

Solmoi Park

Associate Professor, School of Civil, Architectural Engineering & Landscape Architecture, Sungkyunkwan University

solmoipark@skku.edu · park.solmoi@gmail.com · +82 31 290 7513 · +82 10 2515 4995 · ORCID · Google Scholar

Personal Details

Address	2066 Seobu-ro, Jangan-gu, Suwon, Gyeonggi-do 16419, Republic of Korea
Citizenship	Korean
Date of birth	April 12, 1990
Email	solmoipark@skku.edu · park.solmoi@gmail.com
Phone (Office)	+82 31 290 7513
Phone (Mobile)	+82 10 2515 4995
ORCID	https://orcid.org/0000-0003-0746-3940
Google Scholar	https://scholar.google.com/citations?user=DhRJZ5cAAAAJ

Employment History

06/2025 – 08/2027	Director BK21 FOUR Education and Research Group, Global Frontiers of Resilient EcoSmart City Sungkyunkwan University
03/2025 – Present	Associate Professor School of Civil, Architectural Engineering & Landscape Architecture Sungkyunkwan University
03/2020 – 02/2025	Associate Professor (03/2023 – 02/2025) Assistant Professor (03/2020 – 02/2023) Department of Civil Engineering Pukyong National University
08/2019 – 11/2019	Visiting Researcher Swiss Federal Laboratories for Materials Science and Technology (Empa) Supervisor: Prof. Dr. Barbara Lothenbach
02/2018 – 02/2020	Post-doctoral Researcher Applied Science Research Institute Korea Advanced Institute of Science and Technology Supervisor: Prof. Haeng-Ki Lee

Education

09/2014 – 02/2018	Doctor of Philosophy (Ph.D.) Department of Civil and Environmental Engineering Korea Advanced Institute of Science and Technology Thesis: Nanostructural evolution of binder gel in alkali-activated cementitious materials exposed to extreme environments Advisor: Professor Haeng-Ki Lee
10/2010 – 07/2014	Bachelor & Master of Engineering (MEng) Department of Civil Engineering University of Bristol, United Kingdom

Courses Taught

Undergraduate

Mechanics of Materials (2025) · Reinforced Concrete Engineering (2020 – 2024) · Reinforced Concrete Mechanics (2020 – 2024) · Construction Materials Laboratory (2020 – 2024)

Graduate

Advanced Construction Materials (2025) · Thermodynamic Modeling (2024, 2025) · Characterization of Materials (2021 – 2024) · Sustainable Construction Materials (2022 – 2024)

Supervision of Researchers

Postdoctoral researchers

- Jinho Bang (2026)
- Ragathara Gurrappagari Rohith Kiran (2022 – 2023)
- Kamasani Chiranjeevi Reddy (2021 – 2022)

Ph.D. students

- Junbeom Kim (2026 – Present)
- Gong Bin (2025 – Present)
- Daniel Melese Tariku (2025 – Present)
- Dawit Moges Tadesse (2024 – Present)
- Bekalu Belayneh Geta (2024 – Present)
- Melaku Nahom Seifu (2023 – Present)
- Amanuel Bersisa (2022 – 2026)
Multiscale investigation of carbonation behavior in CO₂-cured calcium silicate cement
- Degefa Aron Berhanu (2021 – 2025)
Data-driven approaches for predicting and controlling properties of supplementary cementitious materials in hydrated Portland cement

Master's students

- Hohyeong Kim (2024 – 2025)
Effect of NaOH on the properties of slag cement
- Jin-to Kim (2024 – 2025)
Thermodynamic modeling of hydration of basic oxygen furnace slag cement
- Daniel Melese Tariku (2022 – 2024)
Exploring the applicability of thermodynamic modeling to predict the degree of reaction of supplementary cementitious materials in Portland cements
- Dawit Moges Tadesse (2022 – 2024)
The effect of seawater on the phase assemblage of hydrated cement paste: A study on PC, CAC and CSA
- Bekalu Belayneh Geta (2022 – 2024)
Effect of hydration of slag on carbonation cured slag cements
- Melaku Nahom Seifu (2021 – 2023)
Effect of oyster shell powder addition on hydration of Portland cement-calcium sulfoaluminate cement-blast furnace slag or -metakaolin ternary cement
- Hye-Jin Yoo (2021 – 2023)
Influence of activator on hydration and strength behavior of alkali-activated slag

Evaluated Theses

- Su Min Im (2025). Multiscale studies on thermo-treated calcium silicate hydrates: Its potential for CO₂ sequestration, Hanyang University, Ph.D..
- Pei Qi Li (2025). A comprehensive study on graphene nanoribbons as a novel nanofiller for improving multiple characteristics of cementitious composites, Hanyang University, Ph.D..

