinary Uncertainty on Multi-Objective Optimization in Aircraft Conceptual Design," Structural and Multidisciplinary Optimization, Vol. 44, No. 6 (2011), pp. 831-846 (DOI:10.1007/s00158-011-0673-4).
9. Takahashi, T., Feely, R. A., Weiss, R., Wanninkhof, R. H., Chipman, D. W., Sutherland, S. C. and **Takahashi, T. T.**, "Global air-sea flux of CO₂: an estimate based on measurements of sea-air pCO₂ difference," Proc. Nat. Acad. Sci., vol. 94, 8292-8299, 1997.
10. Takahashi, T., **Takahashi, T. T.** and Sutherland, S. C., "An Assessment Of The Role Of The North Atlantic as a CO₂ Sink," Phil. Transactions Of The Royal Society Of London, Series B, Vol. 348, pp. 143-152, 1995.
11. **Takahashi, T.T.**, "Flow Beneath a Rotating Annulus," Physics of Fluids, Vol. 6, No. 5, 1994, pp. 1677-83.
12. Benson, R.C. and **Takahashi, T.T.**, "Mechanics of Flexible Disks in Magnetic Recording," ASME Advances in Information Storage Systems, Vol. 1, No. 1, 1991, pp. 15-35.

Refereed Conference Publications

Students who were advised primarily by Dr. Takahashi at the time of their graduation are indicated by a solid underline

1. Delisle, M. and **Takahashi, T.T.**, "We Wonder Why We Wallow: Impacts of Trim Error on Speed and Flight Path Stability," Under review for AIAA SciTech 2019.
2. **Takahashi, T.T.**, "A Bad Moon Rising: The Puzzling Inaccuracies of the Work-Energy Theorem in Aircraft Performance," Under review for AIAA SciTech 2019.
3. Milosavljevic, I., Nuber, B., Swarm, G., **Takahashi T.T.**, et al. "Preliminary Design of a Long Range, Fuel Efficient High Performance Business Jet," Under review for AIAA SciTech 2019.
4. Beard, J.E. and **Takahashi, T.T.**, "Wind Accountability and Obstacle Clearance Limited Takeoff for Commercial Transport Aircraft," Accepted for publication at AIAA AVIATION 2018.
5. Delisle, M., Morrow, M.H., Ramirez, A., Padilla, M., Thach, S., Elliott, S., Miller, T. and **Takahashi, T.T.**, "Preliminary Design of a Next Generation Super-Mid-Size Business Jet," Accepted for publication at AIAA AVIATION 2018.
6. Delisle, M. and **Takahashi, T.T.**, "(Un)stabilized Approach - An Introduction to Dynamic Flight Conditions during Takeoff and Landing Climb," Accepted for publication at AIAA AVIATION 2018.
7. Delisle, M. and **Takahashi, T.T.**, "Speed Stability and Obstacle Clearance During Engine Inoperative Takeoff," Accepted for publication at AIAA AVIATION 2018.

Refereed Conference Publications (cont'd)

8. Delisle, M. and **Takahashi, T.T.**, "Floating Home: Speed Stability and Inadvertent Stalls During a Bailed Landing," Accepted for publication at AIAA AVIATION 2018.
9. Cleary, S. and **Takahashi, T.T.**, "The Effects of Fixed Conical Spike Inlets on the Performance of Higher Bypass Ratio Engines," Accepted for publication at AIAA AVIATION 2018.
10. Miskin, D.L. and **Takahashi, T.T.**, "Stochastic Modeling of Preliminary Wing Box Structural Design for Stiffness," Accepted for publication at AIAA AVIATION 2018.
11. Kallas, D., Brown, K., Ingham, J., Miskin, D. and **Takahashi, T.T.**, "Design of a Dual-Use Aerobatic Light Jet," AIAA 2018-2030, 2018.
12. Wood, D.L. and **Takahashi, T.T.**, "The Effect of Piloting Practices Upon Actual as Opposed to Scheduled Landing Field Performance," AIAA 2018-1756, 2018.
13. Wood, D.L., Beard, J.E. and **Takahashi, T.T.**, "Real Pilots Don't Go Around: Discontinued Approach and Bailed Landing Climb Performance," AIAA 2018-1752, 2018.
14. Beard, J.E. and **Takahashi, T.T.**, "(Un)controlled Flight Into Terrain: A History of Obstacle Clearance Regulations," AIAA 2018-1614, 2018.
15. Wood, D.L. and **Takahashi, T.T.**, "Extraordinary Care: A History of Flight Operations Rules for Common Carriers," AIAA 2018-1616, 2018.
16. **Takahashi, T.T.**, Beard, J.E. and Wood, D.L., "The Human Factor: Accounting For "Off Book" Flight Speeds Within Implied Safety Margins," AIAA 2018-0284, 2018.
17. Beard, J.E. and **Takahashi, T.T.**, "Optimal Piloting Approaches For Obstacle Clearance Limited Standard Instrument Departures," AIAA 2018-0285, 2018.
18. Hadder, E.M. and **Takahashi, T.T.**, "Minimum Control Speed Estimation for Conceptual Design," AIAA 2017-3764, 2017.
19. Wilson, J. and **Takahashi, T.T.**, "The Doghouse Plot: History, Construction Techniques and Application," AIAA 2017-3266, 2017.
20. Beard, J. and **Takahashi, T.T.**, "Revisiting Takeoff Obstacle Clearance Procedures: An Argument for Extended Second Segment Climb," AIAA 2017-3265, 2017.
21. Anderson, B.K. and **Takahashi, T.T.**, "Conceptual Fuselage Design with Direct CAD Modelling," AIAA 2017-3940, 2017.
22. **Takahashi, T.T.**, D.L. Wood and Bays, L.V., "The Effect of Aerodynamic and Propulsive Uncertainty Upon Certified Takeoff Performance," AIAA 2017-3420, 2017.
23. Wood, D.L., **Takahashi, T.T.**, and Bays, L.V., "Experimental Investigation of Typical Aircraft Field Performance versus Predicted Performance Targets," AIAA 2017-3276, 2017.
24. Wood, D.L., **Takahashi, T.T.**, and Bays, L.V. "The Effect of Piloting Practices Upon Actual as Opposed to Scheduled Takeoff Performance," AIAA 2017-3422, 2017.
25. Wilson, J., Teves, R., Snodgrass, N., Haley, J., and **Takahashi, T.T.**, "Multidisciplinary Design Process for a 100 seat Regional Jet," AIAA 2017-3586, 2017.

