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Education

10/2010	PhD	University of Cambridge Engineering, Aerodynamics Thesis: Unsteady low Reynolds number aerodynamics of a waving wing
06/2006	S.M.	Massachusetts Institute of Technology Aeronautics and Astronautics Thesis: Multidisciplinary optimization of aircraft design and takeoff operations for low noise
05/2004	B.S.	Rensselaer Polytechnic Institute Aeronautical Engineering and Mechanical Engineering *magna cum laude*

Appointments

University of California, Los Angeles (UCLA), Los Angeles, CA
07/2024–present Professor
Department of Mechanical and Aerospace Engineering

University of Maryland (UMD), College Park, MD
06/2021–06/2024 Professor
07/2017–06/2021 Associate Professor
10/2010–06/2017 Assistant Professor
Department of Aerospace Engineering
University of Maryland (UMD), College Park, MD
Member, Alfred Gessow Rotorcraft Center
Member, UMD Energy Research Center
Member, Maryland Robotics Center

Tohoku University (TU), Sendai, Miyagi, Japan
04/2021–09/2023 Visiting Professor
Department of Aerospace Engineering

Employment

06/2015–08/2015 Consultant
U.S. Air Force Research Laboratory / Universal Technology Corp, Wright-Patterson AFB, Dayton, OH

04/2009–07/2009 Consultant
FloWind / Renewables East,
Norwich, United Kingdom

07/2006–09/2006 Intern
U.S. Army Research Laboratory, Langley Research Center (LaRC), Hampton, VA

06/2004–08/2004 Intern
Benét Laboratories, U.S. Army, Watervliet, NY

06/2003–08/2003 Intern

	Knolls Atomic Power Laboratory, Inc., Schenectady, NY
01/2002–08/2002	Intern, Advanced Space Programs **The Boeing Company**, Huntington Beach, CA

Professional Memberships

Associate Fellow	American Institute of Aeronautics and Astronautics (AIAA)
Member	American Physical Society, Division of Fluid Dynamics (APS)

Honors and Awards

- Humboldt Research Fellowship for Experienced Researchers, Alexander von Humboldt Foundation, 2018
- Fulbright Scholar Award, J. William Fulbright Foreign Scholarship Board, 2017–2018
- **Presidential Early Career Awards for Scientists and Engineers (PECASE)**, Department of Defense, 2016
- National Science Foundation (NSF) Faculty Early Career Development (CAREER) Award, 2016–2021
- **American Institute of Aeronautics and Astronautics, Associate Fellow**, 2016
- AIAA National Capital Section Hal Andrews Young Engineer/Scientist of the Year, 2015
- Best Paper in Aerodynamics, American Helicopter Society Annual Forum, 2015
- Research and Scholarship Award, University of Maryland Graduate School, 2012
- U.S. Air Force Summer Faculty Fellowship, Air Force Office of Scientific Research and the American Society for Engineering Education (ASEE), 2012, 2013, 2014
- U.S. Air Force Office of Scientific Research (AFOSR) Young Investigator Program (YIP), 2012–2015
- Technical Team Member of NATO RTO AVT-149 on "Micro Air Vehicle Unsteady Aerodynamics," recipient of the **NATO Research and Technology Organization's Scientific Achievement Award**, 2011
- National Science Foundation Graduate Research Fellowship, National Science Foundation (NSF), 2004-2009
- National Defense Science and Engineering Graduate Fellowship, U.S. Department of Defense, 2004-2007

Publications

Italics indicate undergraduate advisee, **bold** indicates graduate advisee, and underline indicates postdoctoral advisee.

Books

1. Smith, M. and Jones, A. R. *Unsteady Aerodynamics: From Classical Theory to Modern Application.* Cambridge University Press, New York, NY. In progress.

Journal Articles

67. **Wild, O. D.**, Murphy, M. J., and Jones, A. R. Aerodynamic Loading on Sharp and Blunt Trailing-Edged Blades at High Advance Ratio. *Advances in Aerodynamics, 7*(4). Online March 2025. doi: doi.org/10.1186/s42774-024-00190-4

66. **Gementzopoulos, A.**, **Wild, O.**, and Jones, A. Measurements of Unsteady Pressure Distributions During Transverse Wing-Gust Encounters. *Experiments in Fluids, 66*(52). Online February 2024. doi:10.1007/s00348-025-03992-4

65. Smith, L., Fukami, K., **Sedky, G.**, Jones, A., and Taira, K. (2024). A Cyclic Perspective on Transient Gust Encounters Through the Lens of Persistent Homology. *Journal of Fluid Mechanics, 980*(A18). Online January 2024. doi:10.1017/jfm.2024.16

64. **Gementzopoulos, A.**, **Sedky, G.**, and Jones, A. R. (2024). Role of Vorticity Distribution in the Rise and Fall of Lift During a Transverse Gust Encounter. *Physical Review Fluids, 9*(1). doi: 10.1103/PhysRevFluids.9.014701

63. Xu, X., **Gementzopoulos, A.**, **Sedky, G.**, Jones, A. R., and Lagor, F. D. (2023). Optimal Wing Maneuvers Design in a Transverse Gust Encounter Using Iterative Input-Output Optimization. *Theoretical and Computational Fluid Dynamics, 37*. doi: doi.org/10.1007/s00162-023-00659-w

62. Towne, A., Dawson, S. T. M., and Brès, G. A., Lozano-Durán, A., Saxton-Fox, T., Parthasarathy, A., Jones, A .R., **Biler, H.**, Yeh, C.-A., Patel, H. D., and Taira, K. (2023). A Database for Reduced-Complexity Modeling of Fluid Flows. *AIAA Journal*. Online May 2023. doi: 10.2514/1.J062203

61. **Sedky, G.**, **Gementzopoulos, A.**, Lagor, F. D., and Jones, A. R. (2023). Experimental Mitigation of Large-Amplitude Transverse Gusts via Closed-Loop Pitch Control. *Physical Review Fluids, 8*(6). Online June 8, 2023. doi: 10.1103/PhysRevFluids.8.064701

60. **Wild, O. D.** and Jones, A. R. (2023). Vortex Identification and Quantification on Blunt Trailing-Edged Rotor Blades in Reverse Flow. *AIAA Journal*. Online April 2, 2023. doi: /10.2514/1.J062576

59. Gardner, T., Jones, A., Mulleners, K., Naughton, J., and Smith, M. (2023). Review of Rotating Wing Dynamic Stall: Experiments and Flow Control. *Progress in Aerospace Sciences*, 137. Online February 2023. doi: 10.1016/j.paerosci.2023.100887

58. Xu, X., **Gementzopoulos, A.**, **Sedky, G.**, Jones, A. R., and Lagor, F. D. (2023). Iterative Maneuver Optimization in a Transverse Gust Encounter. *AIAA Journal, 61*(5). Online February 2023. doi: 10.2514/1.J062404

57. Mohamed, A., Marino, M., Watkins, S., Jaworski, J., and Jones, A. R. (2023). Gusts Encountered by Flying Vehicles in Proximity to Buildings. *Drones, 7*(1), 22. Online December 2022. doi: 10.3390/drones7010022

56. **Sedky, G.**, **Gementzopoulos, A.**, Andreu Angulo, I., Lagor, F. D., and Jones, A. R. (2022). Physics of Gust Response Mitigation in Open-Loop Pitching Maneuvers. *Journal of Fluid Mechanics, 944*(A38). Online July 2022. doi: 10.1017/jfm.2022.509

55. **Sedky, G.**, **Biler, H.**, and Jones, A. R. (2022). Experimental Comparison of a Sinusoidal and Trapezoidal Transverse Gust. *AIAA Journal, 60*(5). Online January 11, 2022. doi: 10.2514/1.J061365

54. Badrya, C., Jones, A. R., and Baeder, J. D. (2022). Unsteady Aerodynamic Response of a Flat-Plate Encountering Large-Amplitude Sharp-Edged Gust. *AIAA Journal, 60*(3). Online September 28, 2021. doi: 10.2514/1.J060683.

53. Jones, A. R., Cetiner, O., and Smith, M. (2022). Physics and Modeling of Large Flow Disturbances: Discrete Gust Encounters for Modern Air Vehicles. *Annual Review of Fluid Mechanics*, 54. pp. 469–493. Online November 1, 2021. doi: 10.1146/annurev-fluid-031621-085520

52. Jones, A. R. and Cetiner, O. (2021). Unsteady Aerodynamics of Gust Encounters: Introduction to the Virtual Collection. *AIAA Journal, 59*(3), pp. 764–764. doi: 10.2514/1.J060379.

51. Jones, A. R. and Cetiner, O. (2021). Overview of Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters. *AIAA Journal, 59*(2). *AIAA Journal, 57*(8), pp. 731–736. Online November 19, 2020. doi: 10.2514/1.J059602.

50. Lidard, J. M., Goswami, D., Snyder, D., **Sedky, G.**, Jones, A. R., and Paley, D. A. (2021). Feedback Control and Parameter Estimation for Lift Maximization of a Pitching Airfoil. *Journal of Guidance, Control, and Dynamics, 44*(3). pp. 587–594. Online January 11, 2021. doi: 10.2514/1.G005441

49. **Biler, H.**, **Sedky, G.**, Jones, A. R., Saritas, M., and Cetiner, O. (2021). Experimental Comparison of Transverse and Vortex Gust Encounters at Low Reynolds Numbers. *AIAA Journal, 59*(3), pp. 786–799. Online December 29, 2020. doi: 10.2514/1.J059658

48. Moriche, M., **Sedky, G.**, Jones, A. R., Flores, O., and García-Villalba, M. (2021). Characterization of Aerodynamic Forces on Wings in Plunge Maneuvers. *AIAA Journal, 59*(2), pp. 751-762. Online December 1, 2020. doi: 10.2514/1.J059689

47. Badrya, C., **Biler, H.**, Jones, A. R., and Baeder, J. (2021). The Effect of Gust Width on Flat-Plate Response in Large Transverse Gust at Low Reynolds Number. *AIAA Journal, 59*(1), pp 49–64. Online December 1, 2020. doi: 10.2514/1.J059678

46. Jones, A. R. (2020, November). Gust Encounters of Rigid Wings: Taming the Parameter Space (Invited). *Physical Review Fluids, 5* (11). Online November 24, 2020. doi: 10.1103/PhysRevFluids.5.110513

45. Andreu Angulo, I., Babinsky, H., **Biler, H.**, **Sedky, G.** and Jones, A. R. The Effect of Transverse Gust Velocity Profiles. (2020). *AIAA Journal*. Online October 31, 2020. doi: 10.2514/1.J059665

44. **Smith, L.** and Jones, A. R. (2020). Vortex Formation on a Pitching Aerofoil at High Surging Amplitudes. *Journal of Fluid Mechanics, 905*(A22). Online October 27, 2020. doi: 10.1017/jfm.2020.741

43. Mohamed, A., Watkins, S., Ol, M., and Jones, A. R. (2020). Flight-Relevant Gusts: Computation-Derived Guidelines for MAV Ground Test Unsteady Aerodynamics. *Journal of Aircraft*. Online October 8, 2020. doi: 10.2514/1.C035920

42. **Sedky, G.**, Lagor, F. D., and Jones, A. R. (2020). Unsteady Aerodynamics of Lift Regulation during a Transverse Gust Encounter. *Physical Review Fluids, 5*(7). Online July 1, 2020. doi: 10.1103/PhysRevFluids.5.074701

41. **Sedky, G.**, Jones, A. R., and Lagor, F. D. (2020). Lift Regulation During Transverse Gust Encounters Using a Modified Goman Khrabrov Model. *AIAA Journal, 58*(9), pp. 3788–3798. Online April 30, 2020. doi: 10.2514/1.J059127

40. **Smith, L.**, Jung, Y.-S., Baeder, J., and Jones, A. R. (2019). The Role of Rotary Motion on Vortices in Reverse Flow. *Journal of Fluid Mechanics, 880*, pp. 723–742. Online October 15, 2019. doi: 10.1017/jfm.2019.728

39. **Biler, H.**, Badrya, C., and Jones, A. R. (2019). Experimental and Computational Investigation of Transverse Gust Encounters. *AIAA Journal, 57*(11), pp. 4608–4622. Online July 25, 2019. doi: 10.2514/1.J057646

38. Badrya, C., Baeder, J., and Jones, A. R. (2019). Application of the Field Velocity Method to a Large-Amplitude Flat Plate Gust Encounter. *AIAA Journal, 57*(8), pp. 3261–3273. Online June 24, 2019. doi: 10.2514/1.J057978

37. Gomez, D. F., Lagor, F. D., **Kirk, P. B.**, Lind, A., Jones, A. R., and Paley, D. A. (2019). Data-Driven Estimation of the Unsteady Flowfield Near an Actuated Airfoil. *Journal of Guidance, Control, and Dynamics, 42*(10), pp. 2279–2287. Online June 24, 2019. doi: 10.2514/1.G004339.

36. **Lefebvre, J. N.** and Jones, A. R. (2019). Experimental Investigation of Airfoil Performance in the Wake of a Circular Cylinder. *AIAA Journal, 57*(7), pp. 2808–2818. Online June 2, 2019. doi: 10.2514/1.J057468.