- Tay Siew Ying (2025). Physicochemical characteristics of alkali-activated fly ash and metakaolin incorporating hollow glass microspheres exposed to aggressive environments, Korea Advanced Institute of Science and Technology, Ph.D..
- Hyunuk Kang (2024). Microstructure analysis of mechanochemical processed low carbon structural materials, Seoul National University, Ph.D..
- Jingwei Yang (2024). Development of lightweight high-performance cementitious composites using hollow microspheres, Seoul National University, Ph.D..
- Hayeon Kim (2021). Evaluation of physicochemical properties of cementitious materials incorporated with SrCO₃ formed by bio-mediated Sr adsorptive removal mechanism, Korea Advanced Institute of Science and Technology, Ph.D..

Professional Memberships

- **RILEM** (2016 – Present)
 - Technical Committee member of 281-CCC: Carbonation of concrete with supplementary cementitious materials
 - Technical Committee member of 282-CCL: Calcined clays as supplementary cementitious materials
- **Korean Recycled Construction Resources Institute** (2023 – Present)
 - Member, International Affairs Committee (2025)
 - Associate Editor, Journal of the KRCRI (2024)
 - Director (2024)
- **Korea Institute for Structural Maintenance and Inspection** (2023 – Present)
 - Editorial Board member, Journal of the KSMI (2025 – 2026)
 - Editorial Board member, KSMI Magazine (2025 – 2026)
 - Member, Development Committee (2024)
- **Computational Structural Engineering Institute of Korea** (2019 – Present)
- **Korea Concrete Institute** (2015 – Present)
 - English Journal Editorial Committee (2021 – Present)
 - Academic Affairs Committee (2025 – 2026)
 - Korean Journal Editorial Committee (2021 – 2024)
 - Information Committee (2021 – 2022)

Editorship

2026 – Present	Editorial Board member, <i>Advances in Concrete Construction</i>
2026 – Present	Editorial Board member, <i>ZKG International</i>
2025 – Present	Editorial Board member, <i>Scientific Reports</i>
2021 – Present	Editor, <i>International Journal of Concrete Structures and Materials</i>
2021 – Present	Review Editor, <i>Frontiers in Materials, Specialty Section: Structural Materials</i>

Professional Services

2025-09-17	Co-organizer, 2025 SKKU-UNSW-NTU Joint Symposium on Smart Resilient Infrastructures
2020-07-01 – 2022-06-30	Construction Technology Deliberation Committee, Busan Metropolitan City
2021-10-18 – 2021-10-22	Scientific Committee, Environment Concerns and its Remediation (ECR21)
2020-02-20 – 2020-02-21	Scientific Committee, 3rd International Conference on Innovative Technologies for Clean and Sustainable Development

Fellowships, Scholarships and Awards

October 2024	Next-Generation Leader Award , Korean Recycled Construction Resources Institute
September 2024	11th Young Engineering Educator Award , Korean Society for Engineering Education
December 31, 2021	PKNU Early Career Researcher Award , Pukyong National University

2018 – 2019	Korean-Swiss Science and Technology Programme – Young Researchers' Exchange Programme between Korea and Switzerland , National Research Foundation of Korea / Swiss Federal Institute of Technology Zurich (ETH) Thermodynamic modelling based approach for exploring carbonation of alkali activated slag cements, supervised by Prof. Barbara Lothenbach
November 2018	Excellent Presentation Award , Computational Structural Engineering Institute of Korea
March 2018	Ministry of Education Award , Ministry of Education, South Korea
April 2017	Award for Oral Presentation , The 15th Japan/Korea International Symposium on Resources Recycling and Materials Science, Japan
November 2016	Best Presentation Award , Korea Concrete Institute
2014 – 2018	U-City Master and Doctor Course Grant Program , Ministry of Land, Infrastructure and Transport, South Korea
2014 – 2018	BK21 Plus Program , National Research Foundation – Ministry of Education, South Korea
October 2010	Sir Alfred Pugsley Scholarship , University of Bristol

