

Curriculum Vitae: Jonathan B. Snively

CONTACT INFORMATION	Embry-Riddle Aeronautical University Department of Physical Sciences and CSAR 1 Aerospace Blvd. Daytona Beach, FL 32114, USA Mobile: (814) 404-2048 snivelyj@erau.edu
EMPLOYMENT HISTORY	Embry-Riddle Aeronautical University, Daytona Beach, Florida USA (Full) Professor and University Research Fellow March 17, 2025 - Present Director of the Center for Space and Atmospheric Research (CSAR) March 9, 2021 - January 10, 2025 (Full) Professor August 16, 2021 - January 10, 2025 Associate Professor of Engineering Physics August 16, 2016 - August 15, 2021 Assistant Professor of Engineering Physics August 16, 2010 - August 15, 2016 U. S. Naval Research Laboratory (NRL), Washington, DC USA Research Physicist January 13, 2025 - March 14, 2025 Utah State University, Logan, Utah USA Postdoctoral Researcher, USU Center for Atmospheric and Space Sciences January 1, 2010 - July 16, 2010 NSF CEDAR Postdoctoral Research Fellow January 1, 2008 - December 31, 2010
DEGREES EARNED	The Pennsylvania State University, University Park, Pennsylvania USA Ph.D., Electrical Engineering, December 2007. • Thesis Title: “Mesopause Airglow Modulation by Ducted Short-Period Gravity Waves” • Committee: V. P. Pasko (Advisor), J. D. Mathews, C. R. Philbrick, S-Y. Lee M.S., Electrical Engineering, August 2003 • Thesis Title: “Tropospheric Forcing as a Source of Quasi-Monochromatic Short-Period Gravity Waves Observed in the Upper-Mesosphere and Lower-Thermosphere” • Committee: V. P. Pasko (Advisor), J. D. Mathews Elizabethtown College, Elizabethtown, Pennsylvania USA B.S., Engineering Physics, August, 2001. <i>Magna Cum Laude</i>, with minors in Computer Science and Philosophy.
RESEARCH EXPERIENCE	Focused on the modeling, simulation, and synthesis of observations and experiments to capture compressible and transient dynamics of the atmosphere and space environment, from surface to exobase. • Developer of the nonlinear, compressible, and shock-capturing atmospheric Model for Acoustic-Gravity wave Interactions and Coupling, “MAGIC”, and its adaptive mesh refinement (AMR) formulation “MAGIC Forest”. MAGIC has been used in over 50 publications. • Original PI of DARPA AtmoSense AIRWaveS projec (Atmosphere-Ionosphere Responses to Wave Signals) Project Phase 1+2 Teams (January 2021 – May 2025), to develop “FIGMENTS” capabilities for simulation of acoustic-gravity wave propagation, evolution, and effects from Earth’s surface to exobase (in MAGIC Forest), including comprehensive ionospheric responses (in Trees GEMINI, led by M. D. Zettergren), with Phase 2 experimental validation. Assembled and led >10-institution international team across two phases, including university and federal partners. • Deputy PI of the NASA AWE Mission of Opportunity and Science Co-I (for MAGIC applications to the OH airglow layer observed by the AWE AMTM), to support Mission Science Team needs (with USU PI Prof. L. Scherliess, formerly M. J. Taylor).
HONORS & AWARDS	ERAU Eagle Research Award, 2024 ERAU Gulamabas Sivjee Researcher of the Year, Daytona Beach Campus, 2016 NASA Group Achievement Award, Hayabusa Re-entry Airborne Observation Project, 2011 NASA Ames Honor Award, Hayabusa Re-entry Airborne Observation Team, 2010 NSF CEDAR MLT Student Poster Competition, First Prize, CEDAR Workshop, 2003 & 2005 PSU Anthony J. Ferraro Graduate Research Award, 2004 Elizabethtown College Larry H. Reber Award in Physics, 2001.

SELECTED
PUBLICATIONS

Piñeyro, B., R. Sabatini, and **J. B. Snively**, Impact of species diffusion on the attenuation of acoustic waves in multi-component planetary atmospheres. *J. Acoust. Soc. Am.*, 159(2), 10.1121/10.0042249, 2026.