35. **Smith, L.**, Lind, A., and Jones, A. R. (2019). Measurements on a Yawed Rotor Blade Pitching in Reverse Flow. *Physical Review Fluids, 4*(3). doi: 10.1103/PhysRevFluids.4.034703

34. **Manar, F.** and Jones, A. R. (2019). Evaluation of Potential Flow Models for Unsteady Separated Flow with Respect to Experimental Data. *Physical Review Fluids, 4*(3). doi: 10.1103/PhysRevFluids.4.034702

33. **Mancini, P.**, Medina, A., and Jones, A. R. (2019). Experimental and Analytical Investigation into Lift Prediction on Large Trailing Edge Flaps. *Physics of Fluids, 31*(1). doi: 10.1063/1.5063265

32. Eldredge, J. and Jones, A. R. (2019). Leading Edge Vortices: Mechanics and Modeling. *Annual Review of Fluid Mechanics, 51*, pp. 75–104. doi: 10.1146/annurev-fluid-010518-040334

31. Lind, A., Trollinger, L., **Manar, F.**, Chopra, I. and Jones, A. R. (2018). Flowfield Measurements of Reverse Flow on a High Advance Ratio Rotor. *Experiments in Fluids, 59*(185). doi: 10.1007/s00348-018-2638-5

30. **Kirk, P. B.** and Jones, A. R. (2018). Vortex Formation on Surging Aerofoils with Application to Reverse Flow Modelling. *Journal of Fluid Mechanics, 859*, pp. 59–88. doi: 10.1017/jfm.2018.800

29. **Perrotta, G.** and Jones, A. R. (2018). Quasi-Steady Approximation of Forces on a Flat Plate Due to Large-Amplitude Plunging Maneuvers. *AIAA Journal, 56*(11), pp. 4232–4242. doi: 10.2514/1.J057194

28. Stevens, P. R. R. J., Babinsky, H., **Manar, F.**, **Mancini, P.**, Jones, A. R., Nakata, T., Phillips, N., Bomphrey, R. J., Gozukara, A. C., Granlund, K. O., and Ol, M. V. (2017). Experiments and Computations on the Lift of Accelerating Flat Plates at Incidence. *AIAA Journal, 55*(10), pp. 3255–3265. doi: 10.2514/1.J055323

27. **Manar, F.** and Jones, A. R. (2017). Transient Response of a Single Degree-of-Freedom Wing at High Angle of Attack. *AIAA Journal, 55*(11), pp. 3681–3692. doi: 10.2514/1.J055708

26. **Perrotta, G.** and Jones, A. R. (2017). Unsteady Forcing on a Flat Plate Wing in Large Transverse Gusts. *Experiments in Fluids, 58*(101). doi: 10.1007/s00348-017-2385-z

25. Medina, A., Ol, M., **Mancini, P.**, and Jones, A. R. (2017). Revisiting Conventional Flaps at High Deflection-Rate. *AIAA Journal, 55*(8), pp. 2676–2685. doi: 10.2514/1.J055754

24. Mulleners, K., **Mancini, P.**, and Jones, A. R. (2017). Flow Development on a Flat-Plate Wing Subjected to a Streamwise Acceleration. *AIAA Journal, 55*(6), pp. 2118–2122. doi: 10.2514/1.J055497

23. Medina, A. and Jones, A. R. (2016). Leading-Edge Vortex Burst on a Low Aspect Ratio Rotating Flat Plate. *Physical Review Fluids, 1*(4). doi: 10.1103/PhysRevFluids.1.044501

22. **Lind, A.**, *Smith, L.*, Milluzzo, J., and Jones, A. R. (2016). Reynolds Number Effects on Rotor Blade Sections in Reverse Flow. *Journal of Aircraft, 53*(5), pp. 1248–1260. doi: 10.2514/1.C033556

21. **Lind, A.** and Jones, A. R. (2016). Unsteady Aerodynamics of Reverse Flow Dynamic Stall on an Oscillating Blade Section. *Physics of Fluids, 28*(7). doi: 10.1063/1.4958334

20. Hodara, J., **Lind, A.**, Jones, A. R., and Smith, M. (2016). Collaborative Investigation of the Aerodynamic Behavior of Airfoils in Reverse Flow. *Journal of the American Helicopter Society, 61*(3), pp. 1–15. doi: 10.4050/JAHS.61.032001

19. **Lind, A.** and Jones, A. R. (2016). Unsteady Airloads on Static Airfoils through High Angles of Attack and in Reverse Flow. *Journal of Fluids and Structures, 61*(5), pp. 259–279. doi: 10.1016/j.jfluidstructs.2016.03.005

18. Jones, A. R., Medina, A., *Spooner, S.*, and Mulleners, K. (2016). Characterizing a Burst Leading-Edge Vortex on a Rotating Flat Plate Wing. *Experiments in Fluids, 57*(4), pp. 1–16. doi: 10.1007/s00348-016-2143-7

17. Granlund, K., Ol., M., and Jones, A. R. (2016). Streamwise Oscillation of Airfoils into Reverse Flow. *AIAA Journal, 54*(5), pp. 1628–1636. doi: 10.2514/1.J054674

16. **Mancini, P.**, **Manar, F.**, Granlund, K., Ol, M., and Jones, A. R. (2015). Unsteady Aerodynamic Characteristics of a Translating Rigid Wing at Low Reynolds Number. *Physics of Fluids, 27*(2). doi: 10.1063/1.4936396

15. **Manar, F.**, **Mancini, P.**, **Mayo, D. B.**, and Jones, A. R. (2015). Comparison of Rotating and Translating Wings: Force Production and Vortex Characteristics. *AIAA Journal, 54*(2), pp. 519–530. doi: 10.2514/1.J054422

14. **Perrotta, G.**, **Glucksman-Glaser, M.**, and Jones, A. R. (2015). Similarity Parameters for the Characterization of Sediment Mobilization by Unsteady Rotor Wakes. *Journal of Aircraft, 52*(6), pp. 2090–2095. doi: 10.2514/1.C033245

13. **Lind, A. H.** and Jones, A. R. (2015). Vortex Shedding from Airfoils in Reverse Flow. *AIAA Journal, 53*(9), pp. 2621–2633. doi: 10.2514/1.J053764

12. **Mancini, P.**, Jones, A. R., Granlund, K., and Ol, M. (2015). Unsteady Aerodynamic Response of a Rapidly Started Flexible Wing. *International Journal of Micro Air Vehicles, 7*(2), pp. 147–57. doi: 10.1260/1756-8293.7.2.147

11. **Beals, N.**, and Jones, A. R. (2015). Lift Production on a Passively Flexible Rotating Wing. *AIAA Journal, 53*(10), pp. 2995–3005. doi: 10.2514/1.J053863

10. **Lind, A. H.**, Jarugumilli, T., Benedict, M., Lakshminarayan, V. K., Jones, A. R., and Chopra, I. (2014). Flow Field Studies on a Micro Air Vehicle-Scale Cycloidal Rotor in Forward Flight. *Experiments in Fluids, 55*(12). doi: 10.1007/s00348-014-1826-1

9. **Lind, A. H.**, *Lefebvre, J.*, and Jones, A. R. (2014). Time-Averaged Aerodynamics of Sharp and Blunt Trailing Edge Static Airfoils in Reverse Flow. *AIAA Journal, 52*(12), pp. 2751–2761. doi: 10.2514/1J052967

8. **Manar, F.**, Medina, A., and Jones, A. R. (2014). Tip Vortex Structure and Aerodynamic Loading on Rotating Wings in Confined Spaces. *Experiments in Fluids, 55*(9), pp. 1–18. doi: 10.1007/s00348-014-1815-4

7. **Schlueter, K.**, Jones, A. R., Granlund, K., and Ol, M. (2014). Effect of Root Cutout on Force Coefficients of Rotating Wings. *AIAA Journal, 52*(6), pp. 1322–1325. doi: 10.2514/1.J052821

6. **Kolluru Venkata, S.** and Jones, A. R. (2013). Leading Edge Vortex Structure over Multiple Revolutions of a Rotating Wing. *AIAA Journal, 50*(4), pp. 1312–1316. doi: 10.2514/1.C032128.

5. Jones, A. R. and Babinsky, H. (2011). Reynolds Number Effects on Leading Edge Vortex Development on a Waving Wing. *Experiments in Fluids, 51*(1), pp. 197–210. doi: 10.1007/s00348-010-1037-3

4. Jones, A. R., Pitt Ford, C. W., and Babinsky, H. (2011). Three-Dimensional Effects on Sliding and Waving Wings. *Journal of Aircraft, 48*(2), pp. 633–644. doi: 10.2514/1.C031184

3. Jones, A. R. and Babinsky, H. (2010). Unsteady Lift Generation on Rotating Wings at Low Reynolds Numbers. *Journal of Aircraft, 47*(3), pp. 1013–1021. doi: 10.2514/1.46649

2. Hileman, J. I., Spakovszky, Z. S., Drela, M., Sargeant, M. A., and Jones, A. (2010). Airframe Design for Silent Fuel-Efficient Aircraft. *Journal of Aircraft, 47*(3), pp. 956–969. doi: 10.2514/1.46545

1. Jones, A. R., Bakhtian, N. M., and Babinsky, H. (2008). Low Reynolds Number Aerodynamics of Leading-Edge Flaps. *Journal of Aircraft, 45*(1), pp. 342–345. doi: 10.2514/1.33001

Articles under review

1. Mousavi, H., Jones, A. R., and Eldredge, J. Sequential Estimation of Disturbed Aerodynamic Flows from Sparse Measurements via a Reduced Latent Space. Under review.

Conference Papers

73. Croke, Alexander D., **Wild, O.**, Jones, Anya R., and Green, Richard B. (2024, May). Experimental Investigation of Rotor Blade Structural Response In Hovering and Advance Flight at Low Reynolds Number Conditions. Paper 2024-1228 in the Vertical Flight Society's 80th Annual Forum, Montreal, Quebec, Canada.

72. **Wild, O.** and Gementzopoulos, A. and Jones, A. R. (2024, January). Navigating Unsteady Airwakes: Three-Dimensionality and Sideslip in Strong Transverse Gust Encounters. Paper 2024-1120 in the AIAA SciTech 2024 Forum, Orlando, FL, USA.

71. Lee, Y. T., **Gementzopoulos, A.**, Chitrala, N., Suresh Babu, A. V., Jones, A. R., and Gopalarathnam, A. (2023, June). Combined Theoretical and Experimental Investigation of Airfoil Encountering Transverse Gust. Paper 2023-4012 in the AIAA Aviation Forum, San Diego, CA, USA.

70. **Krupnik, A.** and Jones, A. R. (2023, January). Time-Resolved Particle Image Velocimetry Measurements of Vortex Breakdown. Paper 2023-2483 in the 61st AIAA Aerospace Sciences Meeting 2023, National Harbor, MD, USA.

69. **Wild, O.** and Jones, A. R. (2023, January). Comparison of Instantaneous Aerodynamic Loads on Sharp and Blunt Trailing-Edged Blades of High Advance Ratio Rotors. Paper 2023-2466 in the 61st AIAA Aerospace Sciences Meeting 2023, National Harbor, MD, USA.

68. **Sedky, G.**, Gementzopoulos, A., Lagor, F., and Jones, A. R. (2022, January). Experiments in Transverse Gust Mitigation using Open-Loop Pitch Maneuvers. Paper 2022-0333 in the 60th AIAA Aerospace Sciences Meeting 2022, San Diego, CA, USA.

67. **Gementzopoulos, A.**, Sedky, G., and Jones, A. R. (2022, January). Lift and Vortex Development during Transverse Wing-Gust Encounters for a Blunt-Edge Airfoil. Paper 2022-0045 in the 60th AIAA Aerospace Sciences Meeting 2022, San Diego, CA, USA.

66. **Biler, H.**, Sedky, G., and Jones, A. R. (2022, January). Transverse Gust Velocity Gradients at Low Reynolds Number Flows. Paper 2022-1701 in the 60th AIAA Aerospace Sciences Meeting 2022, San Diego, CA, USA.

65. **Wild, O.** and Jones, A. R. (2022, January). Reverse Flow Aerodynamics of Low Reynolds Number Rotors with Blunt Trailing-Edged Blades at High Advance Ratios. Paper 2022-1537 in the 60th AIAA Aerospace Sciences Meeting 2022, San Diego, CA, USA.

64. Smith, M. J., Jones, A. R., Ayancik, F., Mulleners, K., and Naughton, J. (2020, June). An Assessment of the State of the Art from the 2019 ARO Dynamic Stall Workshop. Paper 2020-2697 in the AIAA Aviation Forum.

63. Monteiro, A., Vail, K., Jones, A. R., Persson, P.-O., and Willis, D. J. (2020, June). A Computational Study of the Impact of Fluid Structure Interaction on the Development and Persistence of 2D LEVs in Low Reynolds Number Flow Applications. Paper 2020-2689 in the AIAA Aviation Forum.

62. Lidard, J., Goswami, D., Snyder, D., **Sedky, G.**, Jones, A. R., and Paley, D. (2020, January). Output Feedback Control for Lift Maximization of a Pitching Airfoil. Paper 2020-1836 in the 58th AIAA Aerospace Sciences Meeting 2020, Orlando, FL, USA.

61. Andreu Angulo, I., Babinsky, H., **Biler, H.**, **Sedky, G.** and Jones, A. R. (2020, January). Wing-Gust Interactions: The Effect of Transverse Velocity Profile (Invited). Invited Paper 2020-0079 in the 58th AIAA Aerospace Sciences Meeting 2020, Orlando, FL, USA.