Beamtime awarded through competitive proposal systems

- 8D beamline, 3 days, Pohang Accelerator Laboratory, April 2019 — Exploring nanostructural evolution of cement in HLRW repositories using beamline diffraction Principal Investigator
- 5A (Material Science XRS) beamline, 2 days, Pohang Accelerator Laboratory, December 2016 — Understanding immobilization mechanism of radionuclides in geopolymeric waste form by beamline X-ray diffraction Co-Investigator

Reviewing for Academic Journals

ACS Sustainable Chemistry & Engineering · Canadian Journal of Civil Engineering · Cement and Concrete Composites · Cement and Concrete Research · Colloids and Surfaces A: Physicochemical and Engineering Aspects · Construction and Building Materials · Composites Part B · Functional Composites and Structures · International Journal of Damage Mechanics · Journal of Building Engineering · Journal of Cleaner Production · Journal of CO2 Utilization · Journal of Environmental Management · Journal of Testing and Evaluation · Journal of Hazardous Materials · Materials and Structures

Research Grants Awarded

- 4D cement hydration modeling platform using thermodynamics-informed neural networks (TINN)**
National Research Foundation of Korea, June 1, 2026 – May 31, 2035
KRW 2,000,000,000 Principal Investigator
- Development of Urban CO2 Capture and CCU Construction Material Technology**
Korea Institute of Civil Engineering and Building Technology, March 1, 2026 – December 31, 2028
KRW 50,000,000 Co-Investigator
- AI Plus K-Construction Infrastructure Resilience (AI+KCIR) Global Research Center**
National Research Foundation of Korea, June 1, 2025 – May 31, 2032
KRW 14,000,000,000 Co-Investigator
- Development of blended cement manufacturing technology for reducing clinker consumption**
Korea Evaluation Institute of Industrial Technology, July 1, 2023 – December 31, 2025
KRW 3,452,272,000 Co-Investigator
- Valorizing industrial by-products as construction materials**
Samsung Electronics, February 15, 2023 – November 30, 2023
KRW 100,000,000 Principal Investigator
- Development of manufacturing technology of hardened cement with carbonation curing and precast construction products**
Korea Evaluation Institute of Industrial Technology, April 1, 2022 – December 31, 2026
KRW 11,300,000,000 Co-Investigator

13. **Database for construction materials and data-driven approach for predicting their characteristics**
National Research Foundation of Korea, March 1, 2022 – February 28, 2027
KRW 764,450,000 Principal Investigator
12. **CO2 reduction in FAB construction materials**
Samsung Electronics, February 1, 2022 – November 30, 2022
KRW 100,000,000 Principal Investigator
11. **In-situ carbonation technology development using CO2 emissions from cement industry**
Korea Institute of Energy Technology Evaluation and Planning, November 1, 2021 – December 31, 2024
KRW 6,500,000,000 Co-Investigator
10. **Digital SOC D.N.A.-based health care laboratory for carbon neutralization**
National Research Foundation of Korea, June 1, 2021 – February 29, 2024
KRW 1,375,000,000 Co-Investigator
9. **Development of Net-Zero CO2 concrete and evaluation of DFT-thermodynamics-machine learning simulation-based analytical approach**
Korea Agency for Infrastructure Technology Advancement, April 1, 2021 – December 31, 2022
KRW 370,000,000 Principal Investigator
8. **Convergence of reverse osmosis, enhanced precipitation and encapsulation for eco-friendly and low-energy zero liquid discharge system**
National Research Foundation of Korea, March 1, 2021 – February 28, 2025
KRW 829,599,000 Co-Investigator
7. **Microstructural analysis of oyster shell-incorporated cement composites**
Korea Institute of Ocean Science and Technology (KIOST), February 1, 2021 – August 31, 2021
KRW 20,000,000 Principal Investigator
6. **Development of early-strength gaining UHPC**
Korea Institute of Civil Engineering and Building Technology (KICT), September 3, 2020 – November 30, 2020
KRW 14,000,000 Principal Investigator
5. **Fabrication and microstructural analysis of PET powder-incorporated concrete**
Korea Institute of Ocean Science and Technology (KIOST), May 1, 2020 – September 30, 2020
KRW 20,000,000 Principal Investigator
4. **Thermodynamic modelling-based investigation of carbonation of alkali-activated slag cements**
National Research Foundation of Korea, March 1, 2019 – February 29, 2020
Principal Investigator
3. **Development of highly-durable cement for construction of deep geologic repository for disposal of radioactive waste**
National Research Foundation of Korea, June 1, 2018 – May 31, 2023
KRW 198,861,000 Principal Investigator
2. **Commercialization of CO2 utilization and reduction technology in the production of cement-based construction materials**
Saudi Aramco, July 1, 2017 – June 30, 2020
USD 485,000 Participant
1. **Development of geopolymer-based cement for resilient geologic storage of CO2**
Saudi Aramco, May 1, 2017 – April 30, 2018
USD 70,000 Participant