Inchin, P. A., K. Deshpande, S. Egan, E. H. Lay, K. S. Obenberger, M. D. Zettergren, and **J. B. Snively**, Ionospheric disturbances in GNSS TEC data: SpaceX Falcon 9 deorbit maneuvers over CONUS in April–May 2024. *Geophys. Res. Lett.*, 52(8), e2024GL112364, 2025.

Inchin, P. A., A. Bhatt, S. Cummer, S. Eckermann, B. Harding, D. Kuhl, J. Ma, J. Makela, R. Sabatini, and **J. B. Snively**, Multi-layer evolution of acoustic-gravity waves and ionospheric disturbances over the United States after the 2022 Hunga Tonga volcano eruption, *AGU Advances*, e2023AV000870, 2023.

Dong, W., Fritts, D. C., Liu, A. Z., Lund, T. S., Liu, H.-L., and **Snively, J. B.**, Accelerating atmospheric gravity wave simulations using machine learning: Kelvin-Helmholtz instability and mountain wave sources driving gravity wave breaking and secondary gravity wave generation, *Geophys. Res. Lett.*, 50, e2023GL104668, 2023.

Matoza, R. S., et al., Atmospheric waves and global seismoacoustic observations of the January 2022 Hunga eruption, Tonga, *Science*, 10.1126/science.abo7063, 2022.

Inchin, P. A., **J. B. Snively**, Y. Kaneko, M. D. Zettergren, and A. Komjathy, Inferring the evolution of a large earthquake from its acoustic impacts on the ionosphere, *AGU Advances*, 2(2), e2020AV000260, 2021.

Heale, C. J., **J. B. Snively**, A. N. Bhatt, L. Hoffmann, C. Stephan, and E. A. Kendall, Multilayer observations and modeling of thunderstorm-generated gravity waves over the Midwestern United States. *Geophys. Res. Lett.*, 46(23), 14164–14174, 10.1029/2019GL085934, 2019.

Burleigh, M. R., C. J. Heale, M. D. Zettergren, and **J. B. Snively**, Modulation of Low-Altitude Ionospheric Upflow by Linear and Nonlinear Atmospheric Gravity Waves, *J. Geophys. Res.*, 123, 9, 10.1029/2018JA025721, 2018.

Bossert, K., C. G. Kruse, C. J. Heale, D. C. Fritts, B. P. Williams, **J. B. Snively**, P-D. Pautet, M. J. Taylor, Secondary gravity wave generation over New Zealand during the DEEPWAVE campaign, *J. Geophys. Res.*, 122, 10.1002/2016JD026079, 2017.

Zettergren, M. D. and **J. B. Snively**, Ionospheric response to infrasonic acoustic waves generated by natural hazard events, *J. Geophys. Res.*, 120, 10.1002/2015JA021116, 2015.

Snively, J. B., Mesospheric hydroxyl airglow signatures of acoustic and gravity waves generated by transient tropospheric forcing, *Geophys. Res. Lett.*, 40, 17, 4533–4537, 10.1002/grl.50886, 2013.

Galvan, D. A., A. Komjathy, M. P. Hickey, P. Stephens, **J. B. Snively**, Y. T. Song, M. D. Butala, A. J. Mannucci, Ionospheric signatures of Tohoku-Oki tsunami of March 11, 2011: Model comparisons near the epicenter, *Radio Science*, 47(4), RS4003, 10.1029/2012RS005023, 2012.

Snively, J. B. and V. P. Pasko, Breaking of thunderstorm-generated gravity waves as a source of short-period ducted waves at mesopause altitudes, *Geophys. Res. Lett.*, 30(24), 10.1029/2003GL018436, 2003.

SOCIETY
MEMBERSHIP

American Geophysical Union (AGU), Member, 2003–Present (*Primary Society Affiliation*)
Acoustical Society of America, Associate Member, 2022–Present
European Geophysical Union (EGU), Member, 2010–2011; 2017–Present
American Meteorological Society (AMS), Member, 2016–2018
American Institute of Aeronautics and Astronautics (AIAA), Member, 2011–2014