

Alice M. Nightingale, Ph.D.

Williamsville, NY 14221

alicenig@buffalo.edu

- Education:** **University of Notre Dame**, Notre Dame, IN 46556
PhD in Aerospace and Mechanical Engineering, May 2011
MS in Aerospace and Mechanical Engineering, May 2007
Areas of focus: Adaptive-optic control and aero-optics
- Lake Superior State University**, Sault Ste. Marie, MI 49783
BS in Mechanical Engineering, May 2003
- Teaching Experience:** **Assistant Professor of Teaching in the Department of Engineering Education
University at Buffalo (Fall 2020 – present)**
Currently teaching Statics in the fall semester and Statics and Dynamics in the Spring semester
- Adjunct Teaching Professor in the Department of Engineering Education
University at Buffalo (Fall 2018 – Spring 2020)**
Responsible for teaching one section of Statics (EAS207) in the fall of 2018, one section of Dynamics (EAS208) in the Spring of 2019, and currently teaching one section of Statics (EAS207) this fall of 2019
- Math Tutor (2009-2010)**
Tutored high school students individually in Algebra I, Algebra II and Geometry
- Algebra II Instructor
Culver Academies (2008/2009 academic year)**
Responsible for teaching two sections of Algebra II each semester, providing after school instruction, and conducting tutorial sessions with students outside of class
- Teaching Assistant for Differential Equations/Vibrations/Controls
University of Notre Dame (Spring 2003 – Spring 2007)**
Responsible for organizing lesson plans and teaching controls section of course (Spring 2006), leading weekly study hour (2005), teaching additional classes when necessary for professor, and grading homework assignments and exams
- Research Experience:** **Research Assistant Faculty
University of Notre Dame (2011-2013)**
Contributed as a member of the aero-optics research group at the University of Notre Dame under the direction of Dr. Eric Jumper. Involved in writing independent Matlab script to perform image processing of high-speed camera images in place of existing software program, writing papers, presenting research and meeting with graduate students.
- Journal Articles:** Nightingale, A. M., Gordeyev, S., Jumper, E. J., "Optical Characterization of a Simulated Weakly-Compressible Shear Layer: Unforced and Forced", *AIAA Journal*, Vol 47, No. 10, October 2009, pp. 2298-2305, doi: 10.2514/1.34244.
- Nightingale, A. M., Goodwine, B., Lemmon, M., and Jumper, E. J., "Phase-Locked-Loop Adaptive-Optic Controller and Simulated Shear Layer Correction", *AIAA Journal*, Vol. 51, No. 11, November 2013, doi: 10.2514/1.J052425.
- Nightingale, A. M. and Gordeyev, S., "Shack-Hartmann Wavefront Sensor Image Analysis: A Comparison of Centroiding Methods and Image-Processing Techniques", *Optical Engineering*, Vol. 52, No. 7, March 2013, doi: 10.1117/1.OE.52.7.071413.
- Nightingale, A. M., Rennie, R. M., Gordeyev, S., Kelly, R., Cavalieri, D., and Jumper, E. J., "Flight-Test Measurement of the Aero-Optical Environment of a Helicopter in Hover", *AIAA Journal*, Vol. 54, No. 9, September 2016, doi: 10.2514/1.J054549.

Conference Proceedings: Nightingale, A., Goodwine, B., Lemmon, M., and Jumper, E. J., "'Feedforward' Adaptive-Optic System Identification Analysis for Mitigating Aero-Optic Disturbances", 38th Plasmadynamics and Lasers AIAA Conference, Miami, June 2007, *AIAA-2007-4013*.

Nightingale, A., et al., "Adaptive-Optic Correction of a Regularized Compressible Shear Layer", 37th Plasmadynamics and Lasers AIAA Conference, San Francisco, June 2006, *AIAA-2006-3072*.

Nightingale, A., et al., "Computed Aero-Optic Characteristics of a Free Shear Layer using the Weakly-Compressible Model", Directed Energy Professional Society (DEPS) conference, Feb. 2006.

Nightingale, A., et al., "Regularizing Shear Layer for Adaptive Optics Control Applications", 36th AIAA Plasmadynamics and Lasers Conference, Toronto, June 2005, *AIAA-2005-4774*.

Best Student 2006 AIAA Plasmadynamics and Lasers Conference Paper

Educational Awards:

University of Notre Dame

Directed Energy Professional Society (DEPS) scholarship, 2005 – 2008
2006 Kaneb Outstanding Graduate Student Teaching Award
2003 NCAA Postgraduate Scholarship Winner

Lake Superior State University

GPA 3.98, Dean's list all eight semesters, 1999-2003
Student respondent graduation speaker, 2003
Co-Outstanding Mechanical Engineering Student Award, 2003
Verizon Academic All-American First Team, 2003
NCAA Division II Scholar Athlete of the Year, 2002/2003

Professional Affiliations:

AIAA student member 2004-2008
DEPS Fellow, 2005-2008

Athletics:

Lake Superior State University

Division II Women's Basketball, 1999-2003
Captain/MVP, 2000-2003
NCAA Division II Daktronics All-American, 2003
NCAA Division II Kodak/Women's Basketball Coaches All-American, 2003
NCAA Top VIII Award, 2003