

Weihua Su, Ph.D.*Associate Professor**Department of Aerospace Engineering and Mechanics**The University of Alabama*

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Email: suw@eng.ua.edu, Website: <http://asdr.eng.ua.edu>**SUMMARY**

Dr. Weihua Su is currently an Associate Professor (with tenure) of the Department of Aerospace Engineering and Mechanics at the University of Alabama. He earned his B.S. (2000) and M.S. (2002) degrees in Aerospace Engineering from Beijing University of Aeronautics and Astronautics (BUAA), China, and his Ph.D. (2008) degree in Aerospace Engineering from the University of Michigan. He continued his post-doctoral research at the University of Michigan after he finished his Ph.D. studies. Dr. Su's general research interests include aeroelasticity, flight dynamics, and control of flexible flight vehicles. Recently, he has focused on the nonlinear aeroelasticity and control synthesis of flexible mission-adaptive aircraft with adaptive multifunctional structures and sensing technologies. He is also engaged in the dynamics and control of urban air mobility vehicles. His work has been recognized by the ASME/Boeing Structures and Materials Award (2011) and NASA Group Achievement Award (2018). Dr. Su was awarded the Air Force Summer Faculty Fellowships in 2014 and 2015, respectively. He was also awarded the NASA Ames Research Center's Summer Faculty Fellowship in 2014. Dr. Su's research has been funded by NASA Aeronautics Research Mission Directorate (ARMD), NASA Ames Research Center, NASA Kennedy Space Center, and aerospace and automotive industries. Dr. Su has published 31 refereed journal articles and authored more than 60 conference publications. Dr. Su is an Associate Fellow of AIAA and an elected member of the AIAA Structural Dynamics Technical Committee. He is also a member of the ASME Aerospace Division Executive Committee and serves on the Structures and Materials Technical Committee.

RESEARCH INTERESTS

- Nonlinear aeroelasticity and control synthesis of highly flexible aircraft
- Active aeroelastic tailoring, vibration control, and shaping control for flexible UAVs
- Mission-adaptive and morphing aircraft shaping optimization
- Multifunctional structures and sensing technologies
- Aeromechanics and control of Urban Air Mobility (UAM) and Advanced Air Mobility (AAM) vehicles
- Attitude monitoring and control of flexible launch vehicles and space structures
- Robust control of aerospace systems

EDUCATION

- | | |
|------|---------------------------------------------------------------------------|
| 2008 | Ph.D., Aerospace Engineering
The University of Michigan, Ann Arbor, MI |
| 2002 | M.S., Aerospace Engineering |

Beijing University of Aeronautics and Astronautics, Beijing, China
 2000 B.S., Aerospace Engineering
 Beijing University of Aeronautics and Astronautics, Beijing, China

PROFESSIONAL EXPERIENCE

08/2018–present Associate Professor, Department of Aerospace Engineering and Mechanics
 The University of Alabama, Tuscaloosa, AL

08/2012–08/2018 Assistant Professor, Department of Aerospace Engineering and Mechanics
 The University of Alabama, Tuscaloosa, AL

05/2015–07/2015 Air Force Summer Faculty Fellow, Aerospace Systems Directorate
 Air Force Research Laboratory, Wright-Patterson AFB, OH

08/2014–09/2014 NASA Summer Faculty
 NASA Ames Research Center, Moffett Field, CA

05/2014–08/2014 Air Force Summer Faculty Fellow, Aerospace Systems Directorate
 Air Force Research Laboratory, Wright-Patterson AFB, OH

09/2008–07/2012 Research Fellow, Department of Aerospace Engineering
 The University of Michigan, Ann Arbor, MI

01/2008–08/2008 Graduate Research Assistant, Department of Aerospace Engineering
 The University of Michigan, Ann Arbor, MI

01/2007–12/2007 Structural Analysis Engineer
 Tenneco Inc., Grass Lake, MI

09/2002–12/2006 Graduate Research Assistant, Department of Aerospace Engineering
 The University of Michigan, Ann Arbor, MI

