

Kenneth Dale Visser

Associate Professor
Department of Mechanical and Aerospace Engineering
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Education

- Ph.D.** Aerospace Engineering, University of Notre Dame, Notre Dame, Indiana, 1991
“An Experimental Analysis of Critical Factors Involved in the Breakdown Process of Leading Edge Vortex Flows” Advisor: Professor Robert C. Nelson
- M.S.** Aerospace Engineering, University of Notre Dame, Notre Dame, Indiana, 1988
“An Investigation of the Effects of a External Jet on the Performance of a Highly Swept Delta Wing” Advisor: Professor Robert C. Nelson
- B.Sc.** Mechanical Engineering, University of Calgary, Calgary, Alberta, Canada, 1986
Senior Project: “An Investigation of a Stepped Suction Surface”

Experience

Ducted Wind Turbines, Inc. (2016 - present)

Co-founder, small wind turbine company spin-off from Clarkson University

Clarkson University (1998 – present)

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| Director, Center for Sustainable Energy Systems | 2009 – 2020 |
| Associate Professor | 2004 – present |
| Assistant Professor | 1998 – 2004 |

Deutsches Zentrum für Luft- und Raumfahrt (DLR), Braunschweig, Germany (2006-2007)

Institute of Aerodynamics and Flow Technology Visiting Research Scientist.

America's Cup Challenge 2000 (1997-1998)

Assisted in the design of the keel for the AmericaOne syndicate.

Boeing Commercial Airplane Group (1994-1998)

Assisted in design of the High Speed Civil Transport and the 767-400ER.

NASA Langley Research Center (1991-1993)

National Research Council Associate at the Basic Aerodynamics Research Tunnel (BART).

University of Notre Dame (1986-1991)

Graduate studies on vortex flows over highly swept delta wings.

Chevron Canada Resources LTD (Summers 1985-1986)

Reservoir engineer.

Awards

Tau Beta Pi Distinguished Teaching Award, April 2010
Clarkson University Phalanx Commendable Leadership Award, April 2010
Clarkson University Phalanx Induction, April 2010
American Institute of Aeronautics and Astronautics Educator Award, 2009
Kristin Craig Memorial Faculty Recognition Award, 2004
Society for Automotive Engineers, Ralph Teeter Educational Aerospace Teaching Award, 2002
Boeing 2001 Outstanding Educator Award, October 2001
Clarkson University Phalanx Commendable Service Award, April 2000

Student Awards

| | | |
|----------------|----------------------------------|------|
| Michael Lee | NSF Graduate Research Fellowship | 2016 |
| Michael Lee | Goldwater Scholarship | 2015 |
| Devon Jedamski | Goldwater Scholarship | 2011 |
| Brent Pomeroy | NSF Graduate Research Fellowship | 2010 |
| Joshua Butler | Abe Zarem Award | 2008 |
| David Young | Goldwater Scholarship | 2001 |
| Andrew Bingham | Goldwater Scholarship | 2005 |
| Keith Jackson | Goldwater Scholarship | 2004 |

Professional Membership and Service

Senior Member, American Institute of Aeronautics and Astronautics (AIAA)
AIAA Deputy Director for Education NE Region 1 (2018 - 2023)
Member, Society of Automotive Engineers (1998 - 2005)
SAE Truck and Bus Aerodynamics and Fuel Economy Committee (2009 - 2017)
European Small Wind Turbine Technical Committee (2023)
Industrial Assessment Center Director - Clarkson Satellite (2011- 2022)
SOAR Lecturer - State University of New York

Reviewer

AIAA Journal of Aircraft
ASME Journal of Solar Energy Engineering
Wind Energy

Conference Organization

Thousand Islands Fluid Mechanics Conference 2006 - 2023, Gananoque, Ontario
Thousand Islands Energy Research Forum, 2010 - 2014
AIAA NE Region 1 Student Conference, April 2018, Clarkson University, Potsdam
AIAA NE Region 1 Student Conference, April 2008, Clarkson University, Potsdam
AIAA NE Region 1 Student Conference, April 2000, Clarkson University, Potsdam
7th International Symposium on Flow Visualization, Seattle, WA, 1995, co-organizer

Clarkson University Service

ABET Committee (2018-2022)
Graduate Committee (2013 - 2017)
Aerospace Engineering Committee (Current Chair, 1998 - 2022)
American Institute of Aeronautics and Astronautics (Faculty Advisor, 1999 - 2022)
AIAA Design, Build & Fly (Faculty Advisor, 1999 - 2022)
Clarkson Center for Sustainable Energy Systems (Director, 2000 - 2019)
Laboratory and Facilities Committee (2019 - 2021)
Curriculum Committee (2012-2022)
Recruitment & Teaching Committee (2021)
Clarkson Faculty Senate (1999 - 2005)
Clarkson Institute for the Environment (Steering Committee, 2009 - 2014)
Sigma Gamma Tau (Faculty Advisor (2013 - 2017)
Marketing and Media Committee (2019 - 2022)
Undergraduate Engagement Committee (2022)
Rankings Committee (2013 - 2019)
CAP Committee (2015 - 2017)

Publications

Journal

- Ding, C., Zhang, B., Liang, C., Visser, K., and Yao, G.: "High-Order Large-Eddy Simulations of a Wind Turbine in Ducted and Open-Rotor Configurations", *J. Fluids Eng.* Paper No: FE-22-1281, <https://doi.org/10.1115/1.4055989>, February, 2023
- Visser, K. D.: "Real-world development challenges of the Clarkson University 3 meter ducted wind turbine", *J. Phys.: Conf. Ser.* 2265 042072, <https://doi.org/10.1088/1742-6596/2265/4/042072>, June 2022.
- Bagheri-Sadeghi, N., Helenbrook, B. T., and Visser, K. D.: "Maximal power per device area of a ducted turbine", *Wind Energ. Sci.*, 6, 1031-1041, <https://doi.org/10.5194/wes-6-1031-2021>, July 2021.
- Kummer, A., DiMeo J., Hebel, M., and Visser, K.D. "On the Use of Cambered Plate Airfoils for Small Wind Turbines" *J. Phys.: Conf. Ser.* **1618** (2020) 042001 doi:10.1088/1742-6596/1618/4/042001, <https://iopscience.iop.org/article/10.1088/1742-6596/1618/4/042001>
- Valyou, D.N. and Visser, K.D.: "Design considerations for a small ducted wind turbine", *J. Phys.: Conf. Ser.* **1452** (2020) 012019, doi:10.1088/1742-6596/1452/1/012019 <https://iopscience.iop.org/article/10.1088/1742-6596/1452/1/012019>
- Kanya, B. and Visser, K. D.: "Experimental Validation of a Ducted Wind Turbine Design Strategy", *Wind Energ. Sci.*, 3, 919-928, Dec 2018 <https://doi.org/10.5194/wes-3-919-2018>
- Bagheri-Sadeghi, N., Helenbrook, B.T., and Visser, K. D.: "Ducted wind turbine optimization and sensitivity to rotor position", *Wind Energ. Sci.*, 3, 221-229, <https://doi.org/10.5194/wes-3-221-2018>, April 2018.
- Venters R, Helenbrook B.T, Visser KD. Ducted Wind Turbine Optimization. *ASME. J. Sol. Energy Eng.* 2017;140(1):011005-011005-8., doi:10.1115/1.4037741. Feb 2018

Kehe, J., Visser, K., Grossman, J., Niemiec, J. et al., "A Comparison of Full Scale Aft Cavity Drag Reduction Concepts With Equivalent Wind Tunnel Test Results," *SAE Int. J. Commer. Veh.* 6(2):2013, doi:10.4271/2013-01-2429.

