

Yangwoo Lee

 Yangwoo-Lee |  |  Homepage |  dhkddid123@snu.ac.kr

RESEARCH INTEREST

- Machine Learning
- Materials Science
- Construction Materials
- Computational Mechanics
- Data-driven Approach & statistics
- Carbon Neutrality

EDUCATION

2021 - present **M.S.** in Civil and Environmental Engineering, **Seoul National University**
Advisor: Dr. Juhyuk Moon (GPA: 4.1/4.3)

2015 - 2021 **B.S.** in Civil and Environmental Engineering, **Seoul National University**
(GPA: 3.69/4.3, **Cum Laude**)

RESEARCH EXPERIENCE

Researcher at Civil Environmental Engineering, College of Engineering, Seoul National University, Korea Mar. 2021 - Present

Development of Raman Spectroscopy Analysis Scheme

Project

Jan. 2021 - Present

Development of multi-scale based technology for evaluating the internal dispersion of functional nano-materials in cementitious composites, Institute of Construction and Environmental Engineering, Seoul National University, Korea

PUBLICATIONS & CONFERENCES

Publications

- Seungchan Kim, **Yangwoo Lee**, J. Plank, Juhyuk Moon (2022) *Fundamental discrepancy of chemical reactivity of tricalcium oxy silicate(alite), dicalcium silicate (belite), and their polymorphs: A density functional theory study.* [International Journal of Concrete Structures and Materials](#), 16(1), 1-7.
- Hyunuk Kang, **Yangwoo Lee**, Jihoon Lee, Juhyuk Moon (2022) *Importance of amorphous content, surface energy, and preferred orientation on the accurate quantification of cement minerals in clinkers.* submitted to *Advanced Powder Technology*.
- Jiseul Park, Myungjun Jung, **Yangwoo Lee**, Hee-Young Hwang, Sung-gul Hong, Juhyuk Moon (2022) *Quantification of Dispersion of Carbon Nanotubes in Hardened Cement Composite using Confocal Raman Microspectroscopy.* submitted to *Concrete and Cement Research*.
- **Yangwoo Lee**, Hee-jeong Kim, Juhyuk Moon (2022) *In-Situ Raman Spectroscopy of Ye'elimite: Spatially Resolved Deconvolution of Early Hydration of Ye'elimite.* Manuscript in preparation.
- Hyunuk Kang, Sungjin Jung, **Yangwoo Lee**, Juhyuk Moon. *Investigation of the mineralogical properties of C4AFs with the addition of ethanalamines.* Manuscript in preparation.

Conferences

- **Yangwoo Lee**, Hee-jeong Kim, Juhyuk Moon, "In-Situ Raman Spectroscopy of Ye'elimite: Spatially Resolved Deconvolution of Early Hydration of Ye'elimite", Engineering of Mechanics Institute 2022, Baltimore, MD (May-June. 2022)
- **Yangwoo Lee**, Juhyuk Moon, "Quantitative Evaluation of Lime Paste Using Raman Spectroscopy", 2022 Spring Korea Concrete Institute Conference, Jeju, Korea (May. 2022)

- **Yangwoo Lee**, Juhyuk Moon, "Theoretical Investigation of the Energies, Structures, and Growth Properties of Artinite Surfaces", 2021 Fall Korea Concrete Institute Conference, Gyeongju, Korea (Nov. 2021)
- **Yangwoo Lee**, Juhyuk Moon, "Evaluation of Service Life of Reinforced Concrete Structure Exposed to Marine Environment through Probabilistic Method", 2021 Spring Korea Concrete Institute Conference, Yeosu, Korea (May. 2021)

AWARDS AND HONORS

- **2023 Fulbright Graduate Student Program: Alternate Candidate** Expected Sep.2023
(Financial support up to USD 40,000 per year, for a maximum of two years)
- Wooduk Graduate Scholarship, Wooduk Foundation, Korea May. 2022 - Dec. 2022
- BrainKorea21 Four, Seoul National University, Korea Mar. 2021 - Dec. 2022
- Shortterm Study abroad scholarship, Seoul National University, Korea Sep. 2019
- Merit-based Scholarship, Seoul National University, Korea Sep. 2018
- Alumini Association of Department of Civil Engineering SNU Scholarship, Seoul National University, Korea Mar. 2018
- Work-Study Scholarship 2, Seoul National University, Korea Sep. 2015

TEACHING EXPERIENCE

- Teaching Assistant** 2021-S
- 457.201 001: Mechanics of Materials and Lab.

SKILLS

- Language** English: TOEFL: 102/120
GRE: Verbal/Quant/Writing: 157/170/3.0
Korean: Native
- Tool** Raman Spectroscopy, CT, XRD, TGA, DFT
- Computer** Linux, R, MATLAB, Python, Go, LaTeX

EXTRA-CURRICULAR ACTIVITIES

- KATUSA**, 630th Clearance Company, Pyeongtaek, South Korea 2016-2018
- Served in the Army for two years as a KATUSA (Korean Army Augmented to the United State Army) which is a mandatory obligation in South Korea.
 - Honorably discharged with the rank of sergeant
- Editor in chief at press release of college of engineering, SNU** 2015-2020
(Gong-dae-sang-sang)
- Edited 10+ articles & revised 50+ articles.
 - Organized 10+ mentoring camp for young engineer under age 18 frontiers & counseled 100+ students.