09/2000–07/2002 Graduate Research Assistant, School of Jet Propulsion
 Beijing University of Aeronautics and Astronautics, Beijing, China

HONORS AND AWARDS

- **Associate Fellow (2024)**
 American Institute of Aeronautics and Astronautics
- **NASA Group Achievement Award (2018)**
 National Aeronautics and Space Administration
- **Outstanding External Research Funding (2017)**
 Department of Aerospace Engineering and Mechanics
 The University of Alabama, Tuscaloosa, AL
- **Air Force Summer Faculty Fellowship (2014, 2015)**
- **NASA Ames Research Center Summer Faculty Fellowship (2014)**
- **ASME/Boeing Structures and Materials Award (2011)**
 Awarded to the outstanding paper presented at the 51st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference (SDM 2010) based on the originality and significance to the field, selected from among over 500 papers.
- **Mr. and Mrs. Milo E. Oliphant Fellowship (2006)**

The University of Michigan, Ann Arbor, MI

- **“Xifei” Scholarship (2001)**
Beijing University of Aeronautics and Astronautics, Beijing, China
- **“Renmin” Scholarship (1998, 1999)**
Beijing University of Aeronautics and Astronautics, Beijing, China
- **Kwang-Hua Scholarship (1998)**
Beijing University of Aeronautics and Astronautics, Beijing, China
The scholarship is sponsored by the Kwang-Hua Education Foundation, Taiwan.

TEACHING ACTIVITIES

University of Alabama:

- **AEM 264–Dynamics:** Service course for the College of Engineering (Fall 2013, Fall 2018, Fall 2020, Fall 2021, Spring 2023)
- **AEM 341–Aerospace Structures:** Core undergraduate subject for juniors (Fall 2015, Fall 2016, Fall 2017)
- **AEM 368–Flight Dynamics and Control - I (Flight Mechanics):** Core undergraduate subject for juniors (Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2018, Spring 2020, Spring 2022), with revised curriculum and syllabus since Spring 2018
- **AEM 491–Special Problems: Performance & Control of Flight Vehicles** (Summer 2015)
- **AEM/ME 562–Intermediate Dynamics:** Core graduate course (Fall 2012, Fall 2014, Fall 2019, Fall 2021)
- **AEM 574/474–Structural Dynamics:** Graduate course and elective course for seniors (Fall 2016, Fall 2018, Fall 2020, Fall 2022)
- **AEM 575/475–Fundamentals of Aeroelasticity:** Newly developed elective course for both seniors and graduate students (Fall 2014, Spring 2017, Spring 2019, Spring 2021, Spring 2023)
- **AEM 614–Airfoil and Wing Theory:** Advanced graduate course (Fall 2019, Spring 2022, Spring 2024)
- **AEM 635–Finite Element Method:** Advanced graduate course (Fall 2015)
- Contributed lectures to other courses:
 - **AEM 591/491–Special Problems: MAV** (Spring 2014)

CAMPUS ACTIVITIES AND SERVICES

University of Alabama:

- University Level
 - Member, Faculty Senator (2021–present)
 - ✧ Member, Academic Affairs Subcommittee (2021–2022, 2023–present)
 - ✧ Member, Financial Affairs Subcommittee (2022–2023)
 - Member, Undergraduate Council (2022–present)
 - ✧ Member, Curriculum Committee (2022–present)
 - Member, Core Curriculum Oversight Committee (2022–present)