Bohl, D., Helenbrook, B., Kanya, B., Visser, K., Marvin, R., Mascarenhas, and Rocky, D., "Analysis and Design of a Wind Turbine with a Wind Accelerator," *Journal of Solar Energy Engineering* (submitted)

Grover, K. and Visser, K.D., "Over-the-Road Tests of Sealed Aft Cavities on Tractor Trailers," *SAE 2006 Transactions Journal of Commercial Vehicles*, No. 2006-01-3529, pp.170, March 2007.

Khan, M.A., Pillay, P., and Visser, K.D., "On Adapting a Small PM Wind Generator for a Multi-Blade, High Solidity Wind Turbine," *IEEE Transactions on Energy Conversion*, Vol. 20, No. 3, September 2005.

Bennington, M.A. and Visser, K.D., "Aerial Refueling Implications for Commercial Transports," *AIAA Journal of Aircraft*, Vol. 42, No. 2, March–April 2005

Duquette, M.M, Swanson, J. and Visser, K.D., "Solidity and blade number effects on a fixed pitch, 50W horizontal axis wind turbine," *Wind Engineering*, Vol 27, No. 4, pp. 299-316, 2003.

Duquette, M. and Visser, K.D., "Numerical Implications of Solidity and Blade Number on Rotor Performance of Horizontal-Axis Wind Turbines," *Journal of Solar Energy Engineering*, Vol. 125, No. 4, pp. 425-432, November 2003.

Visser, K.D. and Nelson, R.C., "Measurements of Circulation and Vorticity in the Leading Edge Vortex of a Delta Wing," *AIAA Journal*, Vol. 31, No. 1, pp. 104-111, January 1993.

Visser, K.D., Nelson, R.C., and Ng, T.T., "Method of Cold Smoke Generation for Vortex Core Tagging," *AIAA Journal of Aircraft*, Vol. 25, No. 11, pp. 1069-1071, November 1988.

Book and Report Chapters

Kehe, J., Visser, K., Grossmann, J., Horrell, C., and Smith, A., "Experimental and Full Scale Investigation of Base Cavity Drag Reduction Devices for Use on Ground Transport Vehicles" *The Aerodynamics of Heavy Vehicles III: Trucks, Buses, and Trains, Lecture Notes in Applied and Computational Mechanics*, Vol. 79, Dillmann, Andreas; Orellano, Alexander; (Eds.), 2016, Hardcover, ISBN: 978-3-319-20121-4

Streit, T, Visser, K., and Liersch, C., "Minimal Induced Drag for Non-Planar Lifting Surfaces with Moderate and Small Aspect Ratio" *New Results in Numerical and Experimental Fluid Mechanics VII (NNFM) Vol 112*, Springer 2010.

F.M. Payne, K.D. Visser and R.C. Nelson, "Leading Edge Vortex Flow Studies at the University of Notre Dame: Steady and Unsteady Investigations 1983-2000," Chapter 7 in "Vortex Breakdown over Slender Delta Wings," RTO-TR-AVT-080 AC/323(AVT-080)TP/253, Research and Technology Organization, NATO, Neuilly-sur-Seine, Cedex, France. ISBN 978-92-837-0078-4 ed. N.G. Verhaagen, X.Z. Huang, October 2009

Grover, K.D, and Visser, K.D., "Class 8 Vehicle Fuel Savings using Sealed Single and Dual Open Aft Cavities" *The Aerodynamics of Heavy Vehicles II: Trucks, Buses, and Trains, Lecture Notes in Applied and Computational Mechanics*, Vol. 41, McCallen, Rose; Browand, Fred; Ross, James (Eds.), 2008, XII, 567 p. 465 illus. With CD-ROM., Hardcover, ISBN: 978-3-540-85069-4

Coon, J.D, and Visser, K.D., "Drag Reduction of a Tractor-Trailer Using Planar Boat Tail Plates," *The Aerodynamics of Heavy Vehicles: Trucks, Buses, and Trains, Lecture Notes in Applied and Computational Mechanics*, Vol. 19, McCallen, Rose; Browand, Fred; Ross, James (Eds.), 2004, XII, pp. 249-265, 567 p. 378 illus. With CD-ROM., Hardcover, ISBN:3-540-22088-7

Refereed Conference Papers

Ding, C., Zhang, B., Liang, C., Visser, K.D., and Yao G “High-Order Large-Eddy Simulations of a Ducted Wind Turbine”, AIAA 2022-1147, AIAA Sci-Tech, Jan 3–7, 2022, San Diego, CA, <https://doi.org/10.2514/6.2022-1147>

Bagheri-Sadeghi, N., B.T. Helenbrook, and Visser, K.D., “Order of Accuracy and Sensitivity to Freestream Conditions of a Modified $k-w$ Turbulence Model for Higher-Order Finite Element Methods”, Proceedings of the ASME 2020 Fluids Engineering Conference, FEDSM2020-13041, July 12 – 16, 2020, Orlando, FL

Bagheri-Sadeghi, N., B.T. Helenbrook, and Visser, K.D., “Wake Comparison of Open and Ducted Wind Turbines Using Actuator Disc Simulations”, Proceedings of the ASME 2020 Fluids Engineering Conference, FEDSM2020-13083, July 12 – 16, 2020, Orlando, FL

Bagheri-Sadeghi, N., B.T. Helenbrook, and Visser, K.D., “Turbulent Channel Flow with a Modified $k-w$ Turbulence Model for Higher Order Finite Element Methods”, Proceedings of the ASME-JSME-KSME 2019 Joint Fluids Engineering Conference, AJKFLUIDS2019-5501, July 28 – Aug 1, 2019, San Francisco, CA

Marvin, R.H., Broomfield, D.J., B.T. Helenbrook, and Visser, K.D., “Optimum Design of a Lightweight 10MW Propulsion Motor”, IEEE Electric Ship Technologies Symposium (ESTP) IEEE 2017 pp. 424-431 August, 2017.