60. Jones, A. R. and Cetiner, O. (2020, January). Overview of NATO AVT-282: Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters (Invited). Invited Paper 2020-0078 in the 58th AIAA Aerospace Sciences Meeting 2020, Orlando, FL, USA.

59. Moriche, M., Flores, O., **Sedky, G.**, Jones, A. R., and García-Villalba, M. (2020, January). Comparison Between Experiments and Simulations of Fast Plunge Maneuvers (Invited). Invited Paper 2020-0559 in the 58th AIAA Aerospace Sciences Meeting 2020, Orlando, FL, USA.

58. Shumway, N. and Jones, A. R. (2020, January). The Initial Growth of Normalized Circulation of the Leading-Edge Vortex on Surging and Rotating Wings. Paper 2020-0800 in the 58th AIAA Aerospace Sciences Meeting 2020, Orlando, FL, USA.

57. **Biler, H.** and Jones, A. R. (2020, January). Force Prediction During Transverse and Vortex Gust Encounters (Invited). Invited Paper 2020-0081 in the 58th AIAA Aerospace Sciences Meeting 2020, Orlando, FL, USA.

56. **Smith, L.** and Jones, A. R. (2020, January). Unsteady Vortex Formation on Airfoils with High Surging and Pitching Amplitudes. Paper 2020-1556 in the 58th AIAA Aerospace Sciences Meeting 2020, Orlando, FL, USA.

55. **Lefebvre, J.** and Jones, A. R. (2020, January). Influence of Wake Interference and Freestream Turbulence on Airfoil Performance in the Cylinder-Airfoil Configuration. Paper 2020-1054 in the 58th AIAA Aerospace Sciences Meeting 2020, Orlando, FL, USA.

54. **Sedky, G.**, Lagor, F., and Jones, A. R. (2020, January). The Unsteady Aerodynamics of a Transverse Wing-Gust Encounter with Closed-Loop Pitch Control. Paper 2020-1056 in the 58th AIAA Aerospace Sciences Meeting 2020, Orlando, FL, USA.

53. **Lefebvre, J. N.** and Jones, A. R. (2019, June). A Description of Turbulence for the Cylinder-Airfoil Interaction. Paper 2019-3540 the 2019 AIAA Aviation and Aeronautics Forum and Exposition, Dallas, TX, USA.

52. Pohl, J., Semaan, R., and Jones, A. R. (2019, January). Dynamic Lift Measurements on an Airfoil with Periodic Flap Motion at High Reynolds Number. Paper 2019-1396 in the 57th AIAA Aerospace Sciences Meeting 2019, San Diego, CA, USA.

51. Jarman, L. M., Smith, M. J., **Lefebvre, J. N.**, and Jones, A. R. (2019, January). Dynamics of an Airfoil Moving Through the Wake of a Circular Cylinder. Paper 2019-0075 in the 57th AIAA Aerospace Sciences Meeting 2019, San Diego, CA, USA.

50. Gomez, D. F., Lagor, F. D., **Kirk, P. B.**, Lind, A., Jones, A. R., and Paley, D. A. (2019, January). Unsteady DMD-Based Flow Field Estimation from Embedded Pressure Sensors in Actuated Airfoils. Paper 2019-0346 in the 57th AIAA Aerospace Sciences Meeting 2019, San Diego, CA, USA.

49. **Biler, H.**, Jones, A. R., Saritas, M., Fenercioglu, I., Cetiner, O., and Bronz, M. (2019, January). Investigation of Force Transients during Transverse and Vortex Gust Encounters. Paper 2019-0636 in the 57th AIAA Aerospace Sciences Meeting 2019, San Diego, CA, USA.

48. **Smith, L.** and Jones, A. R. (2019, January). Vorticity Transport in the Reverse Flow Region of a Rotor at High Advance Ratio. Paper 2019-0345 in the 57th AIAA Aerospace Sciences Meeting 2019, San Diego, CA, USA.

47. **Sedky, G.**, Jones, A. R., and Lagor, F. (2019, January). Lift Modeling and Regulation for a Finite Wing during Transverse Gust Encounters. Paper 2019-1146 in the 57th AIAA Aerospace Sciences Meeting 2019, San Diego, CA, USA.

46. Jones, A. R. and **Kirk, P.** (2018, July). Rectilinear Surge as a Canonical Model of Reverse Flow Dynamic Stall. Paper 134 the 25th International Conference on Experimental Fluid Mechanics, Munich, Germany.

45. **Lefebvre, J.**, Jones, A. R., Jarman, L., and Smith, M. (2018, June). Experimental and Numerical Investigation of Airfoil Performance in Cylinder Wake. AIAA Paper 2018-3232 in the 2018 AIAA Aviation and Aeronautics Forum and Exposition, Atlanta, GA, USA.

44. **Smith, L.**, Bauknecht, A., Wang, X., Lind, A. and Jones, A. (2018, May). Three-Component Reverse Flow Measurements on a Mach-Scale Rotor at High Advance Ratios. Paper 2018-1238 in the 73rd American Helicopter Society Annual Forum & Technology Display, Phoenix, AZ, USA.

43. Willis, D. J., Anwar, M. I., Gowda, R., **Manar, F.**, and Jones, A. R. (2018, January). An Unsteady Doublet Lattice Method for Studying LEV Development on Low-Re Wings with Leading Edge Compliance with Experimental Comparison. AIAA Paper 2018-0312 presented at the 56th AIAA Aerospace Sciences Meeting 2018, Kissimmee, FL, USA.

42. **Smith, Z.**, Jones, A. R., and Hrynuk, J. (2018, January). Novel Design for a Wind Tunnel Vertical Gust Generator. AIAA Paper 2018-0573 presented at the 56th AIAA

Aerospace Sciences Meeting 2018, Kissimmee, FL, USA.

41. **Biler, H.**, Badrya, C., and Jones, A. R. (2018, January). Experimental and Computational Investigation of Transverse Gust Encounters. AIAA Paper 2018-0571 presented at the 56th AIAA Aerospace Sciences Meeting 2018, Kissimmee, FL, USA.

40. Lind, A., Trollinger, L., **Manar, F.**, Chopra, I. and Jones, A. R. (2017, September). Flowfield Measurements of Reverse Flow on a High Advance Ratio Rotor. Paper 699 in the 43rd European Rotorcraft Forum, Milan, Italy.

39. **Smith, L.**, Lind, A., and Jones, A. R. (2017, September). Measurements on a Yawed Model Rotor Blade Pitching in Reverse Flow. Paper 715 in the 43rd European Rotorcraft Forum, Milan, Italy.

38. Gowda, R. B. V., Anwar, M. I., Hart, M., Peters, A., **Manar, F.**, Jones, A. R., Tite, K., and Willis, D. J. (2017, June). A Cyber-Physical Fluid Dynamics Investigation of the Impact of Fluid Structure Interaction on Low-Reynolds Number Wings and Leading Edge Vortex Evolution. AIAA Paper 2017-4360 presented at the AIAA Aviation Forum 2017, Denver, CO, USA.

37. **Manar, F.** and Jones, A. R. (2017, January). Vorticity Production at the Leading Edge of Flat Plates at High Incidence. AIAA Paper 2017-0545 presented at the 55th AIAA Aerospace Sciences Meeting 2017, Grapevine, TX, USA.

36. Mulleners, K., **Mancini, P.**, and Jones, A. R. (2016, June). Experimental Investigation of a Large Aspect Ratio Flat Plate Encountering a Steam-Wise Gust. AIAA Paper 2016-4258 presented at the 46th AIAA Fluid Dynamics Conference, Aviation Forum 2016, Washington, DC, USA.

35. **Manar, F.**, *Cassell, M.*, and Jones, A. R. (2016, June). The Response of a Single Degree-of-Freedom Wing at Low Reynolds Number. AIAA Paper 2016-3633 presented at the 46th AIAA Fluid Dynamics Conference, Aviation Forum 2016, Washington, DC, USA.

34. Ol, M., Medina, A., **Mancini, P.**, and Jones, A. R. (2016, June). Revisiting Conventional Flaps at High Deflection-Rate. AIAA Paper 2016-3945 presented at the 46th AIAA Fluid Dynamics Conference, Aviation Forum 2016, Washington, DC, USA.

33. **Smith, L.**, Lind, A., Jacobson, K., Smith, M. and Jones, A. (2016, May). Experimental and Computational Investigation of a Linearly Pitching NACA 0012 in Reverse Flow. Paper 2016-304 in the 71st American Helicopter Society Annual Forum & Technology Display, West Palm Beach, FL, USA.

32. Stevens, R., Babinsky, H., **Manar, F.**, **Mancini, P.**, Jones, A. R., Granlund, K., and Ol, M., Bomphrey, R. J., and Gozukara, A. (2016, January). Low Reynolds Number Acceleration of Flat Plate Wings at High Incidence (Invited). AIAA Paper 2016-0286 presented at the 54th AIAA Aerospace Sciences Meeting, San Diego, CA, USA.

31. Son, O., Cetiner, O., Stevens, R., Babinsky, H., **Manar, F.**, **Mancini, P.**, Jones, A. R., Ol, M., and Gozukara, A. (2016, January). Parametric Variations in Aspect Ratio, Leading Edge and Planform Shapes for the Rectilinear Pitch Cases of AVT-202

(Invited). AIAA Paper 2016-0289 presented at the 54th AIAA Aerospace Sciences Meeting, San Diego, CA, USA.

30. Babinsky, H., Stevens, R., Jones, A. R., Bernal, L., and Ol, M. (2016, January). Low Order Modelling of Lift Forces for Unsteady Pitching and Surging Wings (Invited). AIAA Paper 2016-0290 presented at the 54th AIAA Aerospace Sciences Meeting, San Diego, CA, USA.

29. Jones, A., **Manar, F.**, Phillips, N., Nakata, T., Bomphrey, R., Ringuette, M., Percin, M., van Oudheusden, B., and Palmer, J. (2016, January). Leading Edge Vortex Evolution and Lift Production on Rotating Wings (Invited). AIAA Paper 2016-0288 presented at the 54th AIAA Aerospace Sciences Meeting, San Diego, CA, USA.

28. **Perrotta, G.** and Jones, A. R. (2016, January). Transient Aerodynamics of Large Transverse Gusts and Geometrically Similar Maneuvers. AIAA Paper 2016-2074 presented at the 54th AIAA Aerospace Sciences Meeting, San Diego, CA, USA.

27. Mulleners, K., Ol, M. and Jones, A. R. (2016, January). Experimental Analysis of the Flow Development on an Airfoil Harmonically Surging into Reverse Flow. AIAA Paper 2016-1312 presented at the 54th AIAA Aerospace Sciences Meeting, San Diego, CA, USA.

26. Medina, A., Mulleners, K., and Jones, A. R. (2015, September). Detecting Vortex Burst on a Rotating Low-Aspect Ratio Plate. Presented at the 11th International Symposium on Particle Image Velocimetry, Santa Barbara, CA, USA.

25. Medina, A. and Jones, A. R. (2015, June). Stereoscopic PIV Analysis on Rotary Plates in Bursting. AIAA Paper 2015-3297 presented at the 33rd AIAA Applied Aerodynamics Conference, Aviation Forum 2015, Dallas, TX, USA.

24. Jones, A. R., Hodara, J., Smith, M., Granlund, K., Mulleners, K., and Ol. M. (2015, May). Blade Sections in Streamwise Oscillations into Reverse Flow. Paper 2015-183 presented at the 71st American Helicopter Society Annual Forum & Technology Display, Virginia Beach, VA, USA.

23. Hodara, J., **Lind, A.**, Jones, A. R., and Smith, M. (2015, May). Collaborative Investigation of the Aerodynamic Behavior of Airfoils in Reverse Flow. Paper 2015-267 presented at the 71st American Helicopter Society Annual Forum & Technology Display, Virginia Beach, VA, USA. Awarded Best Paper in the Aerodynamics Sessions.

22. Granlund, K., Ol, M. and Jones, A. R. (2015, January). Stream-Wise Oscillation of Airfoils into Reverse-Flow. AIAA Paper 2015-1065 presented at the 53rd AIAA Aerospace Sciences Meeting, Kissimmee, FL, USA.

21. **Mancini, P.**, **Manar, F.**, Ol, M. and Jones, A. R. (2015, January). A Semi-Empirical Approach to Modeling Lift Production. AIAA Paper 2015-0073 presented at the 53rd AIAA Aerospace Sciences Meeting, Kissimmee, FL, USA.

20. **Manar, F.**, **Mancini, P.**, and Jones, A. R. (2015, January). Vortex Characterization and Force Production on Two- and Three-Dimensional Wing Kinematics. AIAA Paper 2015-1452 presented at the 53rd AIAA Aerospace Sciences Meeting, Kissimmee, FL, USA.

19. **Lind, A.**, *Smith, L.*, Milluzzo, J., and Jones, A. R. (2015, January). Reynolds Number Effects on Airfoils in Reverse Flow. AIAA Paper 2015-3036 presented at the 53rd AIAA Aerospace Sciences Meeting, Kissimmee, FL, USA.

18. **Klimchenko, V.** and Jones, A. R. (2015, January). An Experimental Study of the Effects of Winglets and Serrations on the Wake of a Wind Turbine. AIAA Paper 2015-1493 presented at the 53rd AIAA Aerospace Sciences Meeting, Kissimmee, FL, USA.

17. **Beals, N.** and Jones, A. R. (2014, June). The Effect of Passive Deformation on the Lift Produced by a Rotating Hinged Wing. AIAA Paper 2014-3128 presented at the 32nd AIAA Applied Aerodynamics Conference, Atlanta, GA, USA.