- College of Engineering
 - Faculty Marshall of Commencement (2020 Summer)
 - College of Engineering Committee of Graduate and Undergraduate Directors (2023–present)
- Department of Aerospace Engineering and Mechanics
 - Chair, Student Awards Committee (Spring 2013)
 - Member/Chair, Ph.D. Qualification Exam Committee (Area of Dynamics) (2013–present)
 - Member, Perspective Student Recruiting Committee (2014–2018)
 - Chair, Undergraduate Curriculum Committee for Aeronautics (Fall 2016)
 - Member, Strategic Planning Committee (Spring 2017)
 - Chair, Faculty Search Committee (2017–2018)
 - Member, Faculty Search Committee (2018–2019, 2022–2023, 2023–2024)
 - Member, Retention, Tenure, and Promotion (RTP) Committee (2018–present)
 - Member, Aerospace Structures Committee (Spring 2019)
 - Member, Flight Dynamic and Control Committee (Spring 2019)
 - Member, Undergraduate Program Committee (Fall 2019–present)
 - Chair, Undergraduate Program Committee (Spring 2022–present)
 - Service Course Coordinator for AEM 264 Dynamics (Fall 2019–present)
 - Faculty Adviser, Univ. of Alabama’s AIAA Student Branch (2018–present)

Member of Ph.D. Committees:

- Zheng Zhang (Ph.D., 2014), Aerospace Engineering and Mechanics, UA. Chair: J. P. Hubner.
- Saeid Hayati (Ph.D., 2017), Civil Engineering, UA. Chair: W. Song.
- Tania Hazra (Ph.D., 2018), Mathematics, UA. Chair: S. Zhao.
- Omar Hussien (Ph.D., 2018), Aerospace Engineering and Mechanics, UA. Chair: S. B. Mulani.
- Christian Hoover (Ph.D., 2018), Aerospace Engineering and Mechanics, UA. Chair: J. Shen.
- Lan Ding (Ph.D., 2020), Aerospace Engineering and Mechanics, UA. Chair: J. Shen.
- Christopher Simpson (Ph.D., 2021), Aerospace Engineering and Mechanics, UA. Chair: R. D. Branam.
- Anahita Zargarani (Ph.D., 2021), Mechanical Engineering, UA. Chair: S. N. Mahmoodi.
- Kyle Nelson (Ph.D., 2022), Aerospace Engineering and Mechanics, UA. Chair: J. Shen.
- Ryan Thomas (Ph.D., 2022), Aerospace Engineering and Mechanics, UA. Chair: J. Larson.
- Chenxuan Yang (Ph.D., 2023), Civil Engineering, UA. Chair: J. Liu.
- Jennifer Baggett (Ph.D. Candidate, 2021), Aerospace Engineering and Mechanics, UA. Chair: J. Shen.
- Rob Campbell (Ph.D. Student), Aerospace Engineering and Mechanics, UA. Chair: J. Larson.
- Vaughn Weirens (Ph.D. Student), Aerospace Engineering and Mechanics, UA. Chair: J. Larson.
- Samantha Burton (Ph.D. Student), Mechanical Engineering, Utah State Univ., Chair: T. He.
- Brennan Blumenthal (Ph.D. Student), Aerospace Engineering and Mechanics, UA. Chair: R. Sood.
- Aurpon Tahsin (Ph.D. Student), Aerospace Engineering and Mechanics, UA. Chair: A. Haque.
- Sajid Ahmed (Ph.D. Student), Aerospace Engineering and Mechanics, UA. Chair: R. Branam.

Member of M.S. Committee(s):

- Preston Powell (M.S., 2016), Aerospace Engineering and Mechanics, UA. Chair: J. Shen.

PROFESSIONAL ACTIVITIES, SERVICES, AND BOARD MEMBERSHIPS

Membership of Professional Societies:

Associate Fellow, American Institute of Aeronautics and Astronautics (AIAA)
 Member, American Society of Mechanical Engineers (ASME)
 Member, Vertical Flight Society, formerly American Helicopter Society (AHS)
 Member, SPIE, the International Society for Optics and Photonics
 Full Member, Sigma Xi, The Scientific Research Society
 Member, American Society for Engineering Education (ASEE)
 Member, European Mechanics Society (EUROMECH)

Membership of Executive and Technical Committees:

- Member, AIAA Structural Dynamics Technical Committee (2014–present)
 - Member/Chair, Liaison Subcommittee
 - Member, Conference Subcommittee
 - Member, Awards Subcommittee
- Member, ASME Aerospace Division Structures and Materials Technical Committee (2014–2024)
 - Secretary (2016–2018)
 - Vice-Chair (2018–2020)
 - Chair (2020–2022)
- Member, ASME Aerospace Division Structural Dynamics Technical Committee (2024–present)
 - Chair (2024–present)
- Member, ASME Aerospace Division Executive Committee (2022–present)

Conference Organization:

- International Forum on Aeroelasticity and Structural Dynamics
 - Session Chair (2009)
- ASME International Mechanical Engineering Congress & Exposition (IMECE)
 - Session Organizer/Chair (2013–2018, 2023)
 - Topic Organizer/Chair of “Aeromechanics and Aeroelasticity” (2014, 2015)
 - Topic Co-organizer/Co-chair of “Dynamics and Control of Aerospace Structures” (2016)
 - Track Co-organizer/Co-chair of “Advances in Aerospace Technology” (2017)
 - Track Organizer/Chair of “Advances in Aerospace Technology” (2018, 2019)
 - Technical Representative of ASME Aerospace Division Structures and Materials Technical Committee (2015, 2016)
 - Judge for International Undergraduate Research and Design Poster Competition (2017)
- ASME Aerospace Structures, Structural Dynamics, and Materials Conference (ASME SSDM)
 - Track Organizer/Chair of “Structural Dynamics” (2023, 2024)
- AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference (at AIAA Science and Technology Forum and Exposition)
 - Session Chair (2015–2024)
 - Deputy Chair, Technical Discipline of Structural Dynamics (2018)
 - Chair, Technical Discipline of Structural Dynamics (2019)
- ASC 33rd Annual Technical Conference
 - Session Chair (2018)

Journal Reviewing:

- Manuscript reviewers for Aerospace Science and Technology, AIAA Journal, Aircraft Engineering and Aerospace Technology, Chinese Journal of Aeronautics, Engineering Structures, IET Control Theory & Applications, International Journal of Non-Linear Mechanics, Journal of Aircraft, Journal of Fluids and Structures, Journal of Nonlinear Dynamics, Journal of Renewable and Sustainable Energy, Journal of the American Helicopter Society, Nonlinear Dynamics, Probabilistic Engineering Mechanics, Progress in Aerospace Sciences, Sensors, Proc. of the Inst. of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, Proc. of the Inst. of Mechanical Engineers, Part G: Journal of Aerospace Engineering

Reviewer of Conference Papers and Abstracts:

ASME International Mechanical Engineering Congress & Exposition (2013–2019)
AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference (2014–2024)
ASME Aerospace Structures, Structural Dynamics, and Materials Conference (2022, 2023)

Reviewer of Research Proposals:

NASA EPSCoR Program in State of Missouri (2014)
Israeli Ministry of Science, Technology and Space (2015)

Reviewer for Book Publishers:

John Wiley & Sons, Inc. (2012)
Springer (2012)
Elsevier (2019)
Cambridge University Press (2022)

CONSULTING ACTIVITIES

- CFD Research Corporation, Huntsville, Alabama (01/2015–04/2015)
- CFD Research Corporation, Huntsville, Alabama (09/2020–12/2020)

RESEARCH GRANTS

Summary: A total of 1.33 M\$ (as PI) has been attracted to University of Alabama. Sponsors include NASA Aeronautics Research Mission Directorate (ARMD), NASA Ames Research Center, NASA Kennedy Space Center, and industries, such as a.i. solutions, Inc., CFD Research Corporation, and DENSO International America, Inc.

INVENTIONS, PATENTS, AND MAJOR NEW PRODUCTS

1. Wolf, M.G., Griffin, E.D., Gutierrez, H., Suhey, J.D., Su, W., and Stanley, J.E., “Flexible Body Control Using Fiber Optic Sensors (FlexFOS),” NASA Report 1426097577, NASA Technology Transfer System.