Marvin, R.H., B.T. Helenbrook, and Visser, K.D., “Predicting motor and generator maximum torque as a function of mass”, 2017 IEEE International Electric Machines and Drives Conference (IEMDC), Miami, FL, , May 21-24, 2017. pp. 1-6

Venters, R., Helenbrook, B., and Visser, K.D., “Ducted Wind Turbine Optimization,” AIAA 2016-3729, AIAA Aviation, 13-17 June 2016, Washington, D.C., 34th AIAA Applied Aerodynamics Conference

Lee, M. and Visser, K.D., “Towards an Effective Nonplanar Wing Design Strategy,” AIAA 2016-4328, AIAA Aviation, 13-17 June 2016, Washington, D.C., 34th AIAA Applied Aerodynamics Conference

Jedamski, D., and Visser, K., “Computational Analysis of a Diffuser Using USM3D for Diffuser Augmented Wind Turbines” AIAA 2013-2966, 31st AIAA Applied Aerodynamics Conference, San Diego, CA, June 2013.

Bohl, D., Helenbrook, B., Kanya, B., Visser, K., Marvin, R., Mascarenhas, B., Parker, M. and Rocky, D., “Analysis and Design of a Wind Turbine with a Wind Accelerator,” AIAA-2011-3814, 29th AIAA Applied Aerodynamics Conference, Honolulu, Hawaii, June 2011.

Streit, Thomas und Visser, Kenneth und Liersch, Carsten (2008) Minimal Induced Drag for Non-Planar Lifting Surfaces with Moderate and Small Aspect Ratio in A. Dillmann, G.Heller, M.Klaas, H.-P. Kreplin, W.Nitsche, W. Schröder (Eds.), "New Results in Numerical and Experimental Fluid Mechanics VII", Notes on Numerical Fluid Mechanics and Multidisciplinary Design (NNFM), Vol. 112, Springer, 2010, pp. 545-553

Pomeroy, B. W., and Visser, K.D., “A Computational Study of Induced Drag Behavior for Spanwise Cambered Wings,” AIAA-2010-4227, 28th AIAA Applied Aerodynamics Conference, Chicago, IL., June 2010.

Kanya, B. M., and Visser, K.D., “The Impact of Airfoil Selection on the Design of Small Horizontal Axis Wind Turbines,” AIAA-2010-1583, 48th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, FL., January 2010.

- Moeller, M. M., and Visser, K.D., "Experimental and Numerical Studies of a High Solidity, Low Tip Speed Ratio DAWT," AIAA- AIAA-2010-1585, 48th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, FL., January 2010.
- Liersch C., Streit T., Visser K, "Numerical Implications of Spanwise Camber on Minimum Induced Drag Configurations", 47th AIAA Aerospace Conference, Orlando, January, 2009.
- Czajkowski M.F. and Visser K, "Feasibility of a Unique Wind Powered Home Heating System", AIAA 2009-216, 47th AIAA Aerospace Conference, Orlando, January, 2009.
- Streit, T, Visser, K., and Liersch, C., "Minimal Induced Drag for Non-Planar Lifting Surfaces with Moderate and Small Aspect Ratio" 16th DGLR Symposium of STAB International Symposium of the German working Committee of Fluid Mechanics, RWTH Aachen University, Germany, November 3 to 4, 2008
- M.A. Khan, S. Zorlu, R. Guan, P. Pillay, K.D. Visser, "An Integrated Design Approach for Small Grid-tied Permanent Magnet Wind Generators", IEEE Power Africa Conference and Exhibition, Johannesburg, South Africa, July 16 – 19, 2007
- Brown, M. M., and Visser, K.D., "Optimum Blade Numbers and Solidities for Small HAWTs," AIAA-2007-1370, 45th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV., January 2007.
- Rector, M. C., and Visser, K.D., "Aerodynamic Design of a Small Contra-Rotating HAWT," AIAA-2007-1371, 45th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV., January 2007.
- Grover, K. and Visser, K., "Over-the-Road Tests of Sealed Aft Cavities on Tractor Trailers," SAE Technical Paper 2006-01-3529, 2006, doi:10.4271/2006-01-3529.
- Lazos, B. S., and Visser, K.D., "Aerodynamic Comparison of Hyper-Elliptic Cambered Span (HECS) Wings with Conventional Configurations," AIAA-2006-3469, 25th AIAA Applied Aerodynamics Conference, San Francisco, CA., June 2006.
- Rector, M. C., and Visser, K.D., "Solidity, Blade Number, and Pitch Angle Effects on a One Kilowatt HAWT," AIAA-2006-0608, 44th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV., January 2006.
- Visser, K.D., Ferrero Ferrero, M. del Carmen, and Nelson, R.C., "Physical Considerations of Leading Edge Flows," AIAA 2004-5083, 22nd Applied Aerodynamics Conference, Providence, RI, August 2004.
- Bennington, M.A. and Visser, K.D., "Flow Field Characteristics of an Optimized Multi-Bladed Horizontal Axis Wind Turbine", 11th International Symposium on Flow Visualization, August 9-12, 2004, University of Notre Dame, Notre Dame, Indiana, USA
- Humiston, C. and Visser, K.D., "Full Scale Results of Solidity, Blade Number and Pitch angle, on the Aerodynamics of Small Horizontal-Axis Wind Turbines," Proceedings of the World Wind Energy Conference, Cape Town, South Africa, November 23-26, 2003.
- Duquette, M.M., and Visser, K.D., "Solidity and Blade Number Effects on the Aerodynamics of Small Horizontal-Axis Wind Turbines " AIAA 2003-1340, 22nd ASME Wind Energy Symposium, Reno NV, Jan 6-9, 2003.
- Gold, N.P. and Visser, K.D., "Aerodynamic Effects of Local Dihedral on a Raked Wing Tip," AIAA-2002-0831, 40th AIAA Aerospace Sciences Meeting and Exhibit , January 14-17, 2002, Reno, NV.
- Visser, K.D., "Aerial Refueling of Commercial Aircraft," AIAA-2001-1001, 39th AIAA Aerospace Sciences Meeting and Exhibit, January 8-11, 2001, Reno, NV.
- Griffiths, R.C., and Visser, K.D., "Panel Code Estimates Of Wind Tunnel Wall and Support Interference Effects on the HSCT," 18th AIAA Applied Aerodynamics Conference AIAA-2000-4020, August 14-17, 2000, Denver Marriott Tech Center, Denver, CO.

Visser, K.D. and Washburn, A.E., “Estimation of Surface Properties Using an Off-Body Probe,” 7th International Symposium on Flow Visualization, Seattle, WA Sept. 11-14, 1995.

Washburn, A.E. and Visser, K.D., “Evolution of Vortical Structures in the Shear Layers of Delta Wings,” 12th Applied Aerodynamics Conference, AIAA-94-2317, June 20-23, 1994 Colorado Springs, CO.

