

William Frederick Louisos, PhD ME

EDUCATION

HO V X VJ HGE WRRRFGK DJJDFZ W GHQ.SUGIQR B VMH ELOQR R B GL FDO GHYLFHV

INDUSTRY EXPERIENCE

Trane Energy Systems of Buffalo, New York

Mechanical Engineer & CAD Specialist

- Distributed power generation and Cogeneration systems.
- Refrigeration, heat recovery, and thermal storage systems.
- Building automation, control, and energy management.
- Engine, fuel cell, and microturbine power generation.
- HVAC, hydronic, natural gas, steam, and electrical systems.
- Computer Network design and installation – multiple servers and remote hubs.

PROFESSIONAL ACHIEVEMENTS, AFFILIATIONS,

- Á **Louisos, W.F.**, Hitt, D.L., & Danforth, C.M. “Chaotic flow in a 2D natural convection loop with heat flux boundaries” *International Journal of Heat & Mass Transfer*, Vol. 61, pp. 565-576, June 2013.
- Á Sandy F. C. Stewart, Eric G. Paterson, Greg W. Burgreen, Prasanna Hariharan, . “Assessment of CFD Performance in Simulations of an Idealized Medical Device: Results of FDA’s First Computational Interlaboratory Study” *Journal of Cardiovascular Engineering & Technology*, February, 2012 –
- Á **Louisos, W.F.** & Hitt, D.L., “Influence of Wall Heat Transfer on Supersonic MicroNozzle Performance” *AIAA Journal of Spacecraft & Rockets*, Vol. 49, No. 3, pp. 450-460, 2012.
- Á **Louisos, W.F.** & Hitt, D.L., “Viscous Effects on Performance of Three-Dimensional Supersonic Micronozzles” *AIAA Journal of Spacecraft & Rockets*, Vol. 49, No. 1, pp. 51-58, 2012.
- Á **Louisos, W.F.** & Hitt, D.L., “Analysis of Transient Flow in Supersonic Micronozzles” *AIAA Journal of Spacecraft & Rockets*, Vol. 48, No. 2, pp. 303-311, 2011
- Á **Louisos, W.F.** & Hitt, D.L., “Xkueqwu Ghggevü qp Rgthqtöcpeg qh Vyq/Fkögpuqpcn Uwrqtupke Nkpgct Oketppq|ngu” *AIAA Journal of Spacecraft & Rockets*, Vol. 45, No. 4, pp. 706-715, 2008.
- Á **Louisos, W.F.**, Alexeenko, A.A., Hitt, D.L. & Zilic, A, “Design Considerations for Supersonic Micronozzles” *International Journal of Manufacturing Research*, Vol. 3, No. 1, pp. 80-113, 2008.

PEER REVIEWED BOOK CHAPTERS

- Á **Louisos, W.F.** & Hitt, D.L., “Supersonic Micro-Nozzles” *Encyclopedia of Microfluidics and NanoFluidics*, Springer Publishers, 2008

PEER REVIEWED CONFERENCE PROCEEDINGS

- Á Pearl, J., Hitt, D.L., **Louisos, W.F.**, “Curvilinear Surface-Based Gravity Model for Evolutionary Trajectory Optimization around Bennu” 29th AAS/AIAA Space Flight Mechanics Meeting, Ka’anapali, Hawaii, Paper ID AAS 19-339, January 13-17, 2019.
- Á Pearl, J., Hitt, D.L., **Louisos, W.F.**, “Hybrid Gravity Model for Asteroids with Heterogeneous Density Distributions” AIAA Space Flight Mechanics Meeting, AIAA Science and Technology Forum 2018, AIAA-2018-0955, Kissimee, Florida, January 8-12, 2018.