2. “Nonlinear Aeroelastic Simulation Toolbox,” Software developed for coupled nonlinear aeroelastic, flight dynamic, and control analysis of highly flexible aircraft. Dr. Su is one of the major inventors. The software has been purchased by Aurora Flight Sciences, etc.
3. “Sensor System for Indirect Sensing of Deformation of Flexible Structures,” U.S. Patent No. 10,488,183, Granted on Nov. 26, 2019.

STUDENT SUPERVISION

Ph.D. Students:

1. Natsuki Tsushima (08/2017), Ph.D. Aerospace Engineering and Mechanics, Univ. of Alabama. Currently employed by University of Tokyo.
2. Yanxin Huang (05/2021), Ph.D. Aerospace Engineering and Mechanics, Univ. of Alabama.
3. Jessica Nunes (08/2019–present), Advanced to Ph.D. Candidacy 2022, Aerospace Engineering and Mechanics, Univ. of Alabama.
4. Md. (Akthar) Aktharuzzaman (01/2020–present), Advanced to Ph.D. Candidacy 2023, Aerospace Engineering and Mechanics, Univ. of Alabama.
5. James Senter (01/2020–present), Advanced to Ph.D. Candidacy 2022, Aerospace Engineering and Mechanics, Univ. of Alabama.
6. Shoaib Anwar (08/2021–present), Aerospace Engineering and Mechanics, Univ. of Alabama.
7. Augustine (Gus) Loshelder (08/2021–present), Aerospace Engineering and Mechanics, Univ. of Alabama.
8. Shehan Corera (01/2022–present), Aerospace Engineering and Mechanics, Univ. of Alabama.
9. Matthew Magsamen (08/2022–present), Aerospace Engineering and Mechanics, Univ. of Alabama.
10. John Day (08/2022–present), Aerospace Engineering and Mechanics, Univ. of Alabama.
11. Shuhail Ragib (08/2023–present), Aerospace Engineering and Mechanics, Univ. of Alabama.
12. Devin Burns (01/2024–present), Aerospace Engineering and Mechanics, Univ. of Alabama.

M.S. Students (Thesis):

1. Nathan Butler (12/2015), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
2. Jared Hammerton (05/2018), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
3. Peter Chiego (08/2019), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
4. Adam Benabbou (08/2020), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.

M.S. Students (Non-Thesis):

1. Natsuki Tsushima (08/2015), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
2. Cecilia King (08/2016), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
3. Wade McDowell (05/2017), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
4. Houston Spencer (08/2018), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
5. Lauren Howell (05/2021), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
6. Natalie Brace (08/2021), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
7. Danny Nguyen (11/2021), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.

8. Eric Becker (05/2023), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
9. Emily Kusulas (05/2023), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.
10. Michael Cornett (01/2024–present), M.S. Aerospace Engineering and Mechanics, Univ. of Alabama.

Undergraduate Students:

1. Robert Ramsey (01/2013–04/2013), Emerging Scholars Program, Univ. of Alabama.
2. Robert See (05/2013–12/2014), B.S. Aerospace Engineering, Univ. of Alabama.
3. Cecilia King (08/2013–05/2015), B.S. Aerospace Engineering, Univ. of Alabama.
4. Jackson Morris (09/2014–05/2016), B.S. Aerospace Engineering, Univ. of Alabama.
5. Jared Hammerton (09/2014–05/2016), B.S. Aerospace Engineering, Univ. of Alabama.
6. Houston Spencer (10/2015–05/2016), B.S. Aerospace Engineering, Univ. of Alabama.
7. Emerson Curtis (01/2016–05/2016), B.S. Aerospace Engineering, Univ. of Alabama.
8. Morgan Cleary (01/2016–12/2016), B.S. Aerospace Engineering, Univ. of Alabama.
9. Anne Bless (01/2016–12/2016), B.S. Aerospace Engineering, Univ. of Alabama.
10. Peter Chiego (08/2016–12/2016), B.S. Aerospace Engineering, Univ. of Alabama.
11. Vincent Hill (09/2017–05/2018), B.S. Mechanical Engineering, Univ. of Alabama.