Visser, K.D. and Washburn, A.E., “Transition Behavior on Flat Plate Delta Wings,” 12th Applied Aerodynamics Conference, AIAA-94-1850, June 20-23, 1994 Colorado Springs, CO.

Krist, S.L., Washburn, A.E., and Visser, K.D., “A Computational and Experimental Investigation of a Delta Wing with Vertical Tails,” 11th AIAA Computational Fluids Dynamics Conference, July 6-9, 1993.

Nelson, R.C. and Visser, K.D. “Breaking Down the Delta Wing Vortex /The Role of Vorticity in the Breakdown Process,” AGARD Symposium on Vortex Flow Aerodynamics, 1-4 October 1990, Scheveningen, The Netherlands.

Visser, K.D., Nelson, R.C., and Ng, T.T., “A Flow Visualization and Force Data Evaluation of Spanwise Blowing on Full and Half Span Delta Wings,” AIAA-89-0192, AIAA 27th Aerospace Sciences Meeting, January 9-12, 1989 Reno, NA.

Visser, K.D., Iwanski, K.P., Nelson, R.C., and Ng, T.T., “Control of Leading Edge Vortex Breakdown by Blowing,” AIAA-88-0504, AIAA 26th Aerospace Sciences Meeting, January 11-14, 1988 Reno, NV.

Patents

Visser, K.D., “Aft Rotor Slotted Ducted Wind Turbine,” Patent Number: 10,563,635, Issued February 18, 2020

Visser, K.D., “Drag Reduction of a Tractor Trailer Using Guide Vanes,” Patent Number: 9,139,238, Issued September 22, 2015.

Visser, K.D., Grover, K. and Marin, L.E., “Sealed Aft Cavity Drag Reducer,” Patent Number: 8,641,126, Issued February 4, 2014.

Visser, K.D., Grover, K. and Marin, L.E., “Sealed Aft Cavity Drag Reducer,” Patent Number: 8,079,634, Issued December 20, 2011.

Herrick, L.L., Bays-Muchmore, B., Hoffman, M.S., LeGrand, L., Ogg, S.S., Paul, B.P. Jr., Visser, K.D., and Wells, S.L. “Blunt Leading-Edge Raked Wing Tips,” Patent Number: 6,089,502, Issued July 18, 2000.

Presentations

Invited

Advanced Energy Conference - “Business Models and Regulation for Renewables”, New York, NY September 7, 2022.

TORQUE 2022 – “Real-world development challenges of the Clarkson University 3 meter ducted wind turbine”, Delft, NL June 2022

20th Annual NYS Green Building Conference - “Are Rooftop Wind Turbines a Viable Option?”, Syracuse, NY April 14, 2022.

DWEA – “Progress at DWT”, Distributed Wind Energy Conference. Washington, DC, March 2, 2022

Ignite Challenge Symposium - "On the Challenges of Commercializing Technology", Clarkson University, January 26, 2022.

DWEA – "Commercializing a Ducted Turbine Technology", Washington, DC, Feb 27, 2020

Ontario Power Generation, Cornwall ON, "Ducted Wind Turbines: A New Face for Small Wind", Jan 25, 2019.

NREL, Golden, CO, "Ducted Turbines International", Jan 18, 2019.

RMC, Kingston, Canada, "Ducted Wind Turbines: Changing the Small Wind Game", March 23, 2017.

Concordia University, Montreal, Canada, "An Introduction to Wind Energy", March 4, 2016, February 10, 2017.

Queen's University, Kingston, Canada, "Ducted Turbines: Towards Increased Energy Extraction", December 11, 2015.

Concordia University, Montreal, Canada, "Towards a Viable Ducted Wind Turbine", March 6, 2015.

Advanced Energy Conference 2013, New York, NY, "Small Wind Research in Upstate New York", April 2013.

SUNY Global Center, New York, NY, "Wind Energy Considerations for a University Campus", February 2013.

Technical University of Delft, Delft, The Netherlands, "Possibilities for Tractor Trailer Drag Reduction Using Plasma Actuators", May 2012.

Boston University, Boston, MA, "The DAWT – A Niche Turbine or Just Another Passing Fancy", February 2011.

DLR, Braunschweig, Germany, "Experimental Aerodynamics at Clarkson University: *From Tractor-Trailers to Wind Turbines*", September 2010.

19th Annual Great Lakes Research Consortium, "An Introduction to Small Wind Turbine Technology", SUNY ESF, Syracuse, NY, March 13, 2009

Building a Greener Adirondacks Educational Symposium, "An Introduction to Small Wind Turbine Technology", Tupper Lake, NY, Oct, 2008

CNY Sustainable Speaker Series, "Wind Energy in the North Country" K. Visser, P. Marzocca, Syracuse, NY, Oct 2008

8th Annual Symposium on Environmental and Energy Systems, "Wind Energy R & D Technology Transfer at Clarkson University", Syracuse Center of Excellence, Syracuse, NY, Sept, 2008

Point Pleasant Resort, USVI, "Wind Turbine Feasibility Study", Jan, 2008, Virgin Islands

The Aerodynamics of Heavy Vehicles II: Trucks, Busses, and Trains, Engineering Conferences International, (*August, 2007*), "Class 8 Vehicle Fuel Savings Using Sealed Single and Dual Open Aft Cavities" Lake Tahoe, CA.

Deutsches Zentrum für Luft- und Raumfahrt, Braunschweig, Germany, (*July 2007*), "Effects of Spanwise Cambering on Induced Drag", Braunschweig, Germany.

Technical University of Delft, (*April 2007*), "Drag Reduction of Tractor Trailers Using Open Aft Cavities", Delft, The Netherlands.

Deutsches Zentrum für Luft- und Raumfahrt, (*November 2006*), "Drag Decomposition, Spanwise Cambering, and Clarkson University", Braunschweig, Germany.

CEAS/KATnet Conference , Visser, K.D., Ferrero Ferrero, M. del Carmen, and Nelson, R.C., (*June 2005*), “Physical Considerations of Leading Edge Flows,” Bremen, Germany.

NASA Langley Research Center (*July 2003*) “Aerodynamic Implications of Wingtip Dihedral.”

1000 Islands Fluids Mechanics Meeting, (*May 2003*) “Drag Reduction of Tractor Trailers,” Gananoque, Ontario.

Lawrence Livermore National Labs (*May 2003*) “Drag Reduction of Heavy Vehicles.”

The Aerodynamics of Heavy Vehicles: Trucks, Buses and Trains, United Engineering Foundation, (*December 2002*) “Drag Reduction of a Tractor-Trailer Using Planar, Non-Ventilated Cavities,” Monterey-Pacific Grove, CA.