16. **Manar, F.** and Jones, A. R. (2014, January). The Effect of Tip Clearance on Low Reynolds Number Rotating Wings. AIAA Paper 2014-1452 presented at the 52nd AIAA Aerospace Sciences Meeting, National Harbor, MD, USA.

15. **Mancini, P.**, Jones, A. R., Granlund, K., and Ol, M. (2014, January). Parameter Studies on Translating Rigid and Flexible Wings. AIAA Paper 2014-0073 presented at the 52nd AIAA Aerospace Sciences Meeting, National Harbor, MD, USA.

14. **Lind, A. H.**, *Lefebvre, J.*, and Jones, A. R. (2013, June). Experimental Investigation of Reverse Flow over Sharp and Blunt Trailing Edge Airfoils. AIAA Paper 2013-3036 presented at the 31st AIAA Applied Aerodynamics Conference, San Diego, CA, USA.

13. Jarugumilli, T., **Lind, A. H.**, Benedict, M., Lakshminarayan, V. K., Jones, A. R., and Chopra, I. (2013, May). Experimental and Computational Flow Field Studies of a MAV-scale Cycloidal Rotor in Forward Flight. Paper presented at the American Helicopter Society 69th Annual Forum Proceedings, Phoenix, AZ, USA.

12. **Mayo, D. B.** and Jones, A. R. (2013, January). Evolution and Breakdown of a Leading Edge Vortex on a Rotating Wing. AIAA Paper 2013-0843 presented at the 51st AIAA Aerospace Sciences Meeting and Exhibit, Grapevine, TX, USA.

11. **Schlueter, K. L.**, Jones, A. R., Granlund, K., and Ol, M. (2013, January). Force Coefficients of Low Reynolds Number Rotating Wings. AIAA Paper 2013-0832 presented at the 51st AIAA Aerospace Sciences Meeting and Exhibit, Grapevine, TX, USA.

10. **Glucksman-Glaser, M. S.** and Jones, A. R. (2012, June). Effects of Model Scaling on Sediment Transport in Brownout. AIAA Paper 2012-2915 presented at the 30th AIAA Applied Aerodynamics Conference, New Orleans, LA, USA.

9. **Schlueter, K. L.** and Jones, A. R. (2012, June). The Effects of Wall Boundaries on the Flow Field of a Rotating Wing. AIAA Paper 2012-2776 presented at the 30th AIAA Applied Aerodynamics Conference, New Orleans, LA, USA.

8. **Kolluru Venkata, S.** and Jones, A. R. (2012, January). Effects of Acceleration and Pitch Variations on a Rotating Wing. AIAA Paper 2012-0050 presented at the 50th AIAA Aerospace Sciences Meeting and Exhibit, Nashville, TN, USA.

7. Jones, A. R. and Babinsky, H. (2011, January). Leading Edge Vortex Development on a Waving Wing at Reynolds Numbers Between 10,000 and 60,000. AIAA Paper 2011-

0393 presented at the 49th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, FL, USA.

6. Pitt Ford, C. W., Jones, A. R., and Babinsky, H. (2010, July). Low Reynolds Number Study of Wings for Micro-Air Vehicles. Paper presented at the Royal Aeronautical Society Aerodynamics Conference, University of Bristol, United Kingdom.
5. Jones, A. R. and Babinsky, H. (2010, January). Three-Dimensional Effects on a Waving Wing. AIAA Paper 2010-0551 presented at the 48th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, FL, USA.
4. Babinsky, H. and Jones, A. R. (2009, June). Unsteady Lift Generation on Sliding and Rotating Flat Plate Wings. Invited AIAA Paper 2009-3689 presented at the 39th AIAA Fluid Dynamics Conference, San Antonio, TX, USA.
3. Jones, A. R. and Babinsky, H. (2009, January). Three-Dimensional Waving Wings at Low Reynolds Numbers. AIAA Paper 2009-0790 presented at the 47th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, FL, USA.
2. Jones, A. R. and Babinsky, H. (2008, January). Leading Edge Flaps at Low Reynolds Numbers. AIAA Paper 2008-0424 presented at the 46th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, USA.
1. Jones, A. R., Willcox, K. E., and Hileman, J. I. (2007, April). Distributed Multidisciplinary Optimization of Aircraft Design and Takeoff Operations for Low Noise. AIAA Paper 2007-1856 presented at the 48th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Honolulu, HI, USA.

Abstracts

32. **Gementzopoulos, A.** and Jones, A. R. (2025, June). The Effect of Modeling Leading-Edge Separation on Inviscid Pressure Computations of a Wing-Gust Encounter. Abstract presented at the 4th Direct In-Person Colloquium on Vortex Dominated Flows (DisCoVor), Bozeman, MT.
31. **Gementzopoulos, A.** and Jones, A. R. (2024, May). Unsteady Lift Estimation Using Distributed Pressure Sensing in the Presence of Uncertainty. Abstract presented at the 3rd Direct In-Person Colloquium on Vortex Dominated Flows (DisCoVor), Delft, Netherlands.
30. Towne, A., Dawson, S., Bres, G., Lozano-Duran, A., Saxton-Fox, T., Parthasarathy, A., Jones, A., **Biler, H.**, Yeh, C.-A., Patel, H., and Taira, K. (2023, November). Overview of a Database for Reduced-Complexity Modeling of Fluid Flows. Abstract presented at the 76th Annual Meeting of the APS Division of Fluid Dynamics, Washington, DC, USA.
29. Smith, L., Fukami, K., **Sedky, G.**, and Jones, A. R. and Taira, K. (2023, November). Analyzing the Dynamics of Discrete Gust Encounters with Persistent Homology. Abstract presented at the 76th Annual Meeting of the APS Division of Fluid Dynamics, Washington, DC, USA.

28. **Gementzopoulos, A.**, **Wild, O.**, and Jones, A. R. (2023, November). Unsteady Lift Estimation Using Distributed Pressure Sensing in the Presence of Uncertainty. Abstract presented at the 76th Annual Meeting of the APS Division of Fluid Dynamics, Washington, DC, USA.

27. **Wild, O.**, **Gementzopoulos, A.**, and Jones, A. R. (2023, November). Three-Dimensionality in Swept Wing-Gust Encounters. Abstract presented at the 76th Annual Meeting of the APS Division of Fluid Dynamics, Washington, DC, USA.

26. **Gementzopoulos, A.** and Jones, A. R. (2022, November). Predicting Lift in Unsteady Separated Flows using Classical Aerodynamics. Abstract presented at the 75th Annual Meeting of the APS Division of Fluid Dynamics, Indianapolis, IN, USA.

25. **Krupnik, A.** and Jones, A. R. (2022, November). Time Resolved Particle Image Velocimetry Measurements of Non-Isothermal Vortex Breakdown Onset. Abstract presented at the 75th Annual Meeting of the APS Division of Fluid Dynamics, Indianapolis, IN, USA.

24. **Wild, O.** and Jones, A. R. (2022, November). Aerodynamic Loading of High Advance Ratio Rotors with Blunt Trailing-Edged Blades. Abstract presented at the 75th Annual Meeting of the APS Division of Fluid Dynamics, Indianapolis, IN, USA.

23. **Sedky, G.**, Gementzopoulos, A., Lagor, F., and Jones, A. R. (2022, November). Transverse Gust Mitigation via Closed-Loop Control. Abstract presented at the 75th Annual Meeting of the APS Division of Fluid Dynamics, Indianapolis, IN, USA.

22. **Sedky, G.** and Jones, A. R. (2022, May). Mitigation of Transverse Gusts using Open- and Closed-Loop Pitch Maneuvers. Abstract presented at the 1st Direct In-Person Colloquium on Vortex Dominated Flows (DisCoVor), Villars-Sur-Ollon, Switzerland.

21. Gomez, D. F., Lagor, F. D., **Kirk, P. B.**, Lind, A. H., Jones, A. R., and Paley, D. A. (2019, May). DMD-Based Estimation of the Unsteady Flow Field Around an Actuated Airfoil. Abstract presented at the SIAM Conference on Applications of Dynamical Systems (DS19), Snowbird, UT, USA.

20. **Smith, Z.**, Hrynuk, J., and Jones, A. R. (2017, November). Novel Design for a Wind Tunnel Vertical Gust Generator. Abstract presented at the 70th Annual Meeting of the APS Division of Fluid Dynamics, Denver, CO, USA.

19. **Smith, L.** and Jones, A. R. (2016, November). Experimental Investigation of a Yawed Airfoil in Reverse Flow Dynamic Stall. Abstract presented at the 69th Annual Meeting of the APS Division of Fluid Dynamics, Portland, OR, USA.

18. **Perrotta, G.** and Jones, A. R. (2016, November). Evaluating Low Order Models for Force Prediction in High-Amplitude Gusts. Abstract presented at the 69th Annual Meeting of the APS Division of Fluid Dynamics, Portland, OR, USA.

17. **Mancini, P.**, Ol., M., and Jones, A. R. (2016, November). Identifying Sources of Lift Production on Rapidly Pitching Trailing Edge Flaps. Abstract presented at the 69th Annual Meeting of the APS Division of Fluid Dynamics, Portland, OR, USA.

16. Lind, A. and Jones, A. R. (2016, November). Adaptation of the Leishman-Beddoes Dynamic Stall Model for a NACA 0012 Oscillating in Reverse Flow. Abstract presented

at the 69th Annual Meeting of the APS Division of Fluid Dynamics, Portland, OR, USA.

15. **Manar, F.** and Jones, A. R. (2016, November). Large Angle Unsteady Aerodynamic Theory of a Flat Plate. Abstract presented at the 69th Annual Meeting of the APS Division of Fluid Dynamics, Portland, OR, USA.

14. Medina, A. and Jones, A. R. (2015, November). On Leading-Edge Vortex Attachment in Rotary Systems: Incident Flow Effects. Abstract presented at the 68th Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, USA.

13. **Manar, F.** and Jones, A. R. (2015, November). New Vortex Shedding Criteria for Low Order Models of Unsteady Plate Motion. Abstract presented at the 68th Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, USA.

12. **Mancini, P.**, Mulleners, K., and Jones, A. R. (2015, November). Investigation into the Recovery of a Translating Flat Plate Exposed to a Streamwise Acceleration. Abstract presented at the 68th Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, USA.

11. Mulleners, K., **Mancini, P.**, and Jones, A. R. (2015, November). Experimental Investigation of a Large Aspect Ratio Flat Plate Encountering a Steam-Wise Gust. Abstract presented at the 68th Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, USA.

10. **Klimchenko, V.** and Jones, A. R. (2015, November). Experimental Study of the Effects of Blade Treatments on the Tip Vortex Characteristics. Abstract presented at the 68th Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, USA.

9. **Perrotta, G.** and Jones, A. R. (2015, November). Wing-Fixed PIV and Force Measurements of a Large Transverse Gust Encounter. Abstract presented at the 68th Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, USA.

8. **Lind, A.** and Jones, A. R. (2015, November). Effect of Trailing Edge Shape on the Unsteady Aerodynamics of Reverse Flow Dynamic Stall. Abstract presented at the 68th Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, USA.

7. **Perrotta, G.** and Jones, A. R. (2014, November). Identification of Scaling Parameters for Rotor-Induced Sediment Mobilization. Abstract presented at the 67th Annual Meeting of the APS Division of Fluid Dynamics, San Francisco, CA, USA.

6. **Lind, A.** and Jones, A. R. (2014, November). Unsteady Airloads on Airfoils in Reverse Flow. Abstract presented at the 67th Annual Meeting of the APS Division of Fluid Dynamics, San Francisco, CA, USA.

5. Jones, A. R. and **Mancini, P.**, (2014, November). Lift on Flexible and Rigid Cambered Wings at High Incidence. Abstract presented at the 67th Annual Meeting of the APS Division of Fluid Dynamics, San Francisco, CA, USA.

4. Jones, A. R. (2014, June). Models of Flapping Wing Flight: Transients in Translation and Rotation. Invited abstract presented at the 17th U.S. National Congress on Theoretical & Applied Mechanics, East Lansing, MI, USA.

3. **Mancini, P.**, Jones, A. R., Granlund, K., and Ol, M. (2013, November). Force Coefficients on Surging Rigid and Flexible Wings. Abstract presented at the 66th Annual Meeting of the APS Division of Fluid Dynamics, Pittsburgh, PA, USA.
2. **Lind, A.** and Jones, A. R. (2013, November). Unsteady Aerodynamics of Static Airfoils in Reverse Flow. Abstract presented at the 66th Annual Meeting of the APS Division of Fluid Dynamics, Pittsburgh, PA, USA.
1. Jones, A. R., **Schlueter, K.** (2012, November). Low Reynolds Number Wing Transients in Rotation and Translation. Abstract presented at the 65th Annual Meeting of the APS Division of Fluid Dynamics, San Diego, CA, USA.