OTHER RESEARCHERS SUPPORTED

Visiting Scholar(s):

1. Xiaochen Hang (09/2016–03/2018), Ph.D. student of Southeast University, China.

INVITED SEMINARS

1. Mar., 2013 — “Reduced-Order Modeling of Nonlinear Aeroelasticity for Very Flexible UAVs,” University of Alabama Aerospace Engineering Industrial Advisory Board Meeting (2013 Spring), Huntsville, AL.
2. Apr., 2013 — “Reduced-Order Modeling for Nonlinear Aeroelasticity of Very Flexible UAVs with High-Aspect-Ratio Wings,” National Wind Technology Center, National Renewable Energy Laboratory, Louisville, CO.
3. Jul., 2013 — “A Strain-Based Approach for Geometrically Nonlinear Aeroelasticity,” School of Aeronautic Science and Engineering, Beijing University of Aeronautics and Astronautics, Beijing, China.
4. Jul., 2013 — “A Strain-Based Approach for Geometrically Nonlinear Aeroelasticity,” Beijing Aeronautical Science & Technology Research Institute, Commercial Aircraft of China, Ltd., Beijing, China.
5. Oct., 2013 — “Active Aero-Servo-Elastic Research for Future Unmanned Aerial Vehicles,” AIAA Student Chapter Seminar, The University of Alabama, Tuscaloosa, AL.

6. Aug., 2014 — “Application of Artificial Hair Sensors in Flight Dynamics of Highly Flexible Unmanned Aerial Vehicles,” Air Force Research Laboratory, Aerospace Systems Directorate, Wright-Patterson AFB, OH.
7. Aug., 2014 — “Coupled Nonlinear Aeroelasticity and Flight Dynamics of Highly Flexible Aircraft,” Applied Modeling & Simulation Seminar Series, NASA Ames Research Center, Moffett Field, CA.
8. May, 2015 — “Applications of Artificial Hair Sensors in Flight Dynamics and Control of UAVs,” Air Force Research Laboratory, Munitions Directorate, Eglin AFB, FL.
9. Jul., 2015 — “Applications of Artificial Hair Sensors in Flight and Control of UAVs,” Air Force Research Laboratory, Aerospace Systems Directorate, Wright-Patterson AFB, OH.
10. Feb., 2016 — “Low-Order Computational Modeling for Nonlinear Aeroelasticity of Highly Flexible Aircraft,” Applied Math Seminar, Department of Mathematics, The University of Alabama, Tuscaloosa, AL.
11. Nov., 2017 — “Nonlinear Aeroelasticity of Highly Flexible Aircraft – From Traditional UAVs to Novel Mission-Adaptive Aircraft,” Department of Mechanical Engineering, Michigan State University, East Lansing, MI.
12. Apr., 2018 — “Interdisciplinary Aeronautics Solutions: from UAVs to Future Mission-Adaptive Air Vehicles,” Department of Mechanical and Aerospace Engineering, Rutgers, The State University of New Jersey, Piscataway, NJ.
13. Nov., 2018 — “Interdisciplinary Aeronautics Studies: from UAVs to Future Mission-Adaptive Air Vehicles,” Department of Aerospace Engineering, The University of Michigan, Ann Arbor, MI.

PUBLICATIONS

Names of Dr. Su’s advisees are underlined. Names in boldface type denote corresponding authors.

Refereed Journal Articles:

1. Su, W., and Cesnik, C. E. S., “Nonlinear Aeroelasticity of a Very Flexible Blended-Wing-Body Aircraft,” *Journal of Aircraft*, Vol. 47, No. 5, 2010, pp. 1539–1553. (doi: 10.2514/1.47317)
2. Su, W., and Cesnik, C. E. S., “Dynamic Response of Highly Flexible Flying Wings,” *AIAA Journal*, Vol. 49, No. 2, 2011, pp. 324–339. (doi: 10.2514/1.J050496)
3. **Su, W.**, and Cesnik, C. E. S., “Strain-Based Geometrically Nonlinear Beam Formulation for Modeling Very Flexible Aircraft,” *International Journal of Solids and Structures*, Vol. 48, No. 16–17, 2011, pp. 2349–2360. (doi: 10.1016/j.ijsolstr.2011.04.012)
4. Cesnik, C. E. S., Senatore, P. J., Su, W., Atkins, E. M., and Shearer, C. M., “X-HALE: A Very Flexible Unmanned Aerial Vehicle for Nonlinear Aeroelastic Tests,” *AIAA Journal*, Vol. 50, No. 12, 2012, pp. 2820–2833. (doi: 10.2514/1.J051392)
5. **Su, W.**, and Cesnik, C. E. S., “Strain-Based Analysis for Geometrically Nonlinear Beams: A Modal

- Approach,” *Journal of Aircraft*, Vol. 51, No. 3, 2014, pp. 890–903. (doi: 10.2514/1.C032477)
6. Phillips, D. M., Ray, C. W., Hagen, B. J., Su, W., Baur, J. W., and Reich, G. W., “Detection of Flow Separation and Stagnation Points Using Artificial Hair Sensors,” *Smart Materials and Structures*, Vol. 24, No. 11, 2015, Art. 115026 (10 pp). (doi: 10.1088/0964-1726/24/11/115026)
 7. Tsushima, N., and **Su, W.**, “Modeling of Highly Flexible Multifunctional Wings for Energy Harvesting,” *Journal of Aircraft*, Vol. 53, No. 4, 2016, pp. 1033–1044. (doi: 10.2514/1.C033496)
 8. **Su, W.**, Swei, S. S.-M., and Zhu, G., “Optimum Wing Shape of Highly Flexible Morphing Aircraft for Improved Flight Performance,” *Journal of Aircraft*, Vol. 53, No. 5, 2016, pp. 1305–1316. (doi: 10.2514/1.C033490)
 9. Tsushima, N., and **Su, W.**, “Concurrent Active Piezoelectric Control and Energy Harvesting of Highly Flexible Multifunctional Wings,” *Journal of Aircraft*, Vol. 54, No. 2, 2017, pp. 724–736. (doi: 10.2514/1.C033846)
 10. **Su, W.**, King, C. K., Clark, S. R., Griffin, E. D., Suhey, J. D., and Wolf, M. G., “Dynamic Beam Solutions for Real-Time Simulation and Control Development of Flexible Rockets,” *Journal of Spacecraft and Rockets*, Vol. 54, No. 2, 2017, pp. 403–416. (doi: 10.2514/1.A33543)
 11. **Su, W.**, and Reich, G. W., “Geometric Scaling of Artificial Hair Sensors for Flow Measurement under Different Conditions,” *Smart Materials and Structures*, Vol. 26, No. 3, 2017, Art. 037002 (9 pp). (doi: 10.1088/1361-665X/aa5a35)
 12. **Su, W.**, “Development of an Aeroelastic Formulation for Deformable Airfoils Using Orthogonal Polynomials,” *AIAA Journal*, Vol. 55, No. 8, 2017, pp. 2793–2807. (doi: 10.2514/1.J055665)
 13. Tsushima, N., and **Su, W.**, “Flutter Suppression for Highly Flexible Wings Using Passive and Active Piezoelectric Effects,” *Aerospace Science and Technology*, Vol. 65, 2017, pp. 78–89. (doi: 10.1016/j.ast.2017.02.013)
 14. Al-Jiboory, A. K., Zhu, G., Swei, S. S.-M., Su, W., and Nguyen, N. T., “LPV Modeling of a Flexible Wing Aircraft Using Adaptive Model Gridding and Alignment Methods,” *Aerospace Science and Technology*, Vol. 66, 2017, pp. 92–102. (doi: 10.1016/j.ast.2017.03.009)
 15. Tsushima, N., **Su, W.**, Gutierrez, H., Wolf, M. G., Griffin, E. D., Whittaker, J. T., and Dumoulin, M. P., “Monitoring Multi-Axial Vibrations of Flexible Rockets Using Sensor-Instrumented Reference Strain Structures,” *Aerospace Science and Technology*, Vol. 71, 2017, pp. 285–298. (doi: 10.1016/j.ast.2017.09.026)
 16. Hammerton, J. R., **Su, W.**, Zhu, G., and Swei, S. S.-M., “Optimum Distributed Wing Shaping and Control Loads for Highly Flexible Aircraft,” *Aerospace Science and Technology*, Vol. 79, 2018, pp. 255–265. (doi: 10.1016/j.ast.2018.05.045)
 17. Tsushima, N., and **Su, W.**, “A Study on Adaptive Vibration Control and Energy Conversion of Highly Flexible Multifunctional Wings,” *Aerospace Science and Technology*, Vol. 79, 2018, pp. 297–309. (doi: 10.1016/j.ast.2018.05.056)
 18. He, T., Al-Jiboory, A. K., Zhu, G., Swei, S. S.-M., and Su, W., “Application of ICC LPV Control to a Blended-Wing-Body Airplane with Guaranteed \mathcal{H}_∞ Performance,” *Aerospace Science and*