Refereed Conference Publications (cont'd)

26. Verbin, A.J., **Takahashi, T.T.**, and White, D.B. "Detail Design of a Pulsed Plasma Test Stand," AIAA 2017-4523, 2017.
27. **Takahashi, T.T.**, Wood, D.L. and Bays, L.V., "An Introduction to the Impact of Pilot Techniques Upon "Certified" Field Performance," AIAA 2017-0007, 2017.
28. Kirkman, J.J. and **Takahashi, T.T.**, "Critical Mach Number Prediction on Swept Wings," AIAA 2017-0266, 2017.
29. **Takahashi, T.T.**, Kirkman, J.J., Verbin, A.J. and Cotting, M.C., "An Innovative Total-Flight-Envelope Approach to Teach Configuration Aerodynamics," AIAA 2017-0692, 2017.
30. Mathieu, M.S., Marin, A.M., Stephenson, K.J., Beard, J.E., Castillo, E., Weddle-Weaver, C., Teni, D. and **Takahashi, T.T.**, "Preliminary Design of an N+1 Overwater Supersonic Commercial Transport Aircraft," AIAA 2017-1387, 2017.
31. Garnica, I. and **Takahashi, T.T.**, "A Study of Engine Parameters and Shaft Configuration on Transport Aircraft Performance," AIAA 2017-1854, 2017.
32. Benassi, M.S., Hrdina, C.R., Horton, E., Hadder, E. and **Takahashi, T.T.** "Next-Generation Regional Jet Transport Conceptual Design," AIAA 2017-1855, 2017.
33. **Takahashi, T.T.** and Bays, L.V., "Climbing While Turning: Combat Energy Management Principles Applied to Civilian Obstacle Clearance," AIAA 2016-4217, 2016.
34. Palma, R.M. and **Takahashi, T.T.**, "The Effects of Supersonic Inlet Topology on the Installed Performance of Turbofan Engines," AIAA 2016-3563, 2016.
35. Allyn, M. and **Takahashi, T.T.**, "Conceptualizing Active-Load-Alleviation: Impacts on Transport Category Aircraft Wing Structural Design," AIAA 2016-3744, 2016.
36. Kirkman, J.J. and **Takahashi, T.T.**, "Revisiting the Transonic Similarity Rule: Critical Mach Number Prediction Using Potential Flow Solutions," AIAA 2016-4329, 2016.
37. Jensen, J. and **Takahashi, T.T.**, "Wing Design Challenges Explained: A Study of the Finite Wing Effects of Camber, Thickness, and Twist," AIAA 2016-0718, 2016.
38. Dickman, C. and **Takahashi, T.T.**, "Engine/Inlet Matching for Supersonic Aircraft Design," AIAA 2016-0771, 2016.
39. Smith, D. and **Takahashi, T.T.**, "Improved Field Performance through Regulatory Changes to Enable Speed Scheduled Reverse Thrust," AIAA 2016-1280, 2016.
40. Merrell, M.Q. and **Takahashi, T.T.**, "Rediscovering the Peakey Leading Edge: A Study of the Transonic Properties of Classic Airfoils," AIAA 2016-1564, 2016.
41. Barchfeld, C.A. and **Takahashi, T.T.**, "Beyond the Elliptical Span Load: Optimizing Minimum Induced Drag Using Enhanced Leading Edge Suction," AIAA 2016-0781, 2016.
42. Kirkman, J., Wood, D., Knight, T., Gurczak, M., Rothlisberger, C., Pan, K.Z. and **Takahashi, T.T.**, "Design Study for a Highly Fuel Efficient Regional Transport," AIAA 2016-1029, 2016.
43. Palma, R.M., Thomas, M.E., Balasiu, A.C., Takamatsu, L.N., Noonan, W.N., and **Takahashi, T.T.**, "A Multi-Disciplinary Study of Future Fuel Efficient Regional Aircraft," AIAA 2016-1424, 2016.