Technical Reports

13. Jones, A. R.. and Cetiner, O., eds. (2025). Gust Mitigation Strategies for Rigid Wings. (Tech. Rep. STO-TR-AVT-347). NATO Science and Technology Organization (STO). Online March 25, 2025. Published October 2, 2025. doi: 10.14339/STO-TR-AVT-347
12. Young, A., Mohamed, A., Watkins, S., Taira, K., Williams, D. W., Yuan, W., Lavoie, P., Cetiner, O., and Jones, A. R. (2025). Chapter 9: Summary of Results and Future Work: Extension to Practical Applications. In Gust Mitigation Strategies for Rigid Wings. (Tech. Rep. STO-TR-AVT-347). NATO Science and Technology Organization (STO). Online March 25, 2025. Published October 2, 2025. doi: 10.14339/STO-TR-AVT-347
11. Jaworski, J., Mulleners, K., Andreu-Angulo, I., Vadher, P., Babinsky, H., **Gementzopoulos, A.**, Jones, A. R., Ringuette, M., Bomphrey, R., Maria Viola, I., Semaan, R., and Young, A. M. (2025). Chapter 8: Strategies for Gust Mitigation. In Gust Mitigation Strategies for Rigid Wings. (Tech. Rep. STO-TR-AVT-347). NATO Science and Technology Organization (STO). Online March 25, 2025. Published October 2, 2025. doi: 10.14339/STO-TR-AVT-347
10. Maria Viola, I., Young, A. M., **Gementzopoulos, A.**, Jones, A. R., and Yuan, W. (2025). Chapter 6: Parameterizing the Gust Mitigation Problem. In Gust Mitigation Strategies for Rigid Wings. (Tech. Rep. STO-TR-AVT-347). NATO Science and Technology Organization (STO). Online March 25, 2025. Published October 2, 2025. doi: 10.14339/STO-TR-AVT-347
9. Jaworski, J., Jones, A. R., Williams, D. R., and Cetiner, O. (2025). Chapter 5: Comparing Gust Types. In Gust Mitigation Strategies for Rigid Wings. (Tech. Rep. STO-TR-AVT-347). NATO Science and Technology Organization (STO). Online March 25, 2025. Published October 2, 2025. doi: 10.14339/STO-TR-AVT-347
8. Cetiner, O., Gozukara, A. C., Smith, M., and Jones, A. R. (2025). Chapter 2: Effect of Gust Velocity Profile. In Gust Mitigation Strategies for Rigid Wings. (Tech. Rep. STO-TR-AVT-347). NATO Science and Technology Organization (STO). Online March 25, 2025. Published October 2, 2025. doi: 10.14339/STO-TR-AVT-347
7. Jones, A. R. and Cetiner, O. (2025). Chapter 1: Introduction. In Gust Mitigation Strategies for Rigid Wings. (Tech. Rep. STO-TR-AVT-347). NATO Science and

Technology Organization (STO). Online March 25, 2025. Published October 2, 2025. doi: 10.14339/STO-TR-AVT-347

6. Jones, A. R. and Cetiner, O., eds. (2020). Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters. (Tech. Rep. STO-TR-AVT-282). NATO Science and Technology Organization (STO). Online March 2, 2020. Published October 2, 2020. doi: 10.14339/STO-TR-AVT-282
5. Jones, A. R. and Cetiner, O. (2020). Chapter 15: Results and Contributions. In Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters. (Tech. Rep. STO-TR-AVT-282). NATO Science and Technology Organization (STO). Online March 2, 2020. Published October 2, 2020. doi: 10.14339/STO-TR-AVT-282
4. Moriche, M., **Sedky, G.**, Flores, O., Jones, A. R., and García-Villalba, M. Chapter 13: Comparison Between Experiments and Simulations of Fast Plunge Maneuvers. In Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters. (Tech. Rep. STO-TR-AVT-282). NATO Science and Technology Organization (STO). Online March 2, 2020. Published October 2, 2020. doi: 10.14339/STO-TR-AVT-282
3. **Biler, H.** and Jones, A. R. Chapter 4: Force Prediction During Transverse and Vortex Gust Encounters. In Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters. (Tech. Rep. STO-TR-AVT-282). NATO Science and Technology Organization (STO). Online March 2, 2020. Published October 2, 2020. doi: 10.14339/STO-TR-AVT-282
2. Andreu-Angulo, A., Babinsky, H., **Biler, H.**, **Sedky, G.**, and Jones, A. R. Chapter 2: The Effect of Transverse Velocity Profile. In Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters. (Tech. Rep. STO-TR-AVT-282). NATO Science and Technology Organization (STO). Online March 2, 2020. Published October 2, 2020. doi: 10.14339/STO-TR-AVT-282
1. Jones, A. R. and Cetiner, O. (2020). Chapter 1: Introduction. In Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters. (Tech. Rep. STO-TR-AVT-282). NATO Science and Technology Organization (STO). Online March 2, 2020. Published October 2, 2020. doi: 10.14339/STO-TR-AVT-282

Other

3. Dawson, S. and Jones, A. R. (2022, June). Transient Airfoil Flow Examples in the Database for Testing Reduced-Complexity Modeling Methods in Fluids. Presentation at the 2022 AIAA Aviation Forum, Chicago, IL, USA.
2. Towne, A., Dawson, S., Brès, G. A., Lozano-Durán, A., Saxton-Fox, T., Parthasarthy, A., **Biler, H.**, Jones, A. R., Yeh, C.-A., Patel, H., and Taira, K. (2022, June). A Database for Reduced-Complexity Modeling of Fluid Flows: The Online Collection. `https://deepblue.lib.umich.edu/data/collections/kk91fk98z`
1. Jones, A. R., **Kolluru Venkata, S.**, **Schlueter, K.**, *Beals, N.*, and *Zhang, B.* (2012, March). Unsteady Aerodynamics of Micro Air Vehicle Lift Generation. Invited poster in the Wind Farms' Underperformance & Partnerships Symposium, Building Partnerships to Meet the 2030 Grand Challenge, Texas Tech University, Lubbock, TX, USA.

Talks

Keynotes

2. Jones, A. R. (2019, November). Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters. Invited keynote at the 72nd Annual Meeting of the APS Division of Fluid Dynamics, Seattle, WA, USA.
1. Jones, A. R. (2018, November). Gusts: Can We Predict Unsteady Flows and Mitigate Their Effects? Keynote presentation at the 10th International Micro Air Vehicle Competition and Conference, Melbourne, Victoria, Australia.

Invited Talks

36. Jones, A. R. (2025, October). Weather We Fly: Aerodynamics for the Future. UCLA Samueli Anniversary Celebration. University of California, Los Angeles, CA.
35. Jones, A. R. (2025, July). Wing-Gust Encounters: Flow Measurement and Modeling for Gust Response Mitigation. Department of Astronautical Engineering. Istanbul Technical University, Istanbul, Turkey.
34. Jones, A. R. (2025, July). Wing-Gust Encounters: Understanding Wing Response to a Large Amplitude Transverse Gust. Department of Astronautical Engineering. Istanbul Technical University, Istanbul, Turkey.
33. Jones, A. R. (2025, June). Vortex Formation on High Advance Ratio Rotors and Surging Wings. Department of Astronautical Engineering. Istanbul Technical University, Istanbul, Turkey.
32. Jones, A. R. (2025, June). Dynamic Stall on Rotor Blades in Reverse Flow. Department of Astronautical Engineering. Istanbul Technical University, Istanbul, Turkey.
31. Jones, A. R. (2023, March). Unsteady Aerodynamics in Large-Disturbance Flows: Gust Encounters and Maneuvering Wings. AOE Seminar and CREATE Colloquium at the Department of Aerospace and Ocean Engineering. Virginia Tech, Blacksburg, VA.
30. Jones, A. R. (2023, February). Unsteady Aerodynamics in Large-Disturbance Flows: Gust Encounters and Maneuvering Wings. Fluid Mechanics Webinar, Journal of Fluid Mechanics.
29. Jones, A. R. (2023, January). Unsteady Aerodynamics in Large-Disturbance Flows: Maneuvering Wings and Gust Encounters. Seminar at the Samueli Mechanical and Aerospace Engineering Department. University of California, Los Angeles, CA.
28. Jones, A. R. (2022, March). Unsteady Aerodynamics in Large-Disturbance Flows: Maneuvering Wings and Gust Encounters. Seminar at the Ann and H.J. Smead Department of Aerospace Engineering Sciences. University of Colorado Boulder, Boulder, CO.
27. Jones, A. R. (2022, March). Unsteady Aerodynamics in Large-Disturbance Flows: Maneuvering Wings and Gust Encounters. Seminar at the Department of Mechanical and Aerospace Engineering. Princeton University, Princeton, NJ.

26. Jones, A. R. (2022, March). Flow Separation and Force Production on Wings in Large Disturbance Flows. Experiments in Fluids Seminar Series. Online.

25. Jones, A. R. (2022, February). Unsteady Aerodynamics of Wings in Large-Disturbance Flows. Seminar at the Department of Aerospace Engineering. Texas A&M University, College Station, TX.

24. Jones, A. R. (2022, January). Force Transients in Large-Disturbance Flows: Vortices, Shear Layers, and Gusts. Seminar at the School of Aerospace Engineering. Georgia Institute of Technology, Atlanta, GA.

23. Jones, A. R., **Biler, H.**, Saritas, M., and Cetiner, O. (2020, September; postponed to June 2021 and later withdrawn due to COVID-19). Comparisons of Large-Amplitude Vortex and Transverse Gust Encounters. Invited paper in the Minisymposium on Unsteady Aerodynamic Interactions and Interference at the 13th European Fluid Mechanics Conference (EFMC 2020), Zurich, Switzerland.

22. Jones, A. R., **Sedky, G.**, and **Biler, H.** (2020, August; postponed to August 2021 and later withdrawn due to COVID-19). Vorticity Distribution and Lift Production in Large-Amplitude Gust Encounters. Invited paper in the Minisymposium on Modelling and Controlling Turbulent Shear Flows at the 25th International Congress of Theoretical and Applied Mechanics (ICTAM 2020), Milano, Italy.

21. Jones, A. R. (2019, February). Fundamentals of Vortex Formation on High Advance Ratio Rotors. Seminar at the Department of Mechanical and Aerospace Engineering, Princeton University, Princeton, NJ.

20. Jones, A. R. (2018, November). Vortex Formation on Surging Airfoils and High Advance Ratio Rotors. Seminar at the Department of Mechanical Engineering, University of Melbourne, Victoria, Australia.

19. Jones, A. R. (2018, August). Force Production and Modeling for Large-Amplitude Gust Encounters. Seminar at the Institute of Fluid Mechanics, Technische Universität Braunschweig, Braunschweig, Germany.

18. Jones, A. R. (2018, June). Modeling Reverse Flow Dynamic Stall on High Advance Ratio Rotors. Seminar at the Department of Engineering, University of Cambridge, Cambridge, UK.

17. Jones, A. R. (2018, April). Flow Physics, Modeling, and Control for Force Regularization in Transient and Separated Flows. Seminar at the Graduate Aerospace Laboratories (GALCIT), California Institute of Technology, Pasadena, CA, USA.

16. Jones, A. R. (2018, March). Aerodynamic Forcing and Vortex Evolution in Large-Disturbance Flows. Invited presentation at the 89th Annual Scientific Conference of the International Association of Applied Mathematics and Mechanics (GAMM), Munich, Germany.

15. Jones, A. R. (2018, February). Modeling Reverse Flow Dynamic Stall for High Advance Ratio Rotorcraft. Seminar at the Department of Mechanical Engineering, Technion, Israel Institute of Technology, Haifa, Israel.

14. Jones, A. R. (2018, January). Vortex Evolution and Force Production on Surging Wings. Invited presentation at the 56th AIAA Aerospace Sciences Meeting 2018, Kissimmee, FL, USA.
13. Jones, A. R. (2016, April). Unsteady Loading in Flow Separation and Reversal. Seminar at the Department of Aerospace Engineering, University of Washington, Seattle, WA, USA.
12. Jones, A. R. (2016, March). Flow Separation on Blade Sections in Reverse Flow. Seminar at the Department of Mechanical Engineering, Florida A&M University/Florida State University, Tallahassee, FL, USA.
11. Jones, A. R. (2016, January). Understanding Lift Transients in Separated and Unsteady Flows. Seminar at the Department of Mechanical Engineering and Mechanics, Lehigh University, Bethlehem, PA, USA.
10. Jones, A. R. (2015, November). Unsteady Lift Production in Separated Flows. In the Twelfth Annual Symposium of the Burgers Program for Fluid Dynamics. University of Maryland, College Park, MD, USA.
9. Jones, A. R. and **Lind, A.** (2015, November). Dynamic Stall on Rotor Blades in Reverse Flow. Seminar at the Department of Mechanical, Aerospace, and Nuclear Engineering, Rensselaer Polytechnic Institute, Troy, NY, USA.
8. Jones, A. R. and **Lind, A.** (2015, September). Sharp and Blunt Trailing Edge Airfoils in Reverse Flow. Seminar at the Mechanical and Aerospace Engineering Department, University of California, Los Angeles, CA, USA.
7. Jones, A. R. (2015, August). Modeling Unsteady Lift on Wings at High Incidence. Seminar at the Department of Aeronautics, United States Air Force Academy, Colorado Springs, CO, USA.
6. Jones, A. R. (2014, November). Vortex Lift on Models of Flapping Wings. Seminar at the Department of Aerospace Engineering, University of Michigan, Ann Arbor, MI, USA.
5. Jones, A. R. (2014, May). The Role of Vortex Lift on Flapping Wings. Seminar at the School of Engineering, Brown University, Providence, RI, USA.
4. Jones, A. R. (2014, April). Unsteady Lift Production on Models of Flapping Wings. Seminar at the Faculty of Aerospace Engineering, Delft University of Technology, Delft, The Netherlands.
3. Jones, A. R. (2013, November). Unsteady Fluid Mechanics for Renewable Energy. Seminar at the Northwest National Marine Renewable Energy Center (NNMREC), University of Washington, Seattle, WA, USA.
2. Jones, A. R. (2013, April). Fluid Dynamics of Force Production on Low Reynolds Number Rotating Wings. Seminar at the Center for Environmental and Applied Fluid Mechanics (CEAFM), Johns Hopkins University, Baltimore, MD, USA.
1. Jones, A. R. (2012, April). Flapping Wing Aerodynamics. Seminar in the Burger's Program in Fluid Dynamics, Fluid Dynamics Reviews Seminar Series, University of Maryland, College Park, MD, USA.