Invited Talks & Seminars

November 24, 2025	GEMS 열역학 모델링 세미나 Korea Institute of Civil Engineering and Building Technology (KICT)
June 16, 2025	Characterization of cementitious materials Dankook University
December 2, 2022	석탄재 구성 광물과 알칼리 탄산화, 금속 침출 공정의 연관성 Korea Institute of Geoscience and Mineral Resources (KIGAM)

November 30, 2022	탄소중립을 위한 친환경 건설재료 Samsung Electronics
June 9, 2022	Thermodynamic modeling applied to studying hydration of cement Korean Society of Civil Engineers
April 29, 2021	Cements for radioactive waste disposal Division of Advanced Nuclear Engineering, POSTECH
April 14, 2021	지속가능한 콘크리트 Yonsei University
September 15, 2020	Thermodynamic modeling applied to studying hydration of cement UNIST

Publications

Books & Book Chapters

1. Jang, J.G., Park, S.M., Lee, H.K. (2017). Alkali-activation of fly ash: Performances and potential industrial applications, Chapter 5 in *Fly ash: Properties, Analysis and Performance* (Editor: Jacob Parker) pp. 99-121, Nova Science Publishers. [ISBN: 978-1-53610-533-9 (ebook)]

SCI(E) Journal Publications

134. Kim, G.M., Lee, H.J., Adem, J.K., Lee, D.G., Choi, J., Park, S., Park, S. and Yang, B. (2026). Effect of calcined water treatment sludge incorporation on thermal characteristics of MMA-based composites. *Materials Today Communications*, Vol. 53, 115223.
133. Kim, J.T., Seifu, M.N., Park, S., Kim, S. and Park, S. (2026). Carbonation reactivity of wollastonite enhanced by incorporating sodium-based alkali additives. *Journal of CO2 Utilization*, Vol. 106, 103378.
132. Tadesse, D.M., Kim, S., Seo, J., Yoon, H.N., Reddy, K.C. and Park, S. (2026). Exploring the effect of calcium sulfoaluminate cement on the hydration and degree of reaction of slag cement. *Journal of Building Engineering*, Vol. 124, 115910.
131. Bersisa, A., Seifu, M.N., Park, S. and Park, S. (2026). Microstructure and pore water evolution in calcium silicate cement blends with Portland cement, calcium aluminate cement and calcium sulfoaluminate cement under CO2 curing. *Journal of Building Engineering*, Vol. 121, 115635.
130. Li, X., Jing, S., Aung, P.P.W., Park, S., Yu, B. and Park, S. (2026). DiffEncoderCrack: A diffusion-as-encoder approach with spatially decomposed priors for semi-supervised crack segmentation. *Expert Systems with Applications*, Vol. 315, 131581.
129. Degefa, A.B., Mesfin, W.M., Kim, H.K. and Park, S. (2026). Machine learning-driven prediction of chloride resistance and service life estimation in blended cement concrete. *Journal of Building Engineering*, Vol. 121, 115568.
128. Tariku, D., Son, H.M., Jang, D. and Park, S. (2026). Assessing compatibility of self-healing nutrients for microbially induced calcium carbonate precipitation in calcium aluminate cement. *Developments in the Built Environment*, Vol. 25, 100849.
127. Tariku, D., Tadesse, D.M., Kim, S., Park, S. and Castaldo, P. (2026). Cementitious Additives for Chloride Ion Immobilization of Flue Gas Desulfurization Brine. *International Journal of Energy Research*, Vol. 2026, 5098210.
126. Gong, B., Yang, J., Shang, X., Park, S. and Park, S. (2026). CO2 sequestration in early-hydration cement paste via in-situ CO2 mixing: the role of biochar in phase assemblage evolution. *Cement and Concrete Composites*, Vol. 174, 106797.
125. Seifu, M.N., Adem, J.K., Khalid, H.R., Kim, G.M. and Park, S. (2025). Effects of Water-to-Binder Ratios on the Workability, Durability and Strength Development of In-Situ Carbonated Concrete. *International Journal of Concrete Structures and Materials*, Vol. 19, 96.
124. Park, J., Choi, S., Seo, J., Park, S. and Lee, H.K. (2025). Effect of carbonation curing on the microstructural evolution and mechanical properties of seawater-mixed calcium sulfoaluminate cements. *Developments in the Built Environment*, Vol. 24, 100813.
123. Kim, C.S., Seifu, M.N., Kim, S., Kim, N., Seo, J., Kim, J. and Park, S. (2025). Thermodynamic optimization of Portland cement clinkers for designing SCM-blended cements. *Developments in the Built Environment*, Vol. 24, 100787.