Refereed Conference Publications (cont'd)

44. **Takahashi, T.T.** and Lemons, T., “Prediction of Wing Structural Mass for Transport Category Aircraft Conceptual Design,” AIAA 2015-3374, 2015.
45. **Takahashi, T.T.**, “The Impact of ATTCS on Reduced Thrust Takeoff Field Performance, AIAA 2015-2698, 2015.
46. **Takahashi, T.T.**, “Optimal Climb Trajectories Through Explicit Simulation,” AIAA 2015-2701, 2015.
47. Mirochnitchenko, V. and **Takahashi, T.T.**, “An Investigation into the Design of an Efficient In-Ground-Effect Flying Vehicle Platform, AIAA 2015-3000, 2015.
48. **Takahashi, T.T.** and Kamat, S., “Revisiting Busemann: The Design Implications of Inconsistencies Found Within Simple Sweep Theory,” AIAA 2015-3376, 2015.
49. Swann, M. and **Takahashi, T.T.**, “A Total Flight Envelope Approach to Conceptual Design Stability & Control,” AIAA 2015-3377, 2015.
50. **Takahashi, T.T.** and Gedeon, C., “The Effect of Propulsion System Scale and Bypass Ratio Upon Optimum Climb Speed,” AIAA 2015-1677, 2015.
51. **Takahashi, T.T.** and Lemons, T., “Transport Category Wing Weight Estimation Using A Optimizing Beam-Element Structural Formulation,” AIAA 2015-1898, 2015.
52. Dulin, D.J. and **Takahashi, T.T.**, “Design Implications of Elliptical Planform Wings,” AIAA 2015-0397, 2015.
53. Mirochnitchenko, V., Swann, M., Stallings, D., Merrell, M., Miller, D. and **Takahashi, T.T.**, “Multi-Disciplinary Optimization of a Near Sonic Airliner,” AIAA 2015-0132, 2015.
54. Langley, C., Burt, R., Patel, N., Martinez, I., Leon, A. and **Takahashi, T.T.**, “Conceptual Design of a Mach 0.95 Cruise N+1 Commercial Transport,” AIAA 2015-1901, 2015.
55. **Takahashi, T.T.** and Kady, C.T., “Planform Selection for an Efficient Supersonic Air Vehicle,” AIAA 2014-2426, 2014.
56. **Takahashi, T.T.** and Creighton, A., “Reforming Field Performance Federal Aviation Regulations for Operational Safety and Consistency,” AIAA 2014-2425, 2014.
57. **Takahashi, T.T.**, Dulin, D.J. and Kady, C.T., “A Method to Allocate Camber, Thickness and Incidence on a Swept Wing,” AIAA 2014-3172, 2014.
58. Gedeon, C. and **Takahashi, T.T.**, “A Multi-Disciplinary Survey of Energy Maneuverability for Subsonic Endurance Based Aircraft,” AIAA 2014-3156, 2014.
59. Gedeon, C. and **Takahashi, T.T.**, “Multi-Disciplinary Survey of Engine Parameters and the Resulting Impact on Energy Maneuverability,” AIAA 2014-2032, 2014.
60. Gibson, G.S. and **Takahashi, T.T.**, “Multi-Disciplinary Design of a Rocket Engine Thrust Augmentation Ejector for Endoatmospheric Flight,” AIAA 2014-3091, 2014.
61. Heitzman, N. and **Takahashi, T.T.**, “Comparison of Commercial Flight Fuel Reserves in Regards to FAR, Numerical Simulation, and Pilot Flight Techniques,” AIAA 2014-3263, 2014.
62. Bowerman, K., Chandran, P., Ixtabalan, D., Sheets, D.T. and **Takahashi, T.T.**, “A Systems Approach to Aircraft Synthesis and Optimization of a Light Business Aircraft,” AIAA 2014-2854, 2014.

Refereed Conference Publications (cont'd)

