

FRANSISKA K. DANNEMANN DUGICK

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Q-Cleared, SCI in progress

Los Alamos National Laboratory

Solid Earth Geophysics

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EDUCATION

- Jan 2017 - Dec 2020 Southern Methodist University
(expected) Ph.D in Geophysics
 Enhancing Infrasonic Signal Detection and Event Location Estimates through Improved Computational Methods
- Aug 2014 - Aug 2016 Southern Methodist University
 M.S in Geophysics
 Improving Infrasonic Event Locations in the Western US using Applied Atmospheric Modeling
- Aug 2008 - May 2012 Colorado College
 B.A. in Geology, with Distinction

JOURNAL PUBLICATIONS

Dannemann-Dugick, F.K., Blom, P., Stump, B.W., Marcillo, O., Hayward, C.T. and Arrowsmith, S.,
Benchmarking Adaptive Infrasonic Signal Detector Performance in the Presence of Correlated Noise. *In preparation for submission to the Journal of the Acoustical Society of America.*

Dannemann-Dugick, F.K., and Albert, S., Establishing a baseline for infrasound signal detection and event localization utilizing the 2018 Dynamic Networks Experiment. *In preparation for submission to Seismological Research Letters.*

Dannemann Dugick, F. K., Stump, B.S., Blom, P. S., Hayward, C., Arrowsmith, S.J., "Bias and Uncertainty in Infrasonic Event Localization Estimates." (in preparation for submission to the Journal of the Geophysical Research, 2020)

Blom, P., Euler, G., Marcillo, O and **Dannemann Dugick, F.K.**, (2020) Evaluation of a pair-based, joint-likelihood association approach for infrasound event identification. *Geophysical Journal International*, 221(3), 1750-1764.

Blom, P., **Dannemann, F. K.**, & Marcillo, O. (2018). Estimation of explosive yield using regional distance infrasound. *The Journal of the Acoustical Society of America*, 143(3), 1807-1807.

Park, J., Che, I.Y., Stump, B., Hayward, C., Dannemann, F., Jeong, S., Kwong, K., McComas, S., Oldham, H.R., Scales, M.M. and Wright, V. "Characteristics of infrasound signals from North Korean underground nuclear explosions on 2016 January 6 and September 9." *Geophysical Journal International* 214.3 (2018): 1865-1885.

Blom, P., Marcillo, O., Euler, G., **Dannemann, F.** and Park, J. (2016) "Analysis of explosive sources using a distributed network of infrasound arrays," *J. Acoust. Soc. Am*, 140, 2996-2996, DOI:<http://dx.doi.org/10.1121/1.4969281>

Jones, E.S., Hayes, G.P., Benardino, M., **Dannemann, F.K.**, Furlong, K.P., Benz, H.M., and Villasenor, A., (2014) "Seismicity of the Earth 1900-2012 Java and vicinity: U.S. Geological Survey Open-file Report 2010-1083-N," 1 sheet, scale 1:5,000,000, DOI:<http://dx.doi.org/10.3133/ofr20101083N>.

Hayes, G.P., Bernardino, M., **Dannemann, F.K.**, Smoczyk, G., Briggs, R., Benz, H.M., Furlong, K.P., and Villaseñor, A., (2013) "Seismicity of the Earth 1900–2012 Sumatra and vicinity: U.S. Geological Survey Open-File Report 2010–1083-L," scale 1:6,000,000, DOI:<http://pubs.usgs.gov/of/2010/1083/l/>.

AWARDS/HONORS

July 2019 *LANL Spot Award*

Excellence in Field Work during DAG series

May 2015 *Richard-Goodell Award for Outstanding Graduate Student Teaching*,

Huffington Department of Earth Sciences, Southern Methodist University, Dallas, TX

RESEARCH EXPERIENCE

Jan 2017 -Present *Graduate Research Assistant*, Los Alamos National Laboratory
Los Alamos, NM; supervisors: Philip Blom and Omar Marcillo

Oct 2016 - Dec 2016 *Post-Master's Research Assistant*, Los Alamos National Laboratory
Los Alamos, NM; supervisors: Philip Blom and Diane Baker

2014-2016 *Graduate Research Assistant*, Huffington Department of Earth Sciences
Southern Methodist University, Dallas, TX; supervisor: Brian Stump

Jun – Aug 2012 *Post-Bac Intern*, National Earthquake Information Center, USGS
Golden, CO; supervisor: Harvey Benz

Jun - Aug 2011 *Research Experience for Undergraduates Participant*, Department of
Hydrology and Atmospheric Sciences, University of Arizona, Tucson,
AZ; supervisor: Jenifer McIntosh

TEACHING EXPERIENCE

- 2014-2016 *Graduate Teaching Assistant*, Huffington Department of Earth Sciences
Southern Methodist University, Dallas, TX; supervisor: Brian Stump
- June 2014 *Paraprofessional*, Department of Geology
Colorado College, Colorado Springs, CO; supervisor: Christian Schrader

WORKSHOPS

- June 2018 **Physical Acoustics Summer School:** Oxford, MS
Participated in a week-long workshop co-hosted by the Acoustical Society of America, Physical Acoustics Technical Committee and the National Center for Physical Acoustics. Attended 8 four-hour tutorials on the fields within physical acoustics.
- May 2018 **Acoustical Society of America Summer School:** Minneapolis, MN
Participated in two-day long workshop hosted by the Acoustical Society of America focused on highlighting new research in the field of acoustics.
- Sept 2017 **CIG-LLNL Computational Seismology Workshop:** Livermore, California
Participated in this week-long workshop hosted by Lawrence Livermore National Laboratory and the Computational Infrastructure for Geodynamics. Workshop offered tutorials in data processing, modeling and visualized utilizing HPC resources.
- Sept 2017 **2017 Geoscience Congressional Visits Day:** District of Columbia, Washington
Participated in a day-long workshop on communicating sciences with the public followed by a day of congressional representative visits. Participation funded through a Seismological Society of America grant.
- Aug 2017 **IRIS USArray Advanced Short Course:** Bloomington, Indiana
Participated in a short course focused on foundations of seismic data processing. Provided a lecture and data processing exercise utilizing infrasound data.

SYNERGISTIC ACTIVITIES

- Dec. 2019 Convener, *Centennial Session: Forensic Seismology*, AGU Fall Meeting
- Dec. 2020 Convener, *Geophysical & Planetary Acoustics*, AGU Fall Meeting
- 2017-present Seismology Section Student Representative, American Geophysical Union
- 2018-present Worker Safety and Security Team, Earth and Environmental Sciences, Student Representative
- 2016-2017 5th Reunion Committee, Colorado College

2014-2016 Graduate Student Organization, Department Representative, Southern Methodist University

2014-2016 Society of Exploration Geophysicists, Treasurer, Southern Methodist University Student Chapter