122. Kim, S., Seo, J. and Park, S. (2025). Effect of curing temperatures on the microstructural evolution and carbonate assemblage of carbonation-cured calcium sulfoaluminate cement. *Construction and Building Materials*, Vol. 495, 143456.
121. Bersisa, A., Kim, S., Kim, N., Seo, J., Moon, K.Y., Kim, G.M., Cho, J.S. and Park, S. (2025). Microstructural and durability assessment of carbonated calcium silicate cement under sulfate attack. *Journal of Building Engineering*, Vol. 114, 114269.
120. Seifu, M.N., Adem, J.K., Kim, H.S., Park, S., Kim, G.M. and Park, S. (2025). Impact of in-situ carbonation and slag replacement on hydration, microstructure and durability of cement paste. *Journal of Industrial and Engineering Chemistry*, Vol. 157, pp. 301-311.
119. Seo, J., Park, S., Kim, N., Yoon, H.N., Kim, S., Bae, J.H., Jang, D., Cho, A., Lee, H.K. (2025). Characterization of hydrates in quaternary Portland cement-blast furnace slag-calcium sulfoaluminate clinker-limestone or gypsum systems: Experimental and thermodynamic modeling approaches. *Cement and Concrete Composites*, Vol. 162, 106126.
118. Kim, H., Mohanty, A.K., Tadesse, D.M., Ahn, J., Aswale, S., Jeon, H.B., Park, S. and Paik, H.J. (2025). Novel Sulfonated Polymer Nanoparticles Synthesized Using Surfactant-Free Emulsion Polymerization as Gypsum Superplasticizer. *Journal of Materials in Civil Engineering*, Vol. 37, 04025224.
117. Adem, J.K., Seo, J., Park, S., Kim, G.M. (2025). Effects of low-lime calcium silicate cement addition on the hydration, carbonation, and microstructural characteristics of OPC pastes by carbonation curing. *Journal of Building Engineering*, Vol. 107, 112683.
116. Bersisa, A., Moon, K.Y., Kim, G.M., Cho, J.S., Park, S. (2025). Influence of hydraulic cement substitutes on carbonation of calcium silicate cement. *Construction and Building Materials*, Vol. 473, 140800.
115. Kim, H., Mohanty, A.K., Ahn, J., Tadesse, D.M., Aswale, S., Park, S., Ju, Y., Paik, H.J. (2025). Microstructure control of acrylic acid-styrenesulfonate copolymers for high-performance gypsum superplasticizers. *Materials Today Communications*, Vol. 45, 112268.
114. Kim, B., Shin, Y., Park, S., Walkley, B., Oh, S., Kang, J. and Um, W. (2025). Assessment of structural stability and leaching characteristics of phosphate-based geopolymer waste form containing radioactive spent ion exchange resins. *Journal of Nuclear Materials*, Vol. 607, 155671.
113. Park, J., Seo, J., Park, S., Cho, A., Lee, H.K. (2025). Phase profiling of carbonation-cured calcium sulfoaluminate cement. *Cement and Concrete Research*, Vol. 189, 107776.
112. Liyew, G., Pyo, S., Park, S., Jeon, S.M., Lee, H.K., Jang, J.G., Kim, H.K. (2025). Exploring the role of accelerated carbonation curing on chloride-induced reinforcing steel corrosion in OPC and blended cement matrix. *Journal of Building Engineering*, Vol. 102, 111965.
111. Bersisa, A., Moon, K.Y., Kim, G.M., Cho, J.S., Park, S. (2025). Internal carbonation of calcium silicate cement incorporated with Na_2CO_3 and NaHCO_3 . *Construction and Building Materials*, Vol. 462, 139732.
110. Degefa, A.B., Park, S. (2025). Phase diagrams for Portland cement-slag-fly ash ternary cements. *Materials and Structures*, Vol. 58, 50.
109. Seifu, M.N., Jang, D., Kim, G.M., Park, S. (2024). Improving properties of Portland cement-blast furnace slag blended paste through sodium bicarbonate-induced carbonation. *Developments in the Built Environment*, Vol. 20, 100575.
108. Belayneh, G.B., Kim, N., Seo, J., Kim, H., Park, S., Son, H.M., Park, S. (2024). Effect of fly ash on hydration and carbonation of carbonation-cured Portland cements. *Journal of CO₂ Utilization*, Vol. 88, 102943.
107. Kim, G.M., Park, S., Choi, J., Park, S., Kim, J. (2024). Effects of alkaline extraction on behavior of rare earth elements in coal ashes. *Environmental Science and Pollution Research*, Vol. 31, pp. 63210-63224.
106. Bersisa, A., Moon, K.Y., Kim, G.M., Cho, J.S., Park, S. (2024). Microstructural characterization of CO₂-cured calcium silicate cement. *Developments in the Built Environment*, Vol. 19, 100518.
105. Liyew, G., Lee, N., Park, S., Lee, H.K., Park, J.J. and Kim, H.K. (2024). Understanding mechanism on carbonation curing for Portland cement through phase profiling via QXRD analysis and thermodynamic modeling. *Journal of CO₂ Utilization*, Vol. 87, 102919.
104. Seo, J., Park, S., Jin D.W., Park, J., Kil, T., Jang, D., Kim, G.M. (2024). Discrimination of the role of silica fume and nano-silica in alkali-activated slag paste. *Construction and Building Materials*, Vol. 438, 137092.
103. Yonis, A., Oinam, Y., Vashitha, P., Degefa, A.B., Belayneh, G.B., Park, S., Pyo, S. (2024). Novel activation method of waste concrete powder for sustainable clinker-free binder. *Cement and Concrete Composites*, Vol. 151, 105600.