Rensselaer Polytechnic Institute (*March 2001*) “Are Winglets Obsolete? Design Implications of the Raked Wingtip.”

Smithsonian Museum, Washington DC (*2001*) “Truck Drag Reduction” sponsored by the National Collegiate Inventors and Innovators Alliance.

DLR, Braunschweig, Germany (*October, 2000*) “Design Advantages of Raked Wing Tips.”

Fairchild Dornier Aircraft Company, Oberpfaffenhofen, Germany (*October, 2000*) “Design Advantages of Raked Wing Tips.”

Boston University (*March, 1999*) “Where are the Winglets? Aerodynamic Design Considerations of the 767-400ER.”

Conference (no paper)

Kummer, A. and Visser, K., ”Does Rotor Inertia Impact Energy Production for Small Wind Turbines?”, Wind Energy Sciences Conference 2023, Glasgow, Scotland, May 23-26, 2023

DiMeo, J. and Visser, K., “Improved Cambered Plate Airfoils for Small Wind Turbines”, Wind Energy Sciences Conference 2023, Glasgow, Scotland, May 23-26, 2023

Helenbrook, B.T., Bagheri-Sadeghi, N., Mamoria, G. and Visser, K., “The Effect of a Hub on the Aerodynamic Performance of a Ducted Wind Turbine”, Wind Energy Sciences Conference 2023, Glasgow, Scotland, May 23-26, 2023

Visser, K., ”An Improved Binning Methodology for Experimental Wind Turbine Power Curves”, Wind Energy Sciences Conference 2023, Glasgow, Scotland, May 23-26, 2023

Bagheri-Sadeghi, N., Helenbrook, B.T., Pavone, P., Valyou, D., and Visser, K. “Towards a Commercially Viable Ducted Wind Turbine”, Wind Energy Sciences Conference 2019, University College, Cork, Ireland, June 17-20, 2019

Bagheri-Sadeghi, N., Helenbrook, B.T., and Visser, K. “The Optimal Duct Length of a Ducted Wind Turbine”, Wind Energy Sciences Conference 2019, University College, Cork, Ireland, June 17-20, 2019

Valyou, D. and Visser, K.D., “Development of a Ducted Wind Turbine Optimization Design Space”, Wind Energy Sciences Conference 2019, University College, Cork, Ireland, June 17-20, 2019

Wilson, S., Christiana, K. and Visser, K.D., “Towards a Viable Ducted Wind Turbine,” Thousand Islands Fluid Mechanics Conference, Alexandria Bay, NY, April 2015.

Visser, K.D., “Small Wind: It Can Be a Game Changer!,” Thousand Islands Energy Research Forum, Alexandria Bay, NY, Oct. 30 – Nov 1, 2015.

Helenbrook, B., Visser, K.D., and Wilson, S., “Ducted Wind Turbines: More Efficient Than Open Rotors?”, The 2nd International Conference on Future Technologies in Wind Energy (WindTech2015), October 19-21, 2015 - London, Ontario, Canada

Salisbury, A. and Visser, K., "Potential Inaccuracies in Energy Estimates from Standard Wind Turbine Power Curves", The 2nd International Conference on Future Technologies in Wind Energy (WindTech2015), October 19-21, 2015 - London, Ontario, Canada

Visser, K.D., "Towards a Viable Ducted Wind Turbine," Thousand Islands Energy Research Forum, University of Ottawa, Ottawa Canada, October 23-25, 2014.

Kehe, J.P., Visser, K.D., Grossman, J., Niemiec, J. Smith, A. and Horrell, C.M., "A Comparison of Full Scale Aft Cavity Drag Reduction Concepts With Equivalent Wind Tunnel Test Results," SAE Commercial Vehicle Engineering Congress and Exhibition, Rosemont, IL, Oct 2013.

Kehe, J.P., and Visser, K.D., "An Investigation of the Physical Mechanisms Associated with Boat Tailed Aft Cavity Ground Vehicle Drag Reduction," SAE Commercial Vehicle Engineering Congress and Exhibition, Rosemont, IL, Oct 2013.

Kehe, J. and Visser, K., "Tractor Trailer Drag Reduction Using Aft Cavities," 1000 Islands Fluid Mechanics Meeting, April 2012.

Grover, K. and Visser, K.D., "Over-the-Road Tests of Sealed Aft Cavities on Tractor Trailers," SAE Commercial Vehicle Engineering Congress and Exhibition, Rosemont, IL, Oct 31 - Nov 2, 2006.

Visser, K.D., Ferrero, M. del Carmen, and Nelson, R.C., "Physical Considerations of Leading Edge Flows," CEAS/KATnet Conference, Bremen, Germany, June 2005.

Maragno, D. and Visser, K.D., "Experimental Optimization of Non-Ventilated Aft Cavities for Tractor Trailer Drag Reduction," 2003 SAE International Truck and Bus Meeting and Exhibition. Fort Worth, Texas, November 10-12, 2003.

Visser, K.D. "Raked Wing Tips: Experimental Studies and Design Implications.," SAE World Aviation Congress, Phoenix, November 2002

Duquette, M.M, Humiston, C.J., and Visser, K.D., "Small Wind Turbine Research at Clarkson University," AWEA Windpower 2002, Portland Oregon, June 4-7, 2002.

Visser, K.D. "Assessing the Hidden Impacts of an E-Team Student Design Project," ASEE 2001 Annual Conference and Exposition, June 24-27, 2001, Albuquerque, NM.

Grants and Contracts Awarded

Ducted Wind Turbines, Inc.

Syracuse Center of Excellence Innovation Fund Award

\$10,000 (01/23) Agreement No: 00057-2022B-01

\$10,000 (10/19) Agreement No: 0035-2019B-03

\$9,186 (03/19) Agreement No.: 0028-2019A-01

Validation of an Aft-Rotor Ducted Turbine

NREL/DOE CIP, Grant NGZ-0-92383-01

\$197,752 (12/19)

Commercialization of an Aft-Rotor Ducted Turbine

NYSERDA Ignition Grant, Agreement 151288

\$89,600 (6/20 - 6/21)

Seaway Private Equity Corporation

\$112,500 (04/23)

\$215,000 (05/21)

\$150,000 (05/20)

New York State Energy and Research Development Association - Clean Tech Center

\$15,000 (10/22)

\$4,000 (04/22)

\$25,000 (03/20)

\$25,000 (02/20)

Clarkson Shipley Center

\$10,000 (12/22) NYSIS

\$5,000 (12/18)

Other Private Equity

\$224,982 (01/22)

\$62,000 (01/21 - 03/21)

\$110,000 (12/20)

\$25,000 (6/20)

\$100,000 (2/20)

\$25,000 (12/19)

Clarkson University

Industrial Assessment Satellite Center (PI)

Department of Energy through Syracuse University

\$125,000 (9/21 – 8/26)

