Jaeseok Lee

Seismological Laboratory, Seoul National University

E-mail : jaeseok291@gmail.com Tel : (+82) 10-2548-3261 Webpage : https://jaeseoklee.me

Education

M.S. in **Seismology** (**Seoul National University**, *scheduled Feb 2022*)

- Thesis : Seismic Hazard Assessment of the Korean Peninsula from Physics-Based Ground Motion Simulations of Local and Overseas Scenario Earthquakes (*in preparation*)
  - Advisor : Junkee Rhie

B.S. (Major) in **Physics** (**Seoul National University**, Feb 2020)

- Thesis : Numerical Modeling of Gravity Perturbations Induced by Earthquake Rupture (*in Korean*)
  - Advisor : Sunghoon Jung

B.S. (Double Major) in **Earth and Environmental Sciences** (**Seoul National University**, Feb 2020)

- Thesis : Prediction of Ground Motions in the Southeastern Korean Peninsula for Scenario Earthquakes in Northern Kyushu
  - Advisor : Junkee Rhie

Publications

- **Lee, J.**, Song, J.-H., Rhie, J., & Song, S. G. (*in preparation*). Physics-based estimation of ground shaking in the southeastern Korean Peninsula for seismic hazards in northern Kyushu
- **Lee, J.**, Song, J.-H., Kim, S., Rhie, J., & Song, S. G. (*Accepted on Nov 08 2021*). Three-dimensional seismic-wave propagation simulations in the southern Korean Peninsula using pseudodynamic rupture models. *Bulletin of the Seismological Society of America*

Conference Presentations

Oral Presentations

- **Lee, J.**, Song, J.-H., Kim, S., Rhie, J., & Song, S. G. (*Scheduled, 2021*). Three-dimensional seismic wave propagation simulations in the southern Korean Peninsula using pseudo-dynamic rupture models. American Geophysical Union Fall Meeting, New Orleans, LA.
- **Lee, J.**, Song, J.-H., Kim, S., Rhie, J., & Song, S. G. (2021). 3D ground motion predictions of scenario earthquakes in the southeastern Korean Peninsula. Asia Oceania Geosciences Society 18th Annual Meeting, Online.

Poster Presentations

- **Lee, J.**, Song, J.-H., Rhie, J., & Song, S. G. (2019). Prediction of ground motions in the southeastern Korean Peninsula for scenario earthquakes in northern Kyushu. American Geophysical Union Fall Meeting, San Francisco, CA.

Honors

- Academic Excellence Scholarship, from Seoul National University (2020–2021)
- Brain Korea 21 Plus Research Scholarship, from National Research Foundation of Korea (2020)
- Presidential Science Scholarship*, from Korea Student Aid Foundation (2013–2019)

*4 year full ride scholarship

Involved Research Projects

- *KMI2021-02010:* **Development of numerical simulation techniques for seismic wave propagation and ground motion prediction from earthquake rupture processes** (May 2021 – *present*).
  - Developed the framework for generating earthquake finite-fault models and simulating 3-D and 1-D seismic wave propagation in the Korean Peninsula (*Patent submitted*).
- *NDMI2017-11:* **Microearthquake monitoring of Gyeongju area and development of seismic source characterization techniqu**e (Mar 2020 – *present*).
  - Estimated the ground shaking at Wolsong nuclear power plant for small and large earthquakes in the Gyeongju area through earthquake source scaling.
- *KMI2019-00110:* **Development of unified 3-D seismic velocity model** (Mar 2020 – *present*).
  - Validated the 3-D seismic velocity model of the Korean Peninsula and Northeast Asia through simulating seismic waveforms for numerous local and regional earthquakes.
- *KMI2017-01110:* **Development of technique for predicting ground shaking in the Korean Peninsula from regional earthquakes** (Aug 2018 – Dec 2019).
  - Simulated the ground motions in the Korean Peninsula for large past earthquakes (e.g. 2016 Kumamoto, 2004 Kyushu, 1946 Nankai) and potential scenario earthquakes in Japan.

Graduate Course Studies

- Geophysical Inversion (Spring 2021)
- Crustal Geophysics / Probability and Statistics for Data Sciences (Fall 2020)
- Ambient Noise Seismology / Scientific Computational Modeling (Spring 2020)
- Seismotectonics (Fall 2019)

Class Project

- Long-period ground motion simulations of the 2016 Gyeongju Earthquake employing Green's tensors retrieved from ambient seismic field (Spring 2020)

Field Experience

- Seismometer deployment at *Ulleung Island, South Korea* (2021)
- Field survey and seismometer deployment at *Hallasan, Jeju Island, South Korea* (2020–2021)
- Geophone array deployment at *Yeoncheon County, South Korea* (2020)

Teaching Assistant

Seoul National University *034.040 002: Earth System Science*, Fall 2020

English Proficiency

TOEFL iBT Score: Reading 30 / Listening 30 / Speaking 26 / Writing 25

Military Service

Korean Augmentation to the United States Army (Aug 2014 – Jun 2016)
- Command Group Secretary at U.S. Army Garrison Yongsan