

Daniel W. Zaide

CONTACT INFORMATION *Phone:* (303) 919-7338
E-mail: dan.zaide@gmail.com
Website: www.danielzaide.com

CITIZENSHIP Canada

EDUCATION **University of Michigan**, Ann Arbor, Michigan, USA
Ph.D., Aerospace Engineering and Scientific Computing, June 2012
 • Advisors: Professor Philip L. Roe and Professor Kenneth G. Powell
 • Dissertation: *Numerical Shockwave Anomalies*
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

PUBLICATIONS Zaide, Daniel W. and Ollivier-Gooch, Carl F., **Inserting a Shock Surface into An Existing Unstructured Mesh**, *Shock Fitting, Classical Techniques, Recent Developments, and Memoirs of Gino Moretti*, 2017

Zaide, Daniel W., Lu, Qiukai, and Shephard, Mark S., **A comparison of C^0 and G^1 continuous curved meshes on high-order finite element simulations**, *24th International Meshing Roundtable*, Oct 2015.

Zaide, Daniel W. and Ollivier-Gooch, Carl F., **Inserting a surface into an existing unstructured mesh**. *International Journal for Numerical Methods in Engineering*, 2015.

Zaide, Daniel W. and Ollivier-Gooch, Carl F., **Anisotropic Layering via curve insertion into existing meshes**. *23rd International Meshing Roundtable*, Oct 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, AIAA-2013-2699

Zaide, Daniel W. and Roe, Philip L., **Flux Functions for Reducing Numerical Shockwave Anomalies**. *Seventh International Conference on Computational Fluid Dynamics*, July 2012

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, AIAA-2011-3686

Roe, Philip L. and Zaide, Daniel W., **Entropy Traces in Eulerian and Lagrangian Calculations**. *Sixth International Conference on Computational Fluid Dynamics*, July 2010

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, AIAA-2009-3791

CONFERENCE
PRESENTATIONS

- Zaide, Daniel W., **Why do Numerical Shockwaves Jump to the Wrong Conclusions.** Presentation *Canadian Applied and Industrial Mathematics Society Conference*, June 2013
- Zaide, Daniel W., **How to Capture a Shockwave.** Presentation *Future Directions in CFD Research, A Modeling and Simulation Conference*, August 2012
- Roe, Philip L., and Zaide, Daniel W., **Ameliorating Shock-capturing Anomalies.** *14th International Conference on Hyperbolic Problems: Theory, Numerics, Applications*, June 2012
- Roe, Philip L., and Zaide, Daniel W., **Removing Shock-capturing Anomalies.** *The 9th New Models and Hydrocodes for Shock Wave Processes Conference*, April 2012
- Zaide, Daniel W. and Roe, Philip L., **Shock Capturing Anomalies and the Jump Conditions in One Dimension.** Poster. *53rd Annual Meeting of the APS Division of Plasma Physics*, November 2011
- Zaide, Daniel W. and Roe, Philip L., **On Wall Heating, Slowly Moving Shocks, and Sub-cell Shock Position.** *International Conference on Numerical Methods For Multi-Material Fluid Flows*, September 2011
- Zaide, Daniel W. and Lowrie, Robert B., **A Second-Order IMEX Method for Radiation Hydrodynamics.** *7th International Congress on Industrial and Applied Mathematics*, July 2011
- Moran-Lopez, J. Tiberius, Zaide, Daniel W., Holloway, James P., and Schilling, Oleg., **Effects of Turbulence on Taylor-Sedov Blast Waves in Radially-Symmetric Geometries.** *62nd Annual Meeting of the APS Division of Fluid Dynamics*, November 2009.
- Roe, Philip L. and Zaide, Daniel W., **An Eulerian Look at Lagrangian CFD.** *Numerical Methods for Multi-material Fluids and Structures Conference*, September 2009

OTHER
CONTRIBUTIONS

- Zaide, Daniel W., and Lowrie, Robert B., An IMEX Method for Radiation Hydrodynamics. Poster. October 2010.
- Zaide, Daniel W., Roe, and Philip L., Entropy Traces in Lagrangian and Eulerian Calculations. Poster. University of Michigan Engineering Graduate Symposium. October 2010.
- Zaide, Daniel W., Roe, Philip L., and Powell, Kenneth G., Investigating the Wall Heating Phenomenon. Poster. September 2009.
- Zaide, Daniel W., Roe, Philip L. On Godunov-Type Lagrangian Methods. Poster. September 2009
- Moran-Lopez, J. Tiberius, Zaide, Daniel W., Holloway, James P. , and Schilling, Oleg. Towards a Self-Similar Analysis of the Turbulent Taylor-Sedov Blast Wave. Poster. September 2009
- Zaide, Daniel W., Moran-Lopez, J. Tiberius, Fidkowski, Krzysztof J., and Powell, Kenneth G. Fully-Implicit Discontinuous Galerkin Methods for Hydro-P1 Equations. Poster. April 2009
- Moran-Lopez, J. Tiberius, Holloway, James P., Zaide, Daniel W., Schilling, Oleg. Turbulent Radiative Shock Modeling with Low-Order Angular Moment Resolution. Poster. April 2009
- Zaide, Daniel W., High-Order Finite-Difference Methods for the Quasi-1D Euler Equations. Undergraduate Thesis. April 2007