63. Kady, C.T. and **Takahashi, T.T.**, "Allocating Section Thickness and Camber for Transonic Wing Design," AIAA 2014-0024, 2014.
64. Mora, N., Heitzman, N., Scoville, S., and **Takahashi, T.T.**, "Conceptual Design of a N+1 Transonic Executive Jet," AIAA 2014-0030, 2014.
65. **Takahashi, T.T.**, "The Public Domain, The National Interest and The Fate of the NASA Technical Reports Server," AIAA 2014-0281, 2014. Revised manuscript under the same title also available at: <http://dx.doi.org/10.2139/ssrn.2425190>
66. DeStories, J. and **Takahashi, T.T.**, "Fixed Pitch Propeller Design for Electrically Powered Aircraft," AIAA 2014-0537, 2014.
67. Lyddon, J., Nguyen, M., Quackenbush, J., Schadegg, T. and **Takahashi, T.T.**, "Optimum Design of a Fuel Efficient Mid-Size Business Jet," AIAA 2014-1337, 2014.
68. **Takahashi, T.T.**, "Intellectual Property Law and Legacy FORTRAN Code," AIAA 2013-4210, 2013.
69. **Takahashi, T.T.** and Kady, C.T., "Curious Circumstances Surrounding Optimal Non-Planar Wings," AIAA 2013-4203, 2013.
70. Gedeon, C., Huffer, S., and **Takahashi, T.T.**, "Multi-Disciplinary Design of an Advanced Narrow-Body Transport Aircraft," AIAA 2013-4329, 2013.
71. Reed, T., Jaksa, M., Gomez, J., and **Takahashi, T.T.**, "High Altitude Hot Rod – An Energy Efficient N+1 Transport," AIAA 2013-4327, 2013.
72. **Takahashi, T.T.**, "Multi-Disciplinary Effects of Zero-Lift Drag and Drag Uncertainty on Aircraft Performance," AIAA 2013-0281, 2013.
73. **Takahashi, T.T.**, "Aircraft Concept Design Performance Visualization Using an Energy-Maneuverability Presentation," AIAA 2012-5704, 2012.
74. **Takahashi, T.T.**, "Federal Regulation of Electronic Flight Bags," AIAA 2012-5676, 2012. Revised version, titled "iPad's in the Cockpit" available at: <http://dx.doi.org/10.2139/ssrn.2035743>
75. **Takahashi, T.T.**, "Law and Engineering: An Alternative Approach to Develop More Efficient Transport Category Aircraft," AIAA 2012-0335, 2012.
76. German, B.J., Patterson, M.D. and **Takahashi, T.T.**, "Reachability of Optimal Cruise Operating Points: Implications for Aircraft Design," AIAA 2012-1036, 2012.
77. German, B.J. and **Takahashi, T.T.**, "Planform as Platform: An Approach to Air Vehicle Conceptual Synthesis," AIAA-2011-7015, 2011.
78. **Takahashi, T.T.** and Donovan, S., "Non Planar Span Loads for Minimum Induced Drag," AIAA 2011-0639, 2011.
79. Donovan, S. and **Takahashi, T.T.**, "Wing Twist Design Considerations for Transport Category Aircraft," AIAA-2011-1251, 2011.

Refereed Conference Publications (cont'd)

80. Shajanian, A., **Takahashi, T.T.**, German, B.J., Daskilewicz, M. and Donovan, S. "Wing Section Thickness and Camber Allocation for Conceptual and Preliminary Aircraft Design," AIAA-2011-0164, 2011.
81. **Takahashi, T.T.** and Donovan, S., "Incorporation of Mission Payload Power and Thermal Requirements into the MDO Aircraft Performance and Sizing Process," AIAA-2010-9169, 2010.
82. Donovan, S. and **Takahashi, T.T.**, "A Rapid Synthesis Method to Develop Conceptual Design Transonic Wing Lofts," AIAA-2010-9025, 2010.
83. Petermeier, J., Radtke, G., Stohr, M., Woodland, A., **Takahashi, T.T.**, Donovan, S. and Shubert, M., "Enhanced Conceptual Wing Weight Estimation Through Structural Optimization and Simulation," AIAA 2010-9075, 2010.
84. Hutchins, C., Missoum, S. and **Takahashi, T.T.**, "Fully Parameterized Wing Model for Preliminary Design," AIAA 2010-9120, 2010.
85. Daskilewicz, M., German, B., **Takahashi, T.T.**, Donovan, S. and Shajanian, A., "Robust Design Considerations in the Multi-Objective Problem of Aircraft Conceptual Design," AIAA 2010-2755, 2010.
86. **Takahashi, T.T.**, German, B., Shajanian, A., Daskilewicz, M., and Donovan, S., "Zero Lift Drag and Drag Divergence Prediction for Finite Wings in Aircraft Conceptual Design," AIAA 2010-0846, 2010.
87. **Takahashi, T.T.**, "Strategies Teaching Configuration Aerodynamics in Aeronautical Engineering Capstone Design," AIAA 2009-1602, 2009.
88. **Takahashi, T.T.**, "The Search for the Optimal Wing Configuration for Small Subsonic Air Vehicles," AIAA 2008-5915, 2008.
89. **Takahashi, T.T.**, "Aeronautical Engineering Capstone Design at the University of Arizona," AIAA 2008-0494, 2008.
90. **Takahashi, T.T.**, Fanciullo, T., and Ridgely, D.B., "Incorporation of Flight Control Design Tools into the Multi-Disciplinary Conceptual Design Process," AIAA 2007-0656, 2007.
91. Cunnington, R., Bays, L.V. and **Takahashi, T.T.**, "Incorporation of Aerothermodynamic Analysis Tools into the Multi-Disciplinary Conceptual Design Process," AIAA 2007-0406, 2007.
92. **Takahashi, T.T.**, "Integrated Propulsion/Airframe Analysis for Mission Effectiveness Driven Systems Design," AIAA 2005-4556, 2005.
93. Turner, D., Birney, M. and **Takahashi, T.**, "The Effect of Mission Requirements on Propulsion Design for Advanced Weapons Systems," AIAA-2005-4196, 2005.
94. **Takahashi, T.T.**, Spall, R.J., Turner, D.C., Birney, M.T. "A Multi-Disciplinary Survey of Advanced Subsonic Tactical Cruise Missile Configurations," AIAA 2005-0709, 2005.
95. **Takahashi, T.T.**, Spall, R.J., Turner, D.C., Otto, J.C. and O'Hagan, P., "A Multidisciplinary Assessment of Morphing Aircraft Structures Applied to a Cruise Missile Configuration," AIAA 2004-1725, 2004.
96. **Takahashi, T.T.** and Coopersmith, R.M., "Wing Section Design for a Long-Range Hydrofoil Transport," AIAA 2002-0834, 2002.
97. **Takahashi, T.T.** and Coopersmith, R.M., "Hydrofoil Wing Section Development with High Lift Devices" AIAA 2002-0833, 2002.