Other

7. **Mancini, P. M.**, Jones, A. R., Granlund, K., and Ol, M. (2014, March). Surging, Rigid, and Flexible Wings. Presented at the 39th Dayton-Cincinnati Aerospace Sciences Symposium, Dayton, OH, USA.
6. Jones, A. R., Gardner, A., and Mulleners, K. (2019, September.) Invited panelist and experimental team lead in the Army Research Office/Georgia Tech Dynamic Stall Workshop, Georgia Institute of Technology, Atlanta, GA, USA.
5. Jones, A. R. (2014, June). Invited panelist in Session APA-13 Low Reynolds Number Aerodynamics Discussion Panel, AIAA Aviation and Aeronautics Forum and Exposition, Atlanta, GA, USA.
4. Jones, A. R. (2022, September). Towards New Methods of Lift Regularization in Discrete Gusts. Presentation in the US-Japan Workshop on Data-Driven Fluid Dynamics, Kobe, Japan.
3. Jones, A. R., Gardner, A., and Mulleners, K. (2019, September). State-of-the-Art in Dynamic Stall Experiments. Presentation in the Army Research Office/Georgia Tech Dynamic Stall Workshop, Georgia Institute of Technology, Atlanta, GA, USA.
2. Jones, A. R. (2018, March). Flow Separation and Wake Dynamics in Unsteady Environments. Invited presentation at the US-Japan Workshop on Bridging Fluid Mechanics and Data Science, Tokyo, Japan.
1. Jones, A. R. (2012, August). Rotating Wings. Presentation in the Workshop on Flapping Wings, Wright State University, Dayton, OH, USA.

Teaching, Mentoring, and Advising

Courses Taught

- MECH&AE 150A Intermediate Fluid Mechanics (UCLA); Winter 2025, Fall 2025
  Fundamental concepts of fluid mechanics including the basic governing equations of fluid motion, basic solutions of the Navier-Stokes equations, potential flow theory, boundary layers, turbulent flows, and compressible flows.
- MECH&AE 259A Advanced Topics in Fluid Mechanics: Unsteady Aerodynamics (UCLA); Fall 2024
  Advanced fundamentals and theories of unsteady fluid dynamics with a focus on unsteady flows around wings and lifting bodies. Application of complex potential, Euler's and Bernoulli's unsteady equations, and low order theories, models, and techniques such as Theodorsen and Küssner.
- ENAE 414 Incompressible Aerodynamics (UMD); Fall 2023, Spring 2024
  Aerodynamics of inviscid incompressible flows and development of the theory of airfoils and wings.
- Advanced Aero Systems II, Unsteady Aerodynamics: Theory and Practice;
  (Department of Aerospace Engineering, Tohoku University); September 2021.
  Intensive lecture course on classical unsteady aerodynamics theory and an introduction

to the current state of the art in separated flows, gust encounters, dynamic stall, and helicopter aerodynamics.

- ENAE 414 Aerodynamics II (UMD); Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2019, Spring 2020, Spring 2021 (online), Spring 2022
  Aerodynamics of inviscid incompressible flows and development of the theory of airfoils and wings.
- ENAE 675 Unsteady Aerodynamics (UMD); Fall 2020 (online), Fall 2021 (online), Fall 2022
  Advanced fundamentals and theories of unsteady fluid dynamics. The focus is on flows with significant unsteadiness, typically leading to large-scale flow separation and vortex-dominated flows, including application of complex potential, Euler's and Bernoulli's unsteady equations, and low order theories, models, and techniques such as Theodorsen, Küssner, Sears, and vortex-particle models.
- ENAE 673 Aerodynamics of Incompressible Fluids (UMD); Fall 2016
  Advanced introduction to aerodynamics including conservation equations, complex potential flow, the Navier-Stokes equations, boundary layers and similarity solutions, solutions to classical problems, and application to wing theory.
- ENAE 672 Unsteady and Inviscid Aerodynamics (UMD); Fall 2014
  Fundamentals of unsteady and inviscid flows including complex potential, Euler's and Bernoulli's equations, transient flows, three-dimensional flows, and vortex dynamics, with application to wing theory.
- ENAE 672/788J Low Reynolds Number Aerodynamics (UMD); Fall 2011, Fall 2012, Fall 2013
  An introduction to unsteady and three-dimensional aerodynamics, viscous flow, and vortex dynamics.

Research Advising

Post-doctoral

5. André Bauknecht (UMD), 2017–2019
   German Research Foundation (DFG) Fellow
   Member, Vertical Lift Research Center of Excellence (VLRCOE)
   Placement: Junior Research Group Leader, Technische Universität Braunschweig, Germany
4. Camli Badrya (UMD), 2017–2018
   Member, Vertical Lift Research Center of Excellence (VLRCOE)
   Placement: Junior Research Group Leader, Technische Universität Braunschweig, Germany
3. Andrew Lind (UMD), 2015–2017
   Member, Vertical Lift Research Center of Excellence (VLRCOE)
   Placement: Glenn L. Martin Wind Tunnel, University of Maryland, College Park, MD; Research Aerospace Engineer, NASA Langley Research Center, Hampton, VA

2. Karen Mulleners (UMD), 2015
   Visiting Researcher from École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

1. Albert Medina (UMD), 2013–2015
   Joint appointment with U.S. Army Research Laboratory
   Placement: U.S. Air Force Research Laboratory (AFRL), Dayton, OH

Doctoral

10. Antonios Gementzopoulos (UMD), 2020–2024
    Ph.D. Disseration: *Gust Encounter Flow Physics with Applications to Flow Sensing and Control* (November 2024)
    Placement: Postdoctoral Research Associate, Department of Aerospace Engineering, University of Maryland, College Park, MD

9. Oliver Wild (UMD), 2020–2024
   Ph.D. Dissertation: *Urban Air Mobility: Effects of Increasing Three-Dimensionality on Fixed and Rotary Wings in Unsteady Aerodynamic Environments* (November 2024)
   Placement: Aerodynamics Engineer, Lucid Motors, Newark, CA.

8. Girguis Sedky (UMD), 2017–2022
   Ph.D. Dissertation: *Physics of Gust Mitigation in Open- and Closed-Loop Control Maneuvers* (November 2022)
   Placement: Postdoctoral Research Associate, Department of Mechanical and Aerospace Engineering, Princeton University, Princeton, NJ

7. Hülya Biler (UMD), 2016–2021
   Ph.D. Dissertation: *Experimental Investigation of Force Transients during Gust Encounters* (December 2021)
   Placement: Postdoctoral Research Associate, Department of Engineering and Physical Sciences, University of Southampton, UK
   Current position: Lecturer in Aerospace Engineering, Queen Mary University of London

6. Jonathan Lefebvre (UMD), 2016–2021
   Ph.D. Dissertation: *Cylinder-Airfoil Interactions and the Effect on Airfoil Performance* (May 2021)
   Placement: Research Analyst, Future Vertical Lift, Institute for Defense Analyses, Alexandria, VA

5. Luke Smith (UMD), 2015–2020
   Ph.D. Dissertation: *Measurement and Prediction of the Separated Flow on a Rotor at High Advance Ratio* (May 2020)
   Placement: Engineer, Hydroacoustics and Propulsor Design, Naval Surface Warfare Center, Carderock, MD

4. Field Manar (UMD), 2012–2018
   Ph.D. Dissertation: *Experiments and Modeling of the Unsteady Flow around a Thin Wing* (January 2018)

Placement: Engineer, Hydroacoustics and Propulsor Design, Naval Surface Warfare Center, Carderock, MD

3. Peter Mancini (UMD), 2012–2017
   Ph.D. Dissertation: *Experimental Investigation into Unsteady Force Transients on Rapidly Maneuvering Wings* (November 2017)
   Placement: Research Analyst, Cyber Systems, Institute for Defense Analyses, Alexandria, VA

2. Gino Perrotta (UMD), 2012–2017
   Ph.D. Dissertation: *Unsteady Force Production on a Flat Plate Wing by Large Transverse Gusts and Plunging Maneuvers* (September 2017)
   Placement: Post-doctoral Research Associate, Department of Mechanical and Aerospace Engineering, George Washington University, Washington, DC

1. Andrew Lind (UMD), 2011–2015
   Ph.D. Dissertation: *An Experimental Study of Static and Oscillating Rotor Blade Sections in Reverse Flow* (November 2015)
   Placement: Assistant Research Engineer, Glenn L. Martin Wind Tunnel, University of Maryland, College Park, MD

Master's

18. Mackenzie Ficke (UCLA), 2025–present

17. Henry Jones (UCLA), 2025–present

16. Zachary Cowger (UCLA), 2024–2025
    M.S. Thesis: *Seam Effect on the Wake of a Spinning Baseball*
    Placement: Mechanical Engineer, nLIGHT, Camas, WA

15. Assaf Krupnik (UMD), 2021–2023
    M.S. Thesis: *Experimental Measurements of Vortex Breakdown With Non-Isothermal Inflow*
    Placement: Flight Test Engineer, Boeing Commercial Airplanes, Seattle, WA

14. Alex Goldberg (UMD), 2021–2023
    Scholarly Paper: *Evaluation of Transverse Gust Encounters through STAR-CCM+*
    Placement: Aerodynamicist, Kaman Air Vehicles, Bloomfield, CT

13. Girguis Sedky (UMD), 2017–2019
    Scholarly Paper: *Lift Modeling and Regulation for a Finite Wing during Transverse Gust Encounters*
    Placement: Graduate School, University of Maryland, College Park, MD
    (Research advisor for Ph.D.)

12. Hülya Biler (UMD), 2016–2018
    Scholarly Paper: *Experimental and Computational Investigation of Transverse Gust Encounters*

Placement: Graduate School, University of Maryland, College Park, MD
(Research advisor for Ph.D.)

11. Zachary Smith (UMD), 2016–2018
M.S. Thesis: *Micro Air Vehicle Scale Gust-Wing Interaction in a Wind Tunnel*
Placement/current position: Naval Air Systems Command (NAVAIR), Patuxent River, MD

10. Philip Kirk (UMD), 2016–2018
Scholarly Paper: *Vortex Formation on Surging Airfoils with Application to Reverse Flow Modeling*
Placement/current position: Naval Air Systems Command (NAVAIR), Patuxent River, MD

9. Luke Smith (UMD), 2015–2017
Scholarly Paper: *Measurements on a Yawed Model Rotor Blade Pitching in Reverse Flow*
Placement: Graduate School, University of Maryland, College Park, MD
(Research advisor for Ph.D.)

8. Vera Klimchenko (UMD), 2013–2017
Scholarly Paper: *An Experimental Study of the Effect of Winglets and Serrations on the Wake and Tip Vortices of a Small-Scale Wind Turbine*
Placement: Graduate School, University of Maryland, College Park, MD

7. Field Manar (UMD), 2012–2015
Scholarly Paper: *A Comparison of Rotating and Translating Wings: Force Production and Vortex Characteristics*
Placement: Graduate School, University of Maryland, College Park, MD
(Research advisor for Ph.D.)

6. Peter Mancini (UMD), 2012–2015
Scholarly Paper: *Unsteady Aerodynamic Characteristics of a Translating Rigid Wing at Low Reynolds Number*
Placement: Graduate School, University of Maryland, College Park, MD
(Research advisor for Ph.D.)

5. Gino Perrotta (UMD), 2012–2014
M.S. Thesis: *Measurement and Scaling Analysis of Rotor-Induced Sediment Mobilization*
Placement: Graduate School, University of Maryland, College Park, MD
(Research advisor for Ph.D.)