Large Eddy Simulation of Turbulent Flows around Ducted Wind Turbines with a Massively Parallel Spectral Difference Method (Co-PI, C. Liang (PI), G. Yao, B. Zhang)

Ignite Grant, Clarkson University

\$357,100 (2/20 - 6/25)

Wind Energy Study (Co-PI, B.Helenbrook)

William Hamilton Consulting LLC

\$10,000 (7/19 - 10/19)

High Speed Tunnel Drag Test (PI)

University of Maryland (UMBC)

\$18,000 (8/18 - 10/18)

Evaluation of the Hamilton Wind Energy Extraction Device II (Co-PI, B.Helenbrook)

William Hamilton Consulting LLC

\$9,000 (7/18 - 9/18)

Evaluation of the Hamilton Wind Energy Extraction Device (Co-PI, B.Helenbrook)

William Hamilton Consulting LLC

\$6,000 (11/17 - 12/17)

Industrial Assessment Satellite Center (PI)

Department of Energy through Syracuse University

\$125,000 (10/16 - 9/21)

Partnership to Harness Potential of an Anaerobic Digester (Co-PI, S. Grimberg,(PI), S. Rogers)

National Grid

\$163,744 (9/16 - 8/18)

Development of an Aft Rotor Slotted Ducted Wind Turbine - Phase II (PI)

NEXUS-NY – Phase 2 - Supplemental

\$3,500 (11/16 - 12/16)

Development of a Slotted Shrouded Wind Turbine (PI)

NEXUS-NY – Phase 2

\$40,000 (4/16 - 4/17)

Development of a Slotted Shrouded Wind Turbine (PI)

NEXUS-NY – Phase 1

\$10,000 (1/16 - 4/16)

Thermal Analysis of Novel Generator for Wind Turbine (Co-PI, B. Helenbrook)

LC Drives Corporation

\$3000 (2/15 - 16/15)

\$14,000 (1/14 - 12/14)

Research on Novel Cooling System for Permanent Magnet Motor/Generator (Co-PI, B.

Helenbrook)

LC Drives Corporation

\$19,344 (9/13 - 11/14)

New York State Pollution Prevention Institute R&D Program 2012-2013 Student Competition

(Co-PI, S.Powers)

New York State Prevention Pollution Institute

\$5000 (12/12 - 4/13)

Industrial Assessment Satellite Center (PI)

Department of Energy through Syracuse University

\$125,000 (10/11 - 9/16)

Plasma Actuated Aerodynamic System Integration Drag Reduction for Class 8 Vehicles (PI)

New York State Energy and Research Development Association (NYSERDA)

\$34,000 (1/11 - 12/13)

GE Fellowship for Scott Cary (Co-PI)

General Electric

\$90,000 (1/11 - 8/12)

Workshop Funding for 1000 Islands Energy Research Forum 2010, Nov 12-14, 2010 (PI)

National Science Foundation

\$6,600 (11/10 - 4/11)

Performance Testing of WindTamer DAWT Prototype at the Clarkson University Wind Turbine Test Site (PI)

Arista Power Corporation

\$7,175 (11/10 - 7/12)

PON 1283: To Establish a New York-Based Wind and Photovoltaic (PV) Certification and Research Center (Co-PI)

New York State Energy and Research Development Association (NYSERDA)

\$6000 (7/10 - 6/11)

Optiwind “Hour Glass” Wind Turbine R & D Project (Co-PI, B.Helenbrook, D.Valentine, D.Bohl)

Optiwind Corporation

\$31,000 (1/09 - 6/09)

\$114,000 (1/09 - 12/11)

Fuel-Efficient Active Flow Control for Heavy-Duty Vehicles (PI)

Advanced Transit Dynamics Inc.

\$120,000 (01/09 - 12/10)

Undergrad Electric Vehicle Infrastructure Study (Co-PI, S.Powers)

Aerovironment

\$15,000 (06/09)

Advancement of Intelligent Aerospace Systems (Co-PI, G. Ahmadi (PI) R. Jha P.Marzocca, J. McLaughlin, B.Helenbrook, E.Bollt, D. Bohl)
AFOSR
\$1,741,500 (7/08 - 6/10)

An Analysis of Future Energy Solutions Including the WindTamer Turbine Concept (PI)
Future Energy Solutions, Inc.
\$4,500 March 2010
\$4,500 August 2009
\$3,000 May 2009
\$6,000 January 2009
\$13,093 June 2008

Optiwind "Hour Glass" Wind Turbine R & D Project (Co-PI, B.Helenbrook, D.Valentine, D.Bohl)
Optiwind Corporation
\$185,000 (01/08 - 12/08)

Rear Drag Technology Commercialization Support (PI)
Advanced Transit Dynamics Inc.
\$15,994 (4/07 - 8/07)
\$4,083 (09/07)

Use of Plasma Actuators to Increase Wind Energy Extraction (PI)
California Energy Commission, ESIG - University of Notre Dame
\$98,453 (08/06 - 07/07)

Development of a Blade Outer Air Seal Geometry Tool (Co-PI, K. Willmert (PI), R. Jha, B.T. Helenbrook, P. Marzocca, J. Moosbrugger)
Pratt and Whitney
\$197,000 (08/06 - 12/08)

Novel Wind Turbine Designs for Commercial Rooftop and Rural Applications (PI, P. Pillay)
Warner Energy, Syracuse, NY
\$149,978 (12/05 - 11/06)

Novel Wind Turbine Designs for Commercial Rooftop and Rural Applications (PI)
O'Brien and Gere - Grants for Growth
\$40,000 (02/06)

A Computational Wing Tip Optimization Study on Using Winglets and Raked Tips for Drag Reductions (PI)
NASA Langley Research Center
\$20,894 (10/04 - 04/05)

Trailer Drag Reduction:Phase 3: Full Scale Road Verification & Conceptual Studies (PI)
New York State Energy and Research Development Association (NYSERDA)
\$249,332 (09/03 - 08/06)

NYSTAR Center for Environmental Quality System (NY-EQS) (Co-PI, Philip Hopke (PI), Thomas Holson, John McLaughlin, Goodarz Ahmadi)
New York State
\$3,539,000 (10/01 - 9/06)

Design and Development of a Prototype Multi-Bladed Wind Turbine (PI)
New York State Energy and Research Development Association (NYSERDA)
\$24,057 (10/02 - 09/03)

Trailers Drag Reduction Phase 2 (PI)
New York State Energy and Research Development Association (NYSERDA)
\$84,814 (07/02 - 06/03)

Analytical Services for Convex Boat-tail Cavity Device (PI)

D. Whitten, Tipp City, OH

\$1,811 (11/01)

Investigation of Raked Tip Design Parameters (PI)

Fairchild Dornier Aircraft Company

\$42,252 (02/01 - 06/01)

Analytical Services for Raked Wing Tip Investigation (PI)