102. Oinam, Y., Dahal, M., Mesfin, M., Park, S., Kim, H.K., Pyo, S. (2024). On improved microstructure properties of slag-based UHPC incorporating calcium formate and calcium chloride. *Journal of Building Engineering*, Vol. 90, 109551.
101. Seo, J., Park, S., Kim, G.M., Park, S. (2024). Exploring natural and accelerated carbonation of alkali-activated slag. *Construction and Building Materials*, Vol. 432, 136459.
100. Degefa, A.B., Jeon, G.Y., Choi, S.Y., Bak, J., Park, S., Yoon, H. and Park, S. (2024). Data-driven Insights into Controlling the Reactivity of Supplementary Cementitious Materials in Hydrated Cement. *International Journal of Concrete Structures and Materials*, Vol. 18(1), 39.
99. Park, S., Lee, N. and Park, K.G. (2024). Early-age hydration behavior of calcium sulfoaluminate (CSA) cement/ordinary Portland cement-blended ultra-high performance concrete. *Journal of Building Engineering*, Vol. 87, 109058.
98. Yoon, H.N., Seo, J. and Park, S. (2024). Evaluating the effect of M-value on long-term microstructural evolution of CSA cement blended with slag. *Journal of Building Engineering*, Vol. 82, 108241.
97. Wang, Z., Park, S., Khalid, H.R., Kim, S., Lee, H.K. (2024). Carbonation behavior of aged alkali-activated fly ash/slag binder modified by MgO with different reactivities. *Materials and Structures*, Vol. 57, 119.
96. Kim, S., Seo, J., Park, S. and Lee, H.K. (2024). Effect of accelerated carbonation curing on the thermal evolution of hydrates in calcium sulfoaluminate cement. *Construction and Building Materials*, Vol. 416, 135201.
95. Degefa, A.B., Yoon, H., Park, S., Yoon, H., Bak, J. and Park, S. (2024). Machine learning applied to predicting phase assemblages of hardened cementitious systems. *Ceramics International*, Vol. 50, pp. 17783-17795.
94. Belayneh, G.B., Seifu, M.N., Kim, H.K., Son, H.M. and Park, S. (2024). Exploring the role of slag in hydration of carbonation-cured slag cements. *Construction and Building Materials*, Vol. 415, 134911.
93. Kim, G.M., Adem, J.K. and Park, S. (2024). Reaction and microstructural characteristics of OPC pastes with low-lime calcium silicate cements under carbonation curing. *Construction and Building Materials*, Vol. 415, 134993.
92. Gwon, S., Seifu, M.N., Shin, M. and Park, S. (2024). Water migration mechanism during internal curing of cement composites with cellulose microfibers. *Construction and Building Materials*, Vol. 411, 134173.
91. Tariku, D., Degefa, A.B., Son, H.M., Park, S. (2023). Exploring the applicability of thermodynamic modeling to predict the degree of reaction of supplementary cementitious materials in blended cements. *Developments in the Built Environment*, Vol. 100256.
