Logan Scamfer

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Education

M.S. [expected May 2026] **Earth System Science, Solid Earth Geophysics**, *University of Alaska Fairbanks*, Fairbanks, AK, *GPA: 4.000/4.000*
Relevant Coursework: Seismology, Foundations of Geophysics, Inverse Problems & Parameter Estimation, Linear Algebra.

B.S. **Geoscience, Geophysics emphasis**, *Boise State University*, Boise, ID, *GPA: 3.887/4.000*
Relevant Coursework: Applied Geophysics, Geophysical Applications of Digital Signal Processing, Differential Equations, Instrumentation and Electronics in Geoscience.

Professional Experience

May 2025 – Present **R&D Graduate Intern**, *Sandia National Laboratories*, Albuquerque, NM, Mentor: Dr. Elizabeth Silber
Project consisted of characterizing a fireball (bright meteor) event using seismoacoustic observations. Acoustic waves emitted by the fireball were recorded by an exceptionally dense network, allowing for fine-scale estimates of energy & trajectory.

Jan 2024 – Present **Graduate Research Assistant**, *University of Alaska Fairbanks*, Fairbanks, AK, Mentor: Dr. David Fee
Primary research on air-to-ground coupled waves, focusing on how subsurface structure and the incident acoustic wave control seismic response. Additional activities include participation with the Alaska Volcano Observatory and collaboration with the Wilson Alaska Technical Center on planning, execution, and preliminary data analysis for two geophysical data collection campaigns in New Mexico.

Sep 2022 – Nov 2023 **Undergraduate Research Assistant**, *Boise State University*, Boise, ID, Mentor: Dr. Jake Anderson
Analysis of infrasound array data from a 22-element infrasound array in the Sawtooth Mountains, ID. Primarily beamforming analysis to identify weak acoustic signals such as thunderstorms, waterfalls, and earthquakes. Culminated in the preparation and publication of a peer-reviewed scientific paper.

Publications

Scamfer, L. T., & Anderson, J. F. (2023). Exploring background noise with a large-N infrasound array: Waterfalls, thunderstorms, and earthquakes. *Geophysical Research Letters, 50*, e2023GL104635. `https://doi.org/10.1029/2023GL104635`

Presentations

Scamfer, L., Silber, E., Fries, M., Vida, D., Šegon, D., Sawal, V. (2025). Characterizing an Energetic Daylight Fireball over Alaska using Extensive Seismoacoustic Observations. *Sandia Labs Student Intern Symposium*. [Poster]

Scamfer, L., Fee, D., Bishop, J. W., Haney, M. M.,& Macpherson, K. A. (2025). Leveraging Seismic Particle Motion of Air-to-ground Coupled Waves to Investigate the Structure of the Shallow Subsurface. *Seismological Society of America Annual Meeting*. [Oral]

Scamfer, L., Fee, D., Bishop, J. W., Macpherson, K. A., & Haney, M. M. (2024). Seismic Particle Motion of Air-to-ground Coupled Waves. *American Geophysical Union Annual Meeting*. [Poster]

Fieldwork Experience

2024 Two separate (Spring & Fall) campaign infrasound array and nodal seismic deployments in New Mexico to collect geophysical data from repeated surface explosions.

2023 Assisted in a 144-channel seismic reflection survey in Boise, ID.

2023 Six-week field camp at Branson Field Laboratory, Lander, WY.