Refereed Conference Publications (cont'd)

98. **Takahashi, T.T.**, Coopersmith, R.M., Novak, C.J. and Olliffe, R., "A Multidisciplinary Design Optimization of a Long-Range Hydrofoil Transport," AIAA 2001-1106, 2001.
99. **Takahashi, T.T.**, "Measurement of Air Flow Characteristics Using Seven Hole Cone Probes," AIAA 97-0600, 1997.
100. **Takahashi, T.T.**, "On the Decomposition of Drag from Wake Survey Measurements," AIAA 97-0717, 1997.
101. **Takahashi, T.T.**, Eidson, R.C. and Heineck, J.T. "Aerodynamic Characteristics of a Supersonic Transport with Pneumatic Forebody Flow Control," AIAA 97-0043, 1997.
102. Parker, B., Eidson, R.C., **Takahashi, T.T.**, "High Speed Civil Transport Forebody Vortex Control," AIAA 97-0042, 1997.
103. **Takahashi, T.T.**, Parker, B., Eidson, R.C., and Heineck, J.T., "Flow Physics of a HSCT Configuration with Pneumatic Forebody Flow Control" NASA High Angle of Attack Conference, Sept. 1996.
104. **Takahashi, T.T.** and Ross, J.C., "On the Development of an Efficient Wake Survey System," SAE Paper 95-1990, 1995.
105. Storms, B.L., **Takahashi, T.T.** and Ross, J.C., "Aerodynamic Influence of a Finite-Span Flap on a Simple Wing," SAE Paper 95-1977, 1995.

Other Publications

1. Pedersen, J. and **Takahashi, T.T.**, "Electric Propulsion Simulation for the MDO Environment," Raytheon MMTN Conference, El Segundo CA, Sept. 2007. (ITAR restricted)
2. Sanderson, T., **Takahashi, T.T.**, et.al., "Compact Stowable Wings for Missiles and UAVs," Raytheon MMTN Conference, El Segundo CA, Sept. 2007 (ITAR restricted)
3. **Takahashi, T.T.**, "Quantitative Systems Engineering and the Multi-Disciplinary Conceptual Design Process," Raytheon Technology Today, Issue 3/2006, Sept. 2006.
4. **Takahashi, T.T.**, "Multi-Disciplinary Optimization Methods for Air Vehicle Design," Raytheon MMTN Conference, Boston MA, Sept. 2006 (ITAR restricted)
5. Cunnington, G.R., Bays, L.V. and **Takahashi, T.T.**, "Incorporation of Aerothermodynamic Analysis Tools into the Multi-Disciplinary Conceptual Design Process," Raytheon MMTN Conference, Boston MA, Sept. 2006. (ITAR restricted)
6. Sanderson, T., **Takahashi, T.T.**, et al., "Preliminary Design of Span and Chord Morphing Wings," Raytheon MMTN Conference, Boston MA, Sept. 2006. (ITAR restricted)
7. **Takahashi, T.T.** and Ross, J.C., "Wake Survey System," Aerospace Engineering, May 1996, pp. 31-34.
8. **Takahashi, T.T.**, "Measurement of Air Flow Characteristics Using Seven-Hole Cone Probes," NASA TM-112194, May 1997.

Other Publications (con'td)

9. Storms, B.L, **Takahashi, T.T.**, Horne, C., Ross, J.C., Dougherty, R.P. and Underbrink, J.R., "Flap Tip Treatments for the Reduction of Lift Generated Noise," NASA CDTM-21006, March 1996.
10. **Takahashi, T.T.**, "Flow Beneath a Spinning Disk," Ph.D Dissertation, Department of Mechanical Engineering, University of Rochester, 1993 (available from UMI)

Other Scholarly Activities

Patent Application

1. **Takahashi, T.T.**, Campton, C. B., and Wood, D.L., Compact Wind Power Generation System, PCT patent under prosecution Sept. 2013.

