

THOMAS ANDREW LEE

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EDUCATION

Harvard University, Cambridge, MA

Class of 2019, Expected Graduation Date May 30, 2019

A.B. Candidate in Earth and Planetary Sciences

Cumulative GPA: 3.61 Concentration (Major) GPA: 3.83

Waiakea High School, Hilo, HI

Class of 2015, Class Salutatorian

RESEARCH EXPERIENCE

Earth and Planetary Science Department, Harvard University, Cambridge, MA

Seismology Research Group, Undergraduate Research Assistant (February 2016 - Present)

Advisor: Prof. Miaki Ishii

Work on interpretation of ambient seismic noise correlations in volcanic environments, time synchronization of analog seismograms across stations, digitization of analog seismograms with DigitSeis program, and applications of machine learning to improve digitization algorithms.

United States Geological Survey, Hawai'i Volcanoes National Park, HI

Hawaiian Volcano Observatory, Visiting Scientist (Summer 2017 and 2018)

Advisor: Dr. Paul Okubo

Worked on preservation and digitization of the analog seismogram collection at the observatory and collected data to work on time synchronization of analog records. Took part in field work related to the 2018 eruptive activity of Kilauea.

Summer Bridge Program, Waiakea High School, Hilo, HI

AmeriCorps VISTA Summer Associate (Summer 2015 and 2016)

Worked with incoming 9th Graders to help build strong math and science skills in preparation for high-school geometry and biology.

PRESENTATIONS and PUBLICATIONS

Lee, T., M. Ishii, and P. Okubo (2019, in preparation). Relative Time Corrections for Analog Seismograms via Use of the Single Day Ambient Noise Correlation Function, to be submitted to the Seismological Research Letters.

Ishii, M., H. Ishii, and T. Lee (2019, in preparation). DigitSeis v1.3 and Factors Affecting Seismogram Digitization, to be submitted to the Seismological Research Letters.

Lee, T., M. Ishii, and P. Okubo (2019, submitted), Interpretations of and Proposed Model for Progressive Decorrelation of Auto-Correlation Functions on the East Rift Zone of Kilauea during the Volcanic Activity of 2018, to be presented at 2019 Annual Meeting, SSA, Seattle, WA, 23-26 Apr.

Lee, T., M. Ishii, and H. Ishii (2019, submitted). DigitSeis: Near-Fully Automated Conversion of Paper Seismograms to Digital Time Series, to be presented at 2019 Annual Meeting, SSA, Seattle, WA, 23-26 Apr.

M., Ishii, T. Morinaga, and T. Lee (2019, submitted). The Potential of Analogue Seismograms for Science and Education, to be presented at 2019 Annual Meeting, SSA, Seattle, WA, 23-26 Apr.

Lee, T., M. Ishii, and P. Okubo (2018). Temporal Velocity Changes on the East Rift Zone of Kīlauea Concurrent with the Volcanic Activity of 2018 Interpreted from Changes in Single-Station Correlation Functions, Abstract V43J-0300 presented at 2018 Fall Meeting, AGU, Washington, D.C., 10-14 Dec.

Lee, T., M. Ishii, and J. Taber (2018). DigitSeis: Opportunities for Digitization of Analog Seismograms Through Educators and Citizen Science, Abstract ED51C-0683 presented at 2018 Fall Meeting, AGU, Washington, D.C., 10-14 Dec.

Lee, T., M. Ishii, and P. Okubo (2018). Consistent inconsistencies: A new method for assessing time corrections needed for analog seismograms, Poster M1 presented at 2018 Workshop, IRIS, Albuquerque, NM, 12-14 Jun.

Lee, T. (2018). *DigitSeis v1.3: User Manual*. Cambridge, MA: Harvard Seismology. Available at http://seismology.harvard.edu/downloads/DigitSeis/DigitSeis1.3/DigitSeis_Manual_1.3.pdf

Lee, T., and M. Ishii (2017). Teleseism-based relative time corrections for modern analyses of digitized analog seismograms, Abstract S21C-0769 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.

Lee, T. (2017). *DigitSeis v1.1: User Manual*. Cambridge, MA: Harvard Seismology. Available at http://seismology.harvard.edu/downloads/DigitSeis/DigitSeis1.1/DigitSeis1.1_Manual.pdf

HONORS and AWARDS

Harvard College Undergraduate Research Program Grant Recipient – 2018, 2017

Department of Earth and Planetary Sciences Student Travel Grant Recipient – 2018, 2017

Incorporated Research Institutions for Seismology Student Travel Grant Recipient – 2018

National Merit Scholar Commendation - 2015

AP Scholar with Distinction - 2015

SKILLS

Programming – MATLAB (primary language), Shell Scripting, Parallel Computing, and Python

Specialty Software – DigitSeis, SLURM, SAC, TensorFlow

Mathematics – Linear Algebra, Statistics, Calculus, Neural Networks

Writing and Graphics – LaTeX, Adobe Illustrator, Adobe Photoshop, PowerPoint

EXTRACURRICULARS

Harvard College Hawai'i Club

President (May 2018 - May 2019), *Treasurer* (May 2016 - May 2018)

Harvard College Geosociety

Board Member (May 2018 – May 2019)

Music In Hospitals and Nursing-homes Using Entertainment as Therapy

Treasurer (January 2016 – January 2018)

Harvard Billiards Club

Harvard University Cycling Association