Fairchild Dornier Aircraft Company

\$1,805 (9/2001)

\$3,372 (12/2000)

\$1,961 (10/2000)

Trailers Drag Reduction (PI)

New York State Energy and Research Development Association (NYSERDA)

\$202,000 (09/2000 - 01/2003)

Flying Boat Project (PI)

Barradda Foundation

\$4,000 (02/2000)

Drag Reduction of Tractor-Trailers (PI)

NCIIA Advanced E-Team Grant

\$19,000 (01/2000 - 08/2000)

Teaching and Advising

Clarkson University

Introduction to Aeronautical Engineering (AE200, AE212)

Introduction to Energy Systems (ES238)

Aircraft Design I and II (AE450 and AE451)

Stability and Control of Aerospace Vehicles (AE430)

Aircraft Performance and Flight Mechanics (AE429)

Aeronautical Engineering Seminar (AE200)

Campus Sustainability Issues on Campus - Energy Use and Conservation (HP208, HP210)

Critical Thinking About Energy (HP200)

Advanced Independent Study (AE465, AE466)

Integrated Design (ME455, ME446) *Advisor*

University of Notre Dame

Fluid Dynamics (AE/ME 334)

Experimental Aerodynamics Lab (AE 442)

Short Courses

“Experimental Methods in High Alpha Flows,” University of Tennessee Space Institute Short Course Flows on High Angle of Attack / Unsteady Flow Phenomena, July 1993

Graduate Research Advisees, Clarkson University

Nojan Sadeghi - PhD (May 2021): “*Optimal Aerodynamic Design of Ducted Wind Turbines*”

Chi Ding - MS (December 2021): “*High-order large-eddy simulations of a ducted wind turbine*”

Sarah Kellog - MS (May 2021): “*Development of a Wind Energy Course*”

Benjamin Kanya - MS (Dec 2019): “*An Energy Optimized Design Strategy for Horizontal Axis Wind Turbines*”

Garrett McMullen– MS (May 2019): “*Two-phase flow in Piping Systems*”

Russel Marvin – PhD (May 2017): “*Compact Permanent Magnet Motor with Improved Cooling*”

Travis TenEyck– ME (2017): “*Evaluation of a Coupled Buoyant Device & Tidal Pressure Energy Extractor*”

Xiaotong (Tony) Ge - MS (May 2016): “*An Experimental Investigation into the Effect of Spanwise Camber on Induced Drag*”

Kingsley, Karst - ME (May 2016) “*Alternative Binning Methods for Wind Turbine Power Curve Generation*”

Kathryn Christiana– ME (May 2015): “*Rotor Placement in a Ducted Turbine*”

Joshua Kehs - PhD (May 2014): “*An Investigation into the Mechanisms of Drag Reduction of a Boat Tailed Base Cavity on a Blunt Based Body*”

Jordan Janas - MS (Dec 2012): “*Evaluation of the Drag Reduction Effectiveness of Dielectric Barrier Discharge Plasma Actuators applied to Class 8 Heavy Vehicles*”

Daniel Hetzel - MS (May 2010): “*Use of Plasma Actuators for Wind Turbine Control*”

Joshua Butler - MS (May 2008): “*An Experimental Study of the Shear Layer of Leading Edge Vortices Using Laser Doppler Velocimetry*”

Kevin Grover – MS (May 2007): “*Over the Road test of Sealed Aft Cavities on Tractor Trailers*”

Curtis Rector - MS (May 2007): “*Feasibility Study of a Small Contra-rotating Horizontal Axis Wind Turbine,*”

Matthew Brown - MS (May 2007): “*Optimum Blade Numbers for Small Horizontal Axis Wind Turbines*”

Xiaolaing Weng - MS (May 2006): “*A Numerical Study of Juncture Flow with a Dillet*”

David Maragno - MS (May 2005): “*A Numerical Study of Non-Planar, Span-Reduced Wingtips*”

Christopher Humiston – MS (Dec 2004): “*Full Scale Study of Solidity, Blade Number and Pitch Angle on the Aerodynamics of Small Horizontal Axis Wind Turbines*”

Brian Clark - ME (May 2004): “*The Importance of Wind Velocity and Directional Variability on Power Production of a Small Horizontal Axis Wind Turbine*”

Andrew DeSantis - ME (May 2004) : “*Study of Blade Pitch Angle and Free Wind Velocity of Constant Chord Non-Twisted Small Horizontal Axis Wind Turbines*”

Jamison Coon – MS (June 2002): “*The Effect of Non-Ventilated Plate Cavity Devices on Drag Reduction of Tractor Trailers,*”

Matthew Duquette – MS (July 2002): “*The Effect of Solidity and Blade Number on the Aerodynamic Performance of Small Horizontal Axis Wind Turbines,*”

Nili Gold – MS (Jan 2002): “*Development and Implementation of a Wake Survey Analysis System for the Study of the Effect of Local Dihedral and Sweep Angle on Raked Wing Tips,*”

Balaji Subramini – MS (June 2001): “*Effect of Delta Wing Flowfields on Small Wind Turbines,*”

Undergraduate Research and Design Projects

J. Dimeo (Honors 2023) “*Cambered Plate Airfoil Optimization*”

S. Gwinn (Honors 2022) “*A Simplified Rectification for Wind Turbine Wild AC*”

A. Kummer (Honors 2022) “*Effect of Rotor Inertia on Wind Turbine Energy Production*”

A. Abedi, K. Adade Jr, A. E. Canfield, M. S. Nowicki, E. D. Posadas, and B. T. Twaits (Senior Design, 2022) “*In-stream Hydropower*”

A. K. Ninos and J. Richardson (UG Research, 2022) “*Mobile Energy Platform Design*”

L. B. Bielawski, J. Tucker, and B. T. Walleshauser (Senior Design, 2022) “*Recharging station for a drone*”

B. Kadezabek (Indep. Research, 2022) “*Dillet Geometry Optimization*”

J. Frutchy (Honors 2021) “*A Micro Ducted Turbine*”

L. Louisa Edair Ulrich-Verderber (2020) “*A Novel Flapping Wind Energy Extracter*”

M. Valteau (Honors 2019) “*Design of an RPM Control System for Small Ducted Wind Turbines*”

A. Davis (Honors, 2019) “*SRC Internship Thesis: A Comparative Analysis of a Repeated Internship Experience*”

J. Baker (Honors 2017) “*Development of a Soft-Furling Wind Turbine Controller*”

J. Munn (Honors Program, 2017) “*Spanwise Twist Distribution Optimization of Non-Planar Wing Configurations*”

M. Lee (Honors Program, 2016) “*Spanwise Camber Effects on Induced Drag*”

C. Gibb and S. Wilson (Griffiths University, Australia, Spring 2015) “*Duct Optimization for DWTs*”

Dakota Pelligrini (Indep. Research 2013 - 2014) - “*An Investigation of Airfoil Vanes for Drag Reduction on Roll-up Door Class 8 Vehicles*”

E. Worden (Indep. Research 2014) “*Methodology for Heat Generation in an Incompressible System Using Cavitation*”

N. Liotta , A. Coutin- “*Optimizing Rotor Geometries using m-Rotor*”(Summer 2014)

E. Fabian, A. Parkes – “*The Design of a Duct for a Ducted Wind Turbine*”(Summer 2014)

R. Johnson (Honors, 2014) “*Design of an Airship*”

L. Magin et al. (ME Senior Design, May 2014) “*A Water Cavitation Project*”

A. Salisbury (Honors, 2013) “*An Investigation of the Validity of the Wind Turbine Power Curve*”

D. Jedamski (Honors, 2013) “*Computational Study of Flowfields for Diffuser Augmented Wind Turbines*”

A. Smith, D. Redner, C. Jones, A. Vanderbilt, J. Chartrand, N. Torkaman, J. Fromonte, G. Baker and B. Borquist (ME Senior Design, Dec 2012) “*An Investigation into the Feasibility of a Wind Powered Thermal Churn Home Water Heating Solution*”

B. Pomeroy (Honors 2010) “*Computational Study of Minimum Induced Drag Configuration for Spanwise Cambered Wings*”

M. Moeller, Jr. (Honors 2010) “*A Numerical and Experimental Investigation of a High Solidity, Low Tip Speed Ratio, Diffuser Augmented Wind Turbine*”

D. Olson (Honors Program, 2009) “*Performance Modeling of a Contra-Rotating Vertical Axis Wind Turbine*”

C. Southwick (Honors Program, 2008) “*Feasibility Study of Implementing a Commercial Size Wind Turbine to Supplement the Power Consumption of Clarkson University*”

M. Payne (Honors 2008) “*A Slotted Drag Reduction Deflector Concept*”

M. Czajkowski (Honors 2008) “*A Contra-rotating Urban Thermal Turbine*”

G. Wright (Honors 2008) “*Optimized Dillet Shapes for Minimum Drag*”

J. Slaby (Honors 2007) “*On the Use of a Delta Wing to Mitigate Tip Flows*”

- T. Deschenes (Honors 2006) “*The Study of the Effect of a Gap Seal on the Aerodynamic Drag of Tandem Vehicles*”
- E. Weathers (AE465 Independent Study, 2006) “*Wake measurements of Tip Dihedral on a Swept Wing*”
- K. Williams (REU, Hope College, 2005) “*The Effects of Optimum Blade Design on Small Wind Turbines*”
- J. Vanderover (AE465 Independent Study, 2005) “*Use of Contra-rotating Propulsion for Aircraft Design*”
- T. Passmore (Visiting student, Imperial College, UK, 2004) “*Implementation of a Weight Driven Tidal Energy Extractor / Quasi-Static Tidal Energy Extraction*”
- K. Jackson (Honors 2005) “*Feasibility Study of a Ring Support Structure for Large Horizontal-Axis Wind Turbines*”
- M. Rector (Honors 2005) “*The Effect of Blade Pitch Angle on Small Multi-Bladed Horizontal-Axis Wind Turbines*”
- G. Gambeski (AE465 Independent Study, 2004) “*Drag Reduction of Juncture Flows*”
- M. Bennington (AE465 Independent Study, 2004) “*Solidity, Blade Number, and Pitch Angle Effects on an Un-twisted Constant Chord Small Horizontal Axis Wind Turbine Using Flow Visualization Techniques*”
- Maria del Carmen Ferrero (Visiting student, Ecole Polytechnique, Paris) “*Investigation of Shear Layer Vortex Structures on Delta Wings,*” MAE Report No. MAE-366, July 2003
- J. Slaby (Honors program, summer research, 2003) “*Overflow: Implementation of an Overset Grid CFD Code at Clarkson University*”
- A. Bingham (Honors program, 2003), “*Computer Modeling of a Spring Based Gravitational Tidal Energy Extraction Concept*” submitted to *Renewable Energy*
- M. Bennington (McNair program, 2003) “*Aerial Refueling Implications for Commercial Aircraft,*” submitted to the *AIAA Journal of Aircraft*
- C. Pike (McNair program, 2003) “*Fillets and Dilletts*”
- B. Kellough, M. Blough, J. Fischer, J. VanKempen (AE465 Independent Study, 2003) “*A Reconfigurable Multi-role Aerial Platform*”
- D. Maragno (Honors program, McNair 2001-03) “*The Effects of Narrowing Angle on Drag Reduction of Unventilated Aft Cavities,*” MAE Report No. MAE-365, May 2003
- C. Trail et al (ME445 Senior Integrated Design, 2002-03) “*Design of a Removable Wind Tunnel Test Section*”
- R. Slaga (Summer Research Student, Research Assistant, 2002-2003)
- M. Allen (Honors program, 2000-01) “*Flow-Structure Energy Extraction Using an Oscillating Cylinder,*” MAE Report No. MAE-351, June 2001
- C. Bastion (Honors program, 2002), “*Surface Pressure Measurements using an Off-body Probe*”
- J. Swanson (REU program, Summer 2002), “*Improving the Efficiency of Small Wind Turbines by Optimizing Blade Number and Solidity*”
- K. Nagy (Honors program, 2002), “*Aerodynamic Properties from a Numerical Wake Evaluation*”
- J. Camps (Undergrad Advisee), AIAA Student Paper Competition, Second Place Award, 2002, “*Effects of High Gravitational Loading on Weld Geometry, Microstructure, and Hardness*”, Research Advisor: D. Aidun

- J. Slaby (Honors program, summer research, 2002) "*Studies in Insect Flight*"
- J. Cook et al. (ME445 Senior Integrated Design, 2001-02) "*Design of a Tidal Energy Extraction Device*"
- G. Bowlin (Honors program, 2001), "*Aft Trailer Device Drag Reduction and Devices Clearances*"
- P. Eddy (Honors program, summer research, 2001), "*Development of a Matlab-based Wind Tunnel Data Analysis Code*"
- M. Allen, J. Coon, M. Menotti, M. Pausley, A. Sawabini (Senior Integrated Design, 2000-01) "*Trailer Drag Reduction,*" MAE Report No. MAE-352, June 2001
- J. Wayne Braun, Elizabeth Kenney (AE465 Independent Study 2000-01) "*Passive Alleviation of Trailing Vortices On Large Aircraft,*" MAE Report No. MAE-353, June 2001
- A. Hurlbut et al. (ME445 Senior Integrated Design, 2000-01), "*Design Improvements for a Maple Sugar Refinery*"
- K. Ryan (ME465 Independent Study, 2000-01) "*Design of a Flying Boat*"