Invited Academic Seminars

1. Queen Mary University of London, London, UK, "Are Winglets for the Birds?," July 2015
2. Royal Military College of Canada, Kingston, ON, CA, "Are Winglets for the Birds?" Mar. 2015
3. Raytheon Missile Systems, Systems Engineering & Analysis Symposium, Tucson, AZ. "Commercialization of Military Robotics Into Civilian Society," Sept. 2014
4. Arizona State University, 2nd Governance of Emerging Technologies: Law, Policy and Ethics Conference, Chandler, AZ. "As Time Drones On," May 2014.
5. University of New Mexico, "Are Winglets for the Birds?" Mechanical Engineering Seminar Series, Feb. 2014.
6. New York University School of Law, DRONESCONFERENCE 2013, Oct. 2013.
7. Arizona State University, 1st Governance of Emerging Technologies: Law, Policy and Ethics Conference, Chandler, AZ. "Federal Regulation of Robotic Aircraft," May 2013.
8. Arizona State University, Center for Science Policy Outcomes, Tempe, AZ. "Drones and US," Feb. 2013.
9. Arizona State University, School for Engineering of Matter, Transport and Energy, Tempe, AZ Sep. 2011.
10. Virginia Polytechnic and State University, Department of Aerospace and Ocean Engineering, Blacksburg, VA. Mar. 2011.
11. Santa Clara University, Department of Mechanical Engineering, Santa Clara, CA. Jan. 2011.
12. University of Rochester, Department of Mechanical Engineering, Rochester, NY. May 2009.
13. Wichita State University, Department of Aerospace Engineering, Wichita, KS. May 2008.
14. California Institute of Technology, GALCIT, Pasadena, CA, Jan. 2006

Students Advised

M.S. Thesis Advisor

1. Delisle, M., M.S. thesis, "Destabilized Aircraft Response: The Implications of Pilot Trim Error," Aerospace Engineering, Arizona State University, Tempe, AZ, April 2018. (Initial career placement: Boeing Commercial Aircraft, Everett, WA)
2. Cleary, S., M.S. thesis, "The Supersonic Performance of High Bypass Ratio Turbofan Engines with Fixed Conical Spike Inlets," Aerospace Engineering, Arizona State University, Tempe, AZ, April 2018.
3. Wilson, John R., M.S. thesis, "The Doghouse Plot: History, Construction Techniques, and Application," Aerospace Engineering, Arizona State University, Tempe, AZ, November 2017 *winner of The Fall 2017 ASU Outstanding Engineering Graduate Student award (Initial career placement: Orbital Sciences, Chandler, AZ)
4. Wood, Donald L., M.S. thesis, "Experimental Investigation of Typical Aircraft Field Performance Versus Predicted Performance Targets," Aviation Management Technology (co-advised with Mary Niemczyk), Arizona State University, Tempe, AZ, May 2017. (Initial career placement: Academic Professional, Arizona State University, Mesa, AZ)
5. Beard, John E., M.S. thesis, "Takeoff Obstacle Clearance Procedures: The Feasibility of Extended Second Segment Climb," Aerospace Engineering, Arizona State University, Tempe, AZ, April 2017. (Initial career placement: Raytheon Missile Systems, Tucson, AZ) * runner up for the 2017 Outstanding SEMTE Graduate Thesis award
6. Anderson, Benjamin K., M.S. thesis, "Conceptual Fuselage Design with Direct CAD Modeling," Aerospace Engineering, Arizona State University, Tempe, AZ, April 2017. (Initial career placement: Textron Aviation, Wichita, KS)
7. Verbin, A.J., M.S. thesis, "Detail Design of a Pulsed Plasma Test Stand," Aerospace Engineering, Arizona State University, Tempe, AZ, April 2017. (Initial career placement: Raytheon Missile Systems, Tucson, AZ)
8. Hadder, Eric, M.S. thesis, "Predicting Minimum Control Speed On The Ground (VMCG) And Minimum Control Airspeed (VMCA) Of Engine Inoperative Flight Using Aerodynamic Database And Propulsion Database Generators," Aerospace Engineering, Arizona State University, Tempe, AZ, November 2016. (Initial career placement: Earth Air, Mesa, AZ)
9. Kirkman, Jeffrey J., M.S. thesis, "Transonic Flow Around Swept Wings: Revisiting Von Karman's Similarity Rule," Aerospace Engineering, Arizona State University, Tempe, AZ, April 2016. (Initial career placement: Textron Aviation, Wichita, KS)
10. Heitzman, Nicholas, M.S. thesis, "Comparison of Commercial Aircraft Fuel Requirements in Regards to FAR, Flight Profile Simulation, and Flight Operational Techniques," Aerospace Engineering, Arizona State University, Tempe, AZ, April 2014. (Initial career placement: Honeywell, Phoenix, AZ)

M.S. Thesis Advisor (IN PROCESS)

1. Leader, Robert. Supersonic Inlet Buzz and Distortion Limit Estimation Using Rapid CFD – ongoing
2. Miskin, Daniel. Effects of Non-Structural Mass on Primary Wing Structural Design including estimates of Static and Dynamic Response - ongoing
3. Raines, Taylor. Plasma Thruster Power System Control Design – ongoing
4. Ou, Che Wei. Aerodynamic Drag of Blunt and Sharp Leading Edge Wings - ongoing

Students Advised (cont'd)

M.S. Applied Project Advisor

1. Winsryg, Benjamin. Aerothermal Environments Developed By High Speed Atmospheric Flight. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2018. (Initial career placement: Lockheed Martin Space Systems, Denver, CO)
2. Stone, Nathan. Power and bleed air extraction from small commercial turbofan engines intended to power HALE aircraft. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2018. (Initial career placement: General Atomics Aeronautical Systems, Adelanto, CA)
*winner of the Spring 2018 SEMTE Outstanding Graduate TA award
3. Garnica, Isaac. Power and bleed air extraction from single and multi-shaft turbofan engines. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2016. (Initial career placement: Honeywell, Phoenix, AZ)
4. Allyn, Mathew. Wing structural design consequences of active load alleviation. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, December 2015. (Initial career placement: Boeing Commercial Airplane Company, Seattle, WA)
5. Quackenbush, Jess. Induced Drag of Sharp Leading Edge Wings. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, December 2015. (Initial career placement: Orbital Sciences, Chandler, AZ)
6. Palma, Ryan M., Inlet / Engine Matching for Supersonic Turbofan Engines. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, December 2015. (Initial career placement: Raytheon Missile Systems, Tucson, AZ)
7. Swann, Matthew, Flight Dynamics Screening Tools. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2015. (Initial career placement: Raytheon Missile Systems, Tucson, AZ)
8. Dickmann, Christopher A., Installed Performance Modelling of Supersonic Normal Shock Engines using NPSS. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2015. (Initial career placement: Northrop/Grumman, El Segundo, CA)
9. Jensen, James C., Spanwise Effects of Wing Thickness. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2015. (Initial career placement: NASA/Ames Research Center, Moffett Field, CA)
10. Barchfield, Christopher A., Flight Dynamics Screening Tools. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2015.
11. Merrell, Michael Q., Peakey Leading Edge Airfoil Design M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2015. (Initial career placement: Raytheon Missile Systems, Tucson, AZ)
12. Kamat, Sagar. Wing Speed Theory Validation Through Higher-Order Computation. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2015. (Initial career placement: Product Engineer-Vehicle Engineering at Ford Motor Company, Dearborn, MI)
13. Smith, Danis B., Reverse Thrust Certification as a Primary Ground Deceleration Device. M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2015. (Current Position: Engineer at Honeywell Aerospace, Phoenix, AZ)
14. Mirochnitchenko, Vladimir, Wing-in-ground-effect Vehicle Concept Design, M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2015. (Initial career placement: Raytheon Missile Systems, Tucson, AZ)

Students Advised (cont'd)

M.S. Applied Project Advisor (cont'd)

15. Dulin, Derek J., Fundamental Aerodynamics of Swept Wings, M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2015. (Initial career placement: Raytheon Missile Systems, Tucson, AZ)
16. Lemonds, Tyler, Automated Wing Structural Design, M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, December 2014. (Initial career placement: Textron Aerospace, Wichita, KS)
17. Gedeon, Christopher, Energy Maneuverability of Combat Aircraft, M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2014. (Initial career placement: Honeywell Aerospace, South Bend, IN)
18. Kady, Christopher, Aero-Structural Design of Transonic Wings, M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2014. (Initial career placement: Honeywell Aerospace, Phoenix, AZ)
19. DeStories, Jason, "A Method for Optimizing and Evaluating Propeller Performance Established on Airfoil Test Data," M.S. applied project, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2013. (Current Position: Boeing Helicopters, Mesa, AZ)

B.S. Honors Thesis Advisor

1. Sanchez, Z. "Effects of Diffusers With and Without Vortex Generators on Overall Flow and Velocity Distribution," ASU Barrett Honors College B.S. thesis, Mechanical Engineering, Arizona State University, Tempe, AZ, May 2018. (Initial career placement: Cypress Semiconductors, Austin, TX)
2. McCourt, A. "Aerodynamic Stability of a Small Bluff-Bodies Vehicle," ASU Barrett Honors College B.S. thesis, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2018.
3. Patrick, N. "A Tool for Parametric Modelling of Aircraft Landing Gear," ASU Barrett Honors College B.S. thesis, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2018.
4. Morrow, M. "Leading Edge Geometry Effects on Pressure Drag and Pressure Thrust for Various Wing Geometries" ASU Barrett Honors College B.S. thesis, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2017. (Initial career placement: Ph.D candidate in Aerospace Engineering at Georgia Tech)
5. Leader, R. "Automatic Area-Ruling of Aircraft Geometries" ASU Barrett Honors College B.S. thesis, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2017. (Initial career placement: M.S. candidate at ASU)
6. Sparks, G. Philip "Planing and The Effect of Bicycle Frame Stiffness on Rider Performance" ASU Barrett Honors College B.S. thesis, Mechanical Engineering, Arizona State University, Tempe, AZ, May 2017.
7. Elliott, S. "A Tool for the Parametric Modeling of Aircraft Bodies" ASU Barrett Honors College B.S. thesis, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2017. (Initial career placement: M.S. candidate at ASU)

Students Advised (cont'd)

B.S. Honors Thesis Advisor (cont'd)

8. Brausch, M. "Wake Surveys behind Golf Club Heads" ASU Barrett Honors College B.S. thesis, Mechanical Engineering, Arizona State University, Tempe, AZ, May 2016. (Initial career placement: M.S. candidate at ASU)
9. Milroy, M. "How Surface Roughness Contributes to the Overall Drag of Certain Spherical Objects." ASU Barrett Honors College B.S. thesis, Mechanical Engineering, Arizona State University, Tempe, AZ, May 2016. (Initial career placement: Microsoft, Seattle, WA)
10. Sexton, T., "Optimal Modeling of Knots in Wood: A study into the severity of wood-grain defects on beam stiffness," ASU Barrett Honors College B.S. thesis, Mechanical Engineering, Arizona State University, Tempe, AZ, May 2015. (presently M.S. candidate at ASU)
11. Creighton, A., "Analysis of Regulations on the Landing and Take-Off of Commercial Aircraft," ASU Barrett Honors College B.S. thesis, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2014. (Initial career placement: Raytheon Missile Systems, Tucson, AZ)
12. Duensing, J., "PID Control Techniques for the Autonomous Quadrotor and a Frequency Approach to Analyzing and Identifying Dynamic Models," ASU Barrett Honors College B.S. thesis, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2014. (Initial career placement: M.S. graduate studies in Aerospace Engineering, Arizona State University, Tempe, AZ)

Undergraduate Research Advisor (ASU Dean's Office – Fulton Undergraduate Research Initiative)

1. A Claire Jordan, Thermally Induced Buckling of Aerospace Structures, (Spring 2018)
2. Ivan Milosavljevic, Aircraft Flight Operations (Spring 2017, Fall 2017)
3. Matthew Bajamundi, Electric aircraft propulsion (Fall 2017)
4. Galen Kingsley, Leading Edge Suction Investigation through Wake Surveys (Fall 2017, Spring 2018)
5. Erik Krutchen, Aircraft Flight Operations (Spring 2017)
6. Ivan Kruts, Propeller testing (Fall 2016, Spring 2017)
7. Robert Leader, Parametric CAD of supersonic aircraft (Spring 2016, Fall 2016)
8. Edgar Castillo, Wake Survey Probe (Fall 2015, Spring 2016)
9. Aaron Molina, Wake Survey System (Fall 2015, Spring 2016)
10. Tanguy Toulouse, Propeller Thrust Stand Fixture (Fall 2015, Spring 2016)
11. Steven Elliott, Parametric CAD of subsonic aircraft (Fall 2015, Spring 2016)
12. Michael Benassi, Advanced Materials / Aviation Safety Public Policy (Fall 2014, Spring 2015)
13. Eric Chang, Materials & Fabrication Techniques for Small UAV (Fall 2014, Spring 2015)
14. Garrett Heuer, Field Performance / Aviation Safety Public Policy (Fall 2014, Spring 2015)
15. Eric Horton, Flight Operations / Aviation Safety Public Policy (Summer 2014, Fall 2014)
16. Andrew Creighton, Runway Excursions / Aviation Safety Public Policy (Fall 2013, Spring 2014)
17. Matthew Swann, CAD Integrated Analysis (Spring 2013, Fall 2013)
18. Derek Dulin, CAD Integrated Aerodynamic Analysis (Spring 2013)
19. Zachary Branum, CAD Integrated Aerodynamic Analysis (Spring 2013)

Undergraduate Research Advisor (ASU NASA Space Grant)

1. Sepideh Jafarzadeh (Student) – Rocket Nozzle Testing (Fall 2014, Spring 2015)

Students Advised (cont'd)

Outside Committee Member

1. Schmollgruber, P., ISAE – SUPERAERO, Toulouse, FRANCE (IN PROCESS)
2. Haug, A.J. “Ionic Wind Propulsion,” ASU Barrett Honors College B.S. Honors thesis, Mechanical Engineering, Arizona State University, Tempe, AZ, May 2017.
3. Gibson, G.S., “Rocket Engine Nozzle Ejectors,” ASU Barrett Honors College B.S. Honors thesis, Aerospace Engineering, Arizona State University, Tempe, AZ, May 2014.
4. Gyllenhall, W., M.S. applied project, Mechanical Engineering, Arizona State University, Tempe, AZ, May 2013.
5. Martinjako, J., “Simple Method for Estimating Shaft-Power Gas Turbine Off-Design Point Performance,” B.S. Honors Thesis, Mechanical Engineering, Arizona State University, Tempe, AZ, April 2013.
6. Vallone, M., “Parameter Estimation of Fundamental Technical Aircraft Information Applied to Aircraft Performance,” M.S. thesis, Aerospace Engineering, California Polytechnic State University, San Luis Obispo, CA, September 2010
7. Calabretta, J., “A Three Dimensional Vortex Particle-Panel Code for Modeling Propeller-Airframe Interaction,” M.S. thesis, Aerospace Engineering, California Polytechnic State University, San Luis Obispo, CA, June 2010.
8. Ramos, A., “Development of a Meshless Method to Solve Compressible Potential Flows, M.S. thesis, Aerospace Engineering,” California Polytechnic State University, San Luis Obispo, CA, June 2010.
9. Lane, K.A., “Novel Inverse Airfoil Design Utilizing Parametric Equations,” M.S. thesis, Aerospace Engineering, California Polytechnic State University, San Luis Obispo, CA, June 2010.
10. Baukol, C. R., “Development of an Integrated Gaussian Process Metamodeling Application for Engineering Design,” M.S. thesis, Aerospace Engineering, California Polytechnic State University, San Luis Obispo, CA, June 2009.
11. Morrisey, B. J., “Multidisciplinary Design Optimization of an Extreme Aspect Ratio HALE UAV,” M.S. thesis, Aerospace Engineering, California Polytechnic State University, San Luis Obispo, CA, June 2009.