90. Degefa, A.B., Park, S., Yang, B., Park, S. (2023). Predicting the degree of reaction of supplementary cementitious materials in hydrated Portland cement. *Sustainability*, Vol. 15, 15471.
89. Tafesse, M., Alemu, A.S., Yang, B., Park, S., Kim, H. (2023). Crack monitoring strategy for concrete structures in various service conditions via multiple CNT-CF/cement composite sensors: Experiment and simulation approaches. *Cement and Concrete Composites*, Vol. 143, 105249.
88. Beyene, D.A., Tran, D.Q., Maru, M.B., Kim, T., Park, S., Park, S. (2023). Unsupervised domain adaptation-based crack segmentation using transformer network. *Journal of Building Engineering*, Vol. 80, 107889.
87. Seo, J., Kim, J.E., Jeon, S.M., Park, S., Kim H.K. (2023). On guidelines for mix proportioning of concrete incorporating coal bottom ash as fine aggregate. *Materials and Structures*, Vol. 56, 120.
86. Jang, D., Yoon, H.N., Seo, J., Yang, B., Jang, J.G., Park S. (2023). Effect of carbonation curing regime on electric heating performance of CNT/cement composites. *Journal of Building Engineering*, Vol. 73, 106815.
85. Seifu, M. N., Kim, G.M., Park, S., Son, H.M., Park S. (2023). Thermodynamic modeling of sulfate attack on carbonated Portland cement blended with blast furnace slag. *Developments in the Built Environment*, Vol. 15, 100205.
84. Tadesse, D.M., Jeon, J., Kim, S., Park S. (2023). The effect of seawater on the phase assemblage of hydrated cement paste: A study on PC, CAC and CSA. *Developments in the Built Environment*, Vol. 15, 100183.
83. Jang, D., Yoon, H.N., Park, S., Kim, S., Bae, J.H., Kim, N., Kim, G.M., Seo J. (2023). Pressure-aided fabrication of CNT-incorporated composites made with fly ash or slag-blended Portland cement. *Composite Structures*, Vol. 313, 116926.
82. Liyew, G., Mesfin, W.M., Park, S., Kim, H.K. (2023). Alternative determination of saturated-surface-dry condition for aggregates using centrifugal compaction with alcohol-cement paste. *Materials and Structures*, Vol. 56, 77.
81. Park, S., Lothenbach, B., Jang, J.G., Kim, H.K., Lee, N.K. (2023). Thermodynamic modelling and experimental study of hydration and carbonation of alkali activated slag cements. *ACS Sustainable Chemistry & Engineering*, Vol. 11, pp. 4049-4063.

80. Seifu, M.N., Bersisa, A., Moon, K.Y., Kim, G.M., Cho, J.S., Park, S. (2023). Exploring reaction and carbonation products of calcium silicate cement. *Journal of CO2 Utilization*, Vol. 71, 102471.
79. Kim, G.M., Park, S., Park, S.W. (2023). Chloride removal of calcium aluminate cements