4. Nathan Beals (UMD), 2012–2014
Scholarly Paper: *Lift Production by a Passively Flexible Rotating Wing*
Placement: Army Research Laboratory, Aberdeen Proving Ground, MD

3. Kristy Schlueter (UMD), 2011–2013
M.S. Thesis: *An Analysis of Factors Affecting the Aerodynamics of Low Reynolds Number Rotating Wings*

Awarded 2013 National Defense Science and Engineering Graduate (NDSEG) Fellowship
Placement: Graduate School, California Institute of Technology, Pasadena, CA

2. Mark Glucksman-Glaser (UMD), 2011–2013
M.S. Thesis: *Effects of Model Scaling on Sediment Transport in Brownout*
Placement: Naval Air Systems Command (NAVAIR), Patuxent River, MD

1. Siddarth Kolluru Venkata (UMD), 2010–2012
M.S. Thesis: *Unsteady Low Reynolds Number Aerodynamics of a Rotating Wing*
Placement: Bell Helicopter, Ft. Worth, TX

Undergraduate

28. Christopher Orr, Independent Research Project (UCLA), 2025–present
27. Henry Jones, Independent Research Project (UCLA), 2024–2025
Force Measurements on a Spinning Baseball
26. Nicholas Veracruz, Independent Research Project (UCLA), 2024–2025
25. Nico Lussier, Independent Research Project (UMD), 2023–2024
Aspect Ratio Effects in a Transverse Gust Encounter
24. Karthik Raman, Independent Research Project (UMD), 2022–2024
Vortex Burst with Heat Addition
23. Andy (Tak) Yeung, Honors Research Project (UMD), 2022–2024
Observations on Burst Point of Bubble-Type Vortex Breakdown
22. Ao Huang, Independent Research Project (UMD), 2022–2023
Generation and Analysis of Turbulence in a Low-Speed Wind Tunnel
Graduate School, Lehigh University, Bethlehem, PA
21. Adina Fleisher, Departmental Honors Student (UMD), 2021–2023
Generation and Analysis of Inhomogeneous Turbulence at Low Reynolds Numbers Using Passive Grids,
Minimization of Reverse Flow Effects for NACA 0012 Rotorcraft Blades,
Generation and Analysis of Turbulence in a Low-Speed Wind Tunnel
Graduate School, Princeton University, Princeton, NJ
20. Elizabeth Arhavbarien, Howard Community College
Undergraduate Transfer Recruitment Program (UTRP), Summer 2021
An Experimental Study of Flow Separation and Aerodynamic Performance of 3D Reverse Flow Rotor Blades
19. Joseph Hussey, Honors Research Project (UMD), 2019–2021
Generating Trapped Vortices in Ground Effect for Efficient Aerodynamic Force Generation

18. Assaf Krupnik, Independent Research Project (UMD), 2019–2021
Drag Effects of Aerodynamically Coupling a Cylinder with Downstream Wing
Graduate School, University of Maryland, College Park, MD
(Research advisor for M.S.)

17. Parker Main, Departmental Honors Student (UMD), 2019–2020
Blown Boundary Layer Drag Reduction on a Cylinder
Middle River Aerostructure Systems, Middle River, MD

16. Nicholas Zhu, Independent Research Project (UMD), 2019
Machine Learning Predictions of Wing Response to a Transverse Gust
Graduate School, Embry-Riddle Aeronautical University, Daytona Beach, FL

15. Mohamed Nassif, Departmental Honors Student (UMD), 2016–2018
An Experimental Investigation into the Effects of Laminar Separation Bubbles at Low Reynolds Number
Graduate School, Georgia Institute of Technology, Atlanta, GA

14. Philip Kirk, Departmental Honors Student (UMD), 2015–2017
Vortex Formation on Surging Airfoils with Application to Reverse Flow Modeling
Graduate School, University of Maryland, College Park, MD
(Research advisor for B.S./M.S.)

13. Max Cassell, Independent Research Project (UMD), 2015-2016
Flow Field Measurements of Wing-Gust Interactions
Toyon Research Corporation, Sterling, VA

12. Ignacio Andreu, Departmental Honors Student (UMD), 2014–2016
Lift Production on a Wing With Variable Camber
Graduate School, University of Illinois, Urbana, IL

11. Ryan Joyce, Independent Research Project (UMD), 2014
Design and Construction of a Jet System to Produce Gusty Flows
Graduate School, University of Maryland, College Park, MD

10. Luke Smith, Departmental Honors Student (UMD), 2013–2015
The Effect of Camber on Blunt Trailing Edge Airfoils in Reverse Flow
Graduate School, University of Maryland, College Park, MD
(Research advisor for M.S. and Ph.D.)

9. Krista Cratty, Departmental Honors Student (UMD), 2014–2015
Fundamental Study of Three-Dimensional Effects of Reverse Flow
Graduate School, Texas A&M University, College Station, TX

8. Hannah Spooner, Departmental Honors Student (UMD), 2014–2015
Methods of Quantifying Leading Edge Vortex Burst on Rotating Wings
Cessna Aircraft Company, Wichita, KS

7. Mateusz Gabryszuk, Departmental Honors Student (UMD), 2013–2015
Investigating the Effect of the Wingtip Vortex on the Aerodynamic Performance of a Rotating Wing
Graduate School, University of Maryland, College Park, MD

6. Michael Madden, Departmental Honors Student (UMD), 2013–2014
   Interactions between a Model Tidal Turbine and Seafloor
   Naval Air Systems Command (NAVAIR), Patuxent River, MD
5. Jonathan Lefebvre, Independent Research Project (UMD), 2012–2013
   Force Measurements on Reverse Flow Rotor Blades
   Graduate School, École Nationale Supérieure de l'Aéronautique et de l'Espace (ISAE), Toulouse, France
   Graduate School, University of Maryland, College Park, MD
   (Research advisor for Ph.D.)
4. Nathan Beals, Independent Research Project (UMD), 2011–2012
   Unsteady Lift Generation on a Passively Deforming Rotating Wing
   Graduate School, University of Maryland, College Park, MD
   (Research advisor for M.S.)
3. Gino Perrotta, Departmental Honors Student (UMD), 2011–2012
   Interactions Between Vertical Axis Wind Turbines
   Graduate School, University of Maryland, College Park, MD
   (Research advisor for M.S. and Ph.D.)
2. Oscar Alvarado, Independent Research Project (UMD), 2011
   Immersed Boundary Method CFD of a Rotating Wing
   Graduate School, University of Maryland, College Park, MD
1. Baozhu Zhang, Women in Engineering (WIE) Research Fellow (UMD), 2011–2012
   Effect of Wing Root Geometry on Leading Edge Vortices
   Graduate School, University of Maryland, College Park, MD

Degree Committees

Ph.D.

23. Anjanaka Dilhara Jayasundara Herath Mudiyanselage (UMD), 2023
    Ph.D. Dissertation: *Aeroacoustic Implications of Installed Propeller Interactional Aerodynamics and Transient Propeller Motions*
    Department of Aerospace Engineering, University of Maryland, College Park, MD
22. Raquel Hakes (UMD), 2021
    Ph.D. Dissertation: *Studies of Inclined Flame Instabilities and the Relationships Between Wildland Fire Exposure and Structure Destruction*
    Department of Mechanical Engineering, University of Maryland, College Park, MD
21. Xing Wang (UMD), 2020
    Ph.D. Dissertation: *Wind Tunnel Test on Slowed Rotor Aeromechanics at High Advance Ratios*
20. Martin Erinin (UMD), 2020
    Ph.D. Dissertation: *Droplet and Bubble Measurements in Turbulent Free-Surface Flows*
    Department of Mechanical Engineering, University of Maryland, College Park, MD

19. Brian Free (UMD), 2019
    Ph.D. Dissertation: *Bioinspired Sensing and Control for Underwater Pursuit*

18. Nathan Shumway (UMD), 2019
    Ph.D. Dissertation: *Wing Kinematics, Deformations, and Aerodynamics of Dragonflies in Free Flight*

17. Ethan Lust (UMD), 2017
    Ph.D. Dissertation: *The Influence of Surface Gravity Waves on the Performance and Near-Wake of an Axial-Flow Marine Hydrokinetic Turbine*

16. Francis Lagor (UMD), 2017
    Ph.D. Dissertation: *Path Planning, Flow Estimation, and Dynamic Control for Underwater Vehicles*

15. Kenneth MacFarlane (UMD), 2017
    Ph.D. Dissertation: *Bio-Inspired Reduced Order Modeling of Flapping Wing Vehicle Dynamics*

14. Camli Badrya (UMD), 2016
    Ph.D. Dissertation: *CFD/Quasi-Steady Coupled Trim Analysis of Diptera-type Flapping Wing MAV in Steady Flight*

13. Badri Ranganathan (UMD), 2016
    Ph.D. Dissertation: *Bio-inspired Robust Underwater Behaviors Using Fluid Flow Sensing*

12. Joachim Hodara (UMD), 2016
    Ph.D. Dissertation: *Hybrid RANS-LES Closure for Separated Flows in the Transitional Regime*
    Georgia Institute of Technology, Atlanta, GA

11. Aimy Wissa (UMD), 2014
    Ph.D. Dissertation: *Analytical Modeling and Experimental Evaluation of a Passively Morphing Ornithopter Wing*

10. Robert Harbig, 2014
    Ph.D. Dissertation: *Role of Wing Morphology in the Aerodynamics of Insect Flight*
    Monash University, Melbourne, Australia

9. Anish Sydney (UMD), 2014
    Ph.D. Dissertation: *Contributions Towards the Understanding of Rotor-Induced Dust Particle Mobilization and Transport*

8. Zohaib Hasnain (UMD), 2014
    Ph.D. Dissertation: *Modeling and Experimental Analysis of Phased Array Synthetic Jet Cross-Flow Interactions*

7. Joseph Milluzzo (UMD), 2014
    Ph.D. Dissertation: *Contributions towards the Detailed Understanding of Rotor Flow Fields in Ground Effect Operations*

6. Mathieu Amiraux (UMD), 2014
   Ph.D. Dissertation: *Numerical Simulation and Validation of Helicopter Blade-Vortex Interaction Using Coupled CFD/CSD and Three Levels of Aerodynamic Modeling*
5. Brandon Bush (UMD), 2013
   Ph.D. Dissertation: *A Computational Study of the Force Generation Mechanisms in Flapping-Wing Hovering Flight*
4. Ria Malhan (UMD), 2013
   Ph.D. Dissertation: *Investigation of Aerodynamics of Flapping Wings for MAV Applications*
3. Richard Sickenberger (UMD), 2013
   Ph.D. Dissertation: *Modeling Helicopter Near-Horizon Harmonic Noise due to Transient Maneuvers*
2. Asitav Mishra (UMD), 2012
   Ph.D. Dissertation: *A Coupled CFD/CSD Investigation of the Effects of Leading Edge Slat on Rotor Performance*
1. Debojyoti Ghosh (UMD), 2012
   Ph.D. Dissertation: *Compact-Reconstruction Weighted Essentially Non-Oscillatory Schemes for Hyperbolic Conservation Laws*

M.S.

12. Daniel Gomez (UMD), 2019
    M.S. Thesis: *Flowfield Estimation and Vortex Stabilization near an Actuated Airfoil*
11. Lauren Trollinger (UMD), 2017
    M.S. Thesis: *Refined Performance and Loads of a Mach-Scale Rotor at High Advance Ratios*
10. Justin Winslow (UMD), 2017
    M.S. Thesis: *Understanding of Low Reynolds Number Aerodynamics and Design of Micro Rotary-Wing Air Vehicles*
9. Ana Ramekar (UMD), 2016
   M.S. Thesis: *Drag Coefficient Study of Two Wall-Mounted Obstacles*
8. Timothy Kreutzfeldt (UMD), 2016
   M.S. Thesis: *Nonlinear Interactions in Planar Jet Flow with High Frequency Excitation*
7. Chin Gian Hooi (UMD), 2015
   M.S. Thesis: *Height Estimation and Control of a Rotorcraft in Ground Effect Using Multiple Pressure Probes*
6. Taylor Rinehart (UMD), 2012–2014
   M.S. Thesis: *Contributions to the Understanding of Wind Turbine Aerodynamics Using a RANS Solver with Transition Modeling*
5. Douglas Szczublewski (UMD), 2012
   M.S. Thesis: *Gust Disturbance Analysis of a Micro Quadrotor Helicopter*

4. Mor Gilad (UMD), 2011
   M.S. Thesis: *Evaluation of Flexible Rotor Hover Performance in Extreme Ground Effect*
3. Ajay Baharani (UMD), 2011
   M.S. Thesis: *Investigation into the Effects of Aeolian Scaling Parameters on Sediment Mobilization below a Hovering Rotor*
2. Joseph Milluzzo (UMD), 2011
   M.S. Thesis: *Effects of Blade Tip Shape On Rotor In-Ground-Effect Aerodynamics*
1. Anish Sydney (UMD), 2011
   M.S. Thesis: *Understanding Brownout Using Dual-Phase Particle Image Velocimetry Measurements*

Sponsored Research

Grants

25. Collaborative Research: Dynamic Inference of Disturbed Aerodynamic Flows for Accelerated Learning of Control Strategies, 2023–2026
    National Science Foundation (NSF), Fluid Dynamics Program
    PI: J. Eldredge (UCLA), co-PI: A. Jones, $371,172
24. EAGER: Time-Resolved Measurements and Control of Vortex Breakdown via Heat Addition, 2021–2023
    National Science Foundation (NSF), Fluid Dynamics Program
    PI: A. Jones, $266,011
23. Real-Time Control for Mitigation of Air Vehicle Gust Response, FY2022
    Office of Naval Research (ONR) and Air Force Office of Scientific Research (AFOSR)
    Defense University Research Instrumentation Program (DURIP)
    PI: A. Jones, $612,351
22. Navigating Unsteady Airwakes: Wake Dynamics and Flow Coupling in Strong Gust Encounters, 2021–2024
    Office of Naval Research (ONR)
    PI: A. Jones, $376,276
21. Collaborative Research: Lift Regulation via Kinematic Maneuvering in Uncertain Gusts, 2020–2023
    National Science Foundation (NSF), Fluid Dynamics Program
    PI: A. Jones, co-PI: F. Lagor, $253,000
20. Ship Mast Anemometer Placement for Steady and Reliable Measurements near Installed Equipment, 2017–2019
    Naval Air Warfare Center Aircraft Division (NAWCAD)
    PI: A. Jones, $160,000
19. Reverse Flow Measurement, Modeling, and Validation for Comprehensive Rotorcraft Analysis, 2016–2021