- Á Pearl, J., **Louisos, W.F.**, Hitt, D.L., “Three-Dimensional Numerical Study of Linear Plug Micronozzles” Proc. of 53rd AIAA Aerospace Sciences Meeting, AIAA Science and Technology Forum 2015, Control ID#: 2020655, Kissimee, Florida, January 5-9, 2015.
- Á Pearl, J., **Louisos, W.F.**, Hitt, D.L., “Viscous Effects on Performance of Linear Plug Micronozzles.” Proc. of ASME 2014 International Mechanical Engineering Congress & Exposition, IMECE2014-37612, Nov. 14-20, 2014, Montreal Quebec, Canada
- Á **Louisos, W.F.**, Hitt, D.L., & Danforth, C.M. “Ejcvqke Pcvwtcn Eqpxgevkqp kp c Vqtqkfcv Vjgtoqu{rjqp ykvj Jgcv Hnwz Dqwpfctkgu” Proc. 44th AIAA Thermophysics Conference, San Diego, California. June 23-27, 2013. Paper No. AIAA-2013-2638
- Á **Louisos, W.F.**, Hitt, D.L., & Danforth, C.M. “Chaotic Flow in a 2D Natural Convection Loop with Heat Flux Boundaries” Proc. 43rd AIAA Thermophysics Conference, New Orleans, Louisiana. June 25-28, 2012. Paper No. AIAA-2012-2752
- Á **Louisos, W.F.** & Hitt, D.L., “Transient Analysis of Supersonic Viscous Flow in 3D MicroNozzles” Proc. 41st AIAA Fluid Dynamics Conference, Honolulu, Hawaii. June 27-30, 2011. Paper No. 2011-3996
- Á Greenfield, B., **Louisos, W.F.**, Hitt, D.L., “Numerical Simulations Of Multiphase Flow In Supersonic Micro-Nozzles” Proc. 49th AIAA Aerospace Sciences Meeting, Orlando, Florida. January 4-7, 2011.
- Á **Louisos, W.F.** & Hitt, D.L., “Transient Simulations of 3D Supersonic MicroNozzle Flows” Proc. 8th International Conference on Nanochannels, Microchannels, and Minichannels, Montreal, Canada August 1-5, 2010. Paper No. FEDSM-ICNMM2010-30968
- Á **Louisos, W.F.** & Hitt, D.L., “Assessing the potential for Condensation in Supersonic MicroNozzle Flows” Proc. 10th AIAA/ASME Joint Thermophysics & Heat Transfer Conference, Chicago, Illinois, June 28 – July 1, 2010. Paper No. 2010-5059.
- Á **Louisos, W.F.** & Hitt, D.L., “The Role of Heat Transfer on Performance of 3D Supersonic Micronozzles” Proc. 39th AIAA Fluid Dynamics Conference, San Antonio, Texas, June 22-25, 2009. Paper No. 2009-3823.
- Á **Louisos, W.F.** & Hitt, D.L. “Numerical Simulations of Viscous Flow in 3D Supersonic Bell Micronozzles” Proc. 47th AIAA Aerospace Sciences Meeting, Orlando, Florida. Jan. 5-8, 2009. Paper No. 2009-446.
- Á **Louisos, W.F.**, Hitt, D.L., Alexeenko, A.A., & Ketsdever, A, “Operating Characteristics of Micro-Scale Supersonic Nozzles: An Overview” Proc. Advanced Space Propulsion Workshop, Pasadena, California October 28-30, 2008.
- Á **Louisos, W.F.** & Hitt, D.L. “Numerical Studies of Thrust Production in 2-D Supersonic Bell Micronozzles” Proc. 44th AIAA Joint Propulsion Conference., Hartford, Connecticut July 20-23, 2008. Paper No. 2008-5233.

- Á **Louisos, W.F.** & Hitt, D.L. “Performance Characteristics of 3D Supersonic Micronozzle Flows” Proc. 38th AIAA Fluid Dynamics Conference, Seattle, Washington June 23-26, 2008. Paper No. 2008-4279.
- Á **Louisos, W.F.** & Hitt, D.L. “Heat Transfer & Viscous Effects in 2D & 3D Supersonic Micro-Nozzle Flows” Proc. 37th AIAA Fluid Dynamics Conference, Miami, Florida June 25-28, 2007. Paper No. 2007-3987.
- Á **Louisos, W.F.** & Hitt, D.L., “Viscous Effects in Supersonic Micro-Nozzle Flows: Transient Analysis,” Proc. 36th AIAA Fluid Dynamics Conference, June 5-8 2006, San Francisco, California. Paper No. AIAA-2006-2874.
- Á **Louisos, W.F.** & Hitt, D.L., “Optimal Expander Angle for Viscous Supersonic Flow in 2-D Micro-Nozzles,” Proc. 35th AIAA Fluid Dynamics Conference, June 6-9 2005, Toronto, Canada. Paper No. AIAA-2005-5032.

REFEREED CONFERENCE ABSTRACTS

- Á Mancu, S., Dubief, Y., **Louisos, W.**, Harris, T., & Hitt, D. “Numerical Simulation of Slug Formation in Micro-Channels” Proceedings of the 60th American Physical Society DFD Nov. 18-20, 2007. Salt Lake City, Utah.
- Á **Louisos, W.F.** & Hitt, D.L., “Viscous Effects in Supersonic Micro-Nozzle Flow” Proceedings of the 59th American Physical Society DFD Nov. 19-23, 2006. Tampa, Florida.

~~CONFIDENTIAL~~

- À AIAA Fluid Dynamics Conference, San Diego, CA (4)
- À AIAA Fluid Dynamics Conference, New Orleans, LA (8)
- À Journal of Aircraft Engineering and Aerospace Technology (1)
- À Acta Astronautica (1)
- À Textbook: Thermodynamics by Robert Balmer, Elsevier Publishing
- À AIAA Journal of Propulsion & Power (1)
- À Journal of MicroMechanics and MicroEngineering (1)
- À ASME Conf. on Nano-, Micro-, and Mini-channels, Montreal (4)
- À AIAA Fluids Dynamics Conference, Chicago, IL (10)
- À Book review of McGraw-Hill Nano/Microscale Heat Transfer (1)

COMMUNITY SERVICE

- À MLK Service Day - Lucy's House for the Prevention of Homeless Pets
- À Governor's Institute of Vermont (GIV) – Guest Speaker & Laboratory Demo
- À Connecticut River Watershed Council's 18th annual Source to Sea Cleanup

2017 - 2018

Project Title: "Hybrid Gravity Model for Asteroids with Heterogeneous Density Distributions"

Source: Vermont Space Grant

Program: Graduate Fellowship

Role: Primary Investigator

Amount: \$27,500

Project duration: 07/01/17 – 5/17/18

Time commitment: PhD Student Adviser

2018 - 2019

Project Title: "High Order Numerical Schemes fo