

Daniel W. Zaide, P. Eng.

CONTACT INFORMATION	Department of Mechanical Engineering, University of British Columbia 2054-6250 Applied Science Lane Vancouver, BC, V6T 1Z4	<i>Phone:</i> (604) 358-6056 <i>E-mail:</i> dan.zaide@gmail.com <i>Website:</i> www.danielzaide.com
CITIZENSHIP	Canada	
EDUCATION	University of Michigan , Ann Arbor, Michigan, USA Ph.D., Aerospace Engineering and Scientific Computing, June 2012 <ul style="list-style-type: none">• Advisors: Professor Philip L. Roe and Professor Kenneth G. Powell• Dissertation: <i>Numerical Shockwave Anomalies</i> M.S., Applied Mathematics, April 2011 M.S.E., Aerospace Engineering, April 2009 University of Toronto , Toronto, Ontario, Canada B.A.Sc. with Honours, Engineering Science, June 2007	
PROFESSIONAL DEVELOPMENT	Instructional Skills Workshop, Certificate of Completion, December 2012 Applications of Parallel Computers, Certificate of Completion, May 2013 Foundations of Project Management I, Certificate of Completion, May 2013	
PROFESSIONAL MEMBERSHIP	Association of Professional Engineers and Geoscientists of British Columbia, Professional Engineer, March 2014	
AWARDS	20th AIAA CFD Conference, 4th AIAA CFD Student Paper Competition, 2011 <ul style="list-style-type: none">• 1st Place, “Shock Capturing Anomalies and the Jump Conditions in One Dimension” Natural Sciences and Engineering Research Council of Canada, 2010-2012 <ul style="list-style-type: none">• Postgraduate Doctoral Scholarship (PGS-D) Department of Aerospace Engineering, University of Michigan, 2007 <ul style="list-style-type: none">• Mr. & Mrs. Oliphant Fellowship	
RELEVANT EXPERIENCE	Department of Mechanical Engineering, University of British Columbia <i>Post-Doctoral Fellow</i> <ul style="list-style-type: none">• Researching and developing algorithms and software under Dr. Carl Ollivier-Gooch for unstructured mesh adaptation in the simulation of the semi-conductor device manufacturing process, specifically local surface insertion into pre-existing meshes.• Implemented new unstructured mesh algorithms into C++ framework for localized surface insertion into existing meshes, developing both software and algorithm test cases to ensure functionality and robustness. <i>Sessional Lecturer, Undergraduate Aerodynamics</i> January 2013 to April 2013 <ul style="list-style-type: none">• Developed course notes and supplementary resources for the undergraduate aerodynamics course to senior engineering students. Lectured, graded, and administered course material. Center for Radiative Shock Hydrodynamics, University of Michigan <i>Graduate Student Research Assistant</i> September 2009 to June 2012 <ul style="list-style-type: none">• Collaborated with a large research team on numerical method development for the	

simulation and uncertainty quantification of large scale radiative shockwave experiments.

- Developed new understanding of numerical shock structure in shock-capturing schemes.

Los Alamos National Lab, Los Alamos, New Mexico, USA

Graduate Student Research Assistant

May 2010 to August 2010

- Examined anomalous behavior in the numerical simulation of shockwaves and implemented implicit-explicit timestepping methods for radiation hydrodynamics under the supervision of Dr. Robert B. Lowrie.

Department of Aerospace Engineering, University of Michigan

Graduate Student Instructor

2007-2011

- Teaching Assistant for AERO 325: Introduction to Aerodynamics, AERO 523: Computational Fluid Dynamics I, and AERO 520: Compressible Flow.
 - Responsible for holding office hours, answering questions about course material, and assisting with homework material.
 - Developed homework and midterm solutions and grading rubrics.
 - Gave occasional lectures on course material and other related topics.

SELECTED
CONTRIBUTIONS

Zaide, Daniel W. and Ollivier-Gooch, Carl F., **Anisotropic Layering via curve insertion into unstructured meshes.** *23rd International Meshing Roundtable*, Oct 2014.

Zaide, Daniel W. and Ollivier-Gooch, Carl F., **Inserting a surface into an existing unstructured mesh.** *Submitted to the International Journal for Numerical Methods in Engineering*, June 2014.

Zaide, Daniel W. and Ollivier-Gooch, Carl F., **Inserting a Curve into a Mesh in Two Dimensions.** *22nd International Meshing Roundtable*, Oct 2013.

Zaide, Daniel W. and Roe, Philip L., **A Second-Order Finite Volume Method that Reduces Numerical Shockwave Anomalies in One Dimension.** *21st AIAA Computational Fluid Dynamics Conference*, June 2013

Zaide, Daniel W. and Roe, Philip L., **Shock Capturing Anomalies and the Jump Conditions in One Dimension.** *20th AIAA Computational Fluid Dynamics Conference*, June 2011

Zaide, Daniel W. and Roe, Philip L., **Entropy-based Mesh Refinement, II: A New Approach to Mesh Movement.** *19th AIAA Computational Fluid Dynamics Conference*, June 2009

Zaide, Daniel W., **High-Order Finite-Difference Methods for the Quasi-1D Euler Equations.** Undergraduate Thesis. April 2007

PROFESSIONAL
SERVICE

Team Mentor - Simon Fraser University Unmanned Aerial Vehicle Team
Co-Faculty Advisor - University of British Columbia Human Powered Vehicle Team

TECHNICAL
SKILLS

Programming: C, C++, Python, Matlab
Word Processing Software: $\text{T}_{\text{E}}\text{X}$, $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$, Microsoft Office, Open Office
Technical Software: Matlab, Mathematica, Octave, Paraview
Operating Systems: Microsoft Windows, Linux, OS X

REFERENCES

Available Upon Request