Task 1.3 in University of Maryland Vertical Lift Rotorcraft Center of Excellence (VLRCOE)
Alfred Gessow Rotorcraft Center
U.S. Army Research, Development and Engineering Command (RDECOM), with the U.S. Navy and NASA via the U.S. Army National Rotorcraft Technology Center (NRTC)
Task PI: A. Jones, $520,616

18. Identification and Quantification in the Role of Turbulence in Aircraft/Ship Aerodynamics, 2016–2019
Office of Naval Research (ONR)
PI: M. Smith, co-PI: A. Jones, $306,777

17. PECASE: Flow Control for Force Regularization in Large-Disturbance Environments, 2016-2021
U.S. Air Force Office of Scientific Research (AFOSR)
PI: A. Jones, $1,000,000

16. CAREER: Flow Physics of Aerodynamic Forcing in Unsteady Environments, 2016-2021
National Science Foundation (NSF), Fluid Dynamics Program
PI: A. Jones, $504,335

15. Design and Evaluation of Gust Generation Methods in a Low Reynolds Number Wind Tunnel, 2016–2017
Supplemental task in the Micro Autonomous Systems and Technology (MAST) Collaborative Technology Alliance (CTA) Center on Microsystem Mechanics
U.S. Army Research Laboratory (ARL)
PI: A. Jones, $79,000

14. High Deflection-Rate Flaps for Flow Separation Control, 2016–2017
Supplemental task in the Micro Autonomous Systems and Technology (MAST) Collaborative Technology Alliance (CTA) Center on Microsystem Mechanics
U.S. Air Force Research Laboratory (AFRL) via the U.S. Army Research Laboratory (ARL)
PI: A. Jones, $100,320

13. Collaborative Research: Leading Edge Vortex Evolution on Compliant Biologically-Inspired Wings, 2015-2018
National Science Foundation (NSF), Fluid Dynamics Program
co-PIs: A. Jones, D. Willis, $262,151

12. Fundamentals of Gust Response in Separated Flows, 2015–2016
Supplemental task in the Micro Autonomous Systems and Technology (MAST) Collaborative Technology Alliance (CTA) Center on Microsystem Mechanics
U.S. Air Force Research Laboratory (AFRL) via the U.S. Army Research Laboratory (ARL)
PI: A. Jones, $80,000

11. Visit to Collaborators at the University of Washington, 2012–2013

UMD ADVANCE Seed Grant Program Travel Awards
PI: A. Jones, $1,500

10. Wake Alleviating Devices for Offshore Wind Turbines, 2013–2015
Task 3.8 in Maryland Offshore Wind Energy Research Challenge Grant (MOWER)
Maryland Higher Education Commission and the Maryland Energy Administration
Task PI: A. Jones, $110,000

9. EAGER: Sediment Transport in the Wake of a Marine Hydrokinetic Turbine, 2013–2014
National Science Foundation (NSF), Energy for Sustainability Program
PI: A. Jones, co-PI: K. Kiger, $57,000

8. Flow Structure and Force Production on Flexible Flapping Wings, 2012–2014
Task MCE-13-1.1 in Micro Autonomous Systems and Technology (MAST) Collaborative Technology Alliance (CTA) Center on Microsystem Mechanics
U.S. Army Research Laboratory (ARL)
Task PI: A. Jones, $190,000

7. Lift Production on Flapping and Rotary Wings at Low Reynolds Numbers, 2012–2015
U.S. Air Force Office of Scientific Research (AFOSR) Young Investigator Program (YIP)
PI: A. Jones, $361,000

6. A New Facility for the Study of Micro Air Vehicle Gust Response, 2012–2013
U.S. Air Force Office of Scientific Research (AFOSR)
Defense University Research Instrumentation Program (DURIP)
PI: A. Jones, co-PI: J. G. Leishman, $766,000

5. Scaling of the Sediment Transport and Unsteady Aerodynamics of an Impinging Jet in Air and Water, 2012–2013
UMD ADVANCE Interdisciplinary and Engaged Research Seed Grant, in partnership with the NSF
PI: A. Jones, co-PI: K. Kiger, $20,000

4. Unsteady Aerodynamics and Applications to High-Speed Helicopters and Micro Air Vehicles, 2011
UMD Minta Martin Aeronautical Research Fund
PI: A. Jones, $87,000

3. Aerodynamics of a Rotor in Reverse Flow, 2011–2016
Task 1.2 in University of Maryland Vertical Lift Research Center of Excellence (VLRCOE)
Alfred Gessow Rotorcraft Center
U.S. Army Research, Development and Engineering Command (RDECOM), with the U.S. Navy and NASA via the U.S. Army National Rotorcraft Technology Center (NRTC)
Task PI: A. Jones, $563,000

2. Effects of Model Scaling on Sediment Transport, 2011–2014
Task 2.6 in Rotorcraft Brownout: Advanced Understanding, Control, and Mitigation

Multidisciplinary University Research Initiative (MURI)
U.S. Air Force Office of Scientific Research (AFOSR)
Task PI: A. Jones, $247,000

1. Flow Visualization of Leading Edge Vortex Development on Flexible Flapping Wings in Water Tank, 2011–2012
   Task MCE-12-1.2.2 in Micro Autonomous Systems and Technology Collaborative Technology Alliance Center on Microsystem Mechanics
   U.S. Army Research Laboratory (ARL)
   Task PI: A. Jones, $78,000

Contracts

4. Effect of Seam Orientation on the Aerodynamic Forcing and Trajectory of a Spinning Baseball, 2024–2025
   Houston Astros
3. Research under Non-Disclosure Agreement, Northrop Grumman Corporation, 2017–2020
2. Wind Tunnel Anemometer Calibrations, 2017
   Aurora Flight Sciences Corp.
1. Memorandum of Understanding, National Wind Resource Center, 2012–2015
   Texas Tech University

Service

Professional

A. Editorships and Editorial Boards

- Editorial Advisory Board (EAB), *Experiments in Fluids*, 2021–present
- *AIAA Journal*, Associate Editor, 2019–present

B. Offices and Committee Memberships

- Experimental Physics Investigators (EPI) Advisory Committee, Gordon and Betty Moore Foundation, 2026
- Executive Committee, Remote Colloquium on Vortex Flows (ReCoVor), 2020–present
- American Physical Society, Division of Fluid Dynamics, Media and Science Relations Committee, 2019–2022 (Vice-Chair 2020, Chair 2021–2022)
- American Physical Society, Division of Fluid Dynamics, External Affairs Committee, 2015–2017
- AIAA Scholarly Publishing Working Group, 2016
- AIAA Applied Aerodynamics Publicity Subcommittee, 2012–2016
- AIAA Applied Aerodynamics Technical Committee, 2012–2016

C. International Activities

- Guest Scientist at İstanbul Teknik Üniversitesi, Istanbul, Turkey on the Scientific and Technological Research Council of Türkiye (TÜBİTAK) 2221 Support Program for Guest Scientists or Scientists on Sabbatical Leave, June–July 2025
- Member of the NATO Science and Technology Organization (STO) AVT-426 on "Three-Dimensional Unsteady Flow Interactions with Rigid Wings," 2025–2028
- Member of the NATO Science and Technology Organization (STO) ET-247 on "Three-Dimensional Aspects of Unsteady Flow Interactions with Rigid Wings," 2024
- Chair of the NATO Science and Technology Organization (STO) AVT-347 on "Large-Amplitude Gust Mitigation Strategies for Rigid Wings," 2020–2023
- Humboldt Research Fellow at Technische Universität Braunschweig, Braunschweig, Germany, 2018
- Fulbright Scholar at the Technion-Israel Institute of Technology, Haifa, Israel, 2017–2018
- Chair of the NATO Science and Technology Organization (STO) AVT-282 on "Unsteady Aerodynamic Response of Rigid Wings in Gust Encounters," 2016–2019
- Chair of the NATO Science and Technology Organization (STO) ET-154 on "Incompressible Aerodynamics of Large Gust Encounters for Rigid Bodies," 2015
- NATO Science and Technology Organization (STO) AVT-202 on "Extension of Fundamental Flow Physics to Practical MAV Aerodynamics," 2011–2014
- NATO Research and Technology Organization (RTO) AVT-149 on "Micro Air Vehicle Unsteady Aerodynamics," 2008–2010

D. Leadership Roles in Meetings and Conferences

- Advisory Committees
  - International Symposium on Turbulence and Shear Flow Phenomena, 2025–present
  - International Conference on Experimental Fluid Mechanics (ICEFM), 2024–present
- Organizer
  - Co-organizer for the 4th Colloquium on Vortex Dominated Flows (DisCoVor) 2025, Bozeman, MT, June 2025
  - Assistant Organizer for the 2020 AIAA Fluid Dynamics Conference, AIAA Science and Technology Forum and Exposition
  - Co-organizer for US-Japan Workshop on Bridging Fluid Mechanics and Data Science, Tokyo, Japan, March 2018
- Session Organizer
  - 2020 AIAA Science and Technology Forum and Exposition (Invited Sessions:

AVT-282: Aerodynamic response of rigid wings in gust encounters I and II)

- 2019 AIAA Science and Technology Forum and Exposition (Special Sessions: Gusts I, II, and III)
- 2016 AIAA Science and Technology Forum and Exposition (Special Session: Advances in Fundamental Unsteady Low Reynolds Number Flows AVT-202)

E. Corporate and Other Board Memberships

- Scientific Advisory Board, Department of Aerospace Engineering, Universidad Carlos III Madrid, 2024–present
- Board of Directors, RESET, 2013–2016
  RESET is a non-profit volunteer organization that partners scientists, engineers, and technicians with primary school teachers to improve science motivation and literacy.
- Board of Directors, Royal Aeronautical Society (RAeS), Washington DC Branch, 2012–2014

University of California, Los Angeles

A. School of Engineering

- Member, UCLA Samueli School of Engineering Undergraduate Admissions Review Team, 2024–present

B. Department of Mechanical & Aerospace Engineering

- Fluid Mechanics Major Field Chair, 2025–present
- Courses, Curricula & ABET Committee, 2025–present
- Seminars Committee, 2025–present
- Admissions Committee, 2024–present
- Awards & Honors Committee, 2024–present

University of Maryland

A. University

- UMD University Senate, Tenured/Tenure-Track Faculty Representative for the A. James Clark School of Engineering, May 2020–April 2023
- Member, UMD Flagship Fellowship Selection Committee, 2019, 2020, 2021, 2022, 2023, 2024

B. College of Engineering

- Chair, Search committee for UMD Director of the UAS Test Site, 2022
- Member, Search committee for UMD Chair of the Department of Aerospace Engineering, 2022

- Member, UMD Appointment, Promotion, and Tenure (APT) Committee, 2021–2024
- Lunch and Learn, UMD Women in Engineering Program, 2020
- Member, UMD Service Award Committee, 2011

C. Department of Aerospace Engineering

- UMD Mentoring Committee, Thomas Beutner, 2022–2024
- Judge, UMD Graduate Research Awards, 2022
- Member, UMD Appointment, Promotion, and Tenure (APT) Committee, 2021
- Co-founded (with Dr. Aileen Hentz, Program Director, Student Services) the UMD Undergraduate Transfer Recruitment Program (UTRP), 2021
- Member, UMD Committee for Diversity and Inclusion (CDI), 2018–2024
- Member, UMD Faculty Search Committee, 2014–2015, 2022
- Member, UMD Merit Review Committee, 2013, 2014, 2015, 2022
- Advisor, UMD ENAE 100 undergraduate research projects, 2013, 2015
- Research Advisor, UMD Departmental Honors Program, 2011–2024

Outreach

Community Engagements

- Invited presenter in the "Early career award winners: Lessons for future success" session at the 75th APS DFD meeting, Indianapolis, IN, November 2022
- Ambassador, Navy Community Ambassador Program (OI-6), Navy Office of Information (CHINFO), 2022–2024
- U.S. Frontiers of Engineering Symposium, National Academy of Engineering, 2017
- Women in Fluids student lunch discussion leader at APS DFD Meetings, 2016–present
- AIAA Fluid Dynamics TC Modal Decomposition Methods for Aerodynamic Flows Discussion Group, 2015–2024
- AIAA Applied Aerodynamics TC Low Reynolds Number Discussion Group, 2012–2015
- AIAA Fluid Dynamics TC Wind Energy Discussion Group, 2012–2014
- AIAA Applied Aerodynamics TC Rotorcraft Simulation Discussion Group, 2012–2014
- AIAA Fluid Dynamics TC Low Reynolds Number Discussion Group, 2008–2014

K-12 Interactions

- Advisor to author of 3rd place paper in the High School Division at AIAA YPSE Conference, 2019
- Research advisor for independent research project with junior/senior student at Quince Orchard High School, Gaithersburg, MD, 2018–2019
- RESET volunteer with middle schoolers at DC Prep, 2016

- Guest speaker and activity leader for 6th-8th graders at Martha's Table, DC, August 2015
- Supervised wind tunnel experiments for a 7th grader at Greenbelt Middle School. Student won third place and best presentation in his category at the tri-county science fair on April 4, 2014
- RESET classroom volunteer, Washington, DC, 2012–2016
- Lead ASME Judge, Prince George's County Science Fair, MD, 2011
- Interviewee for several local middle school and high school projects and career days, 2011–present
- Interviewee for 9th grade "Principles of Engineering" project in aerospace engineering project at South River High School in Edgewater, MD, 2011
- Interviewee for 8th grade Career Day at Parkland Magnet Middle School for Aerospace Technology, 2011