- Technology*, Vol. 81, 2018, pp. 88–98. (doi: 10.1016/j.ast.2018.07.046)
19. He, T., Zhu, G., Swei, S. S.-M., and Su, W., “Smooth-Switching LPV Control for Vibration Suppression of a Flexible Airplane Wing,” *Aerospace Science and Technology*, Vol. 84, 2019, pp. 895–903. (doi: 10.1016/j.ast.2018.11.029)
 20. Tsushima, N., Yokozeki, T., Su, W., and Arizono, H., “Geometrically Nonlinear Static Aeroelastic Analysis of Composite Morphing Wing with Corrugated Structures,” *Aerospace Science and Technology*, Vol. 88, 2019, pp. 244–257. (doi: 10.1016/j.ast.2019.03.025)
 21. Hang, X., Fei, Q., and **Su, W.**, “On Tracking Aeroelastic Modes in Stability Analysis Using Left and Right Eigenvectors,” *AIAA Journal*, Vol. 57, No. 10, 2019, pp. 4447–4457. (doi: 10.2514/1.J057297)
 22. **Su, W.**, and Song, W., “A Real-Time Hybrid Aeroelastic Simulation Platform for Flexible Wings,” *Aerospace Science and Technology*, Vol. 95, 2019, Art. 105513 (12 pp). (doi: 10.1016/j.ast.2019.105513)
 23. Hang, X., Su, W., Fei, Q., and Jiang, D., “Analytical Sensitivity Analysis of Flexible Aircraft with the Unsteady Vortex-Lattice Aerodynamic Theory,” *Aerospace Science and Technology*, Vol. 99, 2020, Art. 105612. (doi: 10.1016/j.ast.2019.105612)
 24. **Su, W.**, Qu, S., Zhu, G., Swei, S. S.-M., Hashimoto, M., and Zeng, T., “Modeling and Control of a Class of Urban Air Mobility Tiltrotor Aircraft,” *Aerospace Science and Technology*, Vol. 124, 2022, Art. 107561 (17 pp). (doi: 10.1016/j.ast.2022.107561)
 25. Qu, S., Zhu, G., Su, W., Swei, S. S.-M., Hashimoto, M., and Zeng, T., “Adaptive Model Predictive Control of a Six-Rotor Electric Vertical Take-off and Landing Urban Air Mobility Aircraft Subject to Motor Failure during Hovering,” *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, Vol. 236, No. 7, 2022, pp. 1396–1407. (doi: 10.1177/09544100211032434)
 26. Qu, S., Zhu, G., Su, W., and Swei, S. S.-M., “Linear Parameter-Varying-Based Transition Flight Control Design for a Tilt-Rotor Aircraft,” *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, Vol. 236, No. 16, 2022, pp. 3354–3369. (doi: 10.1177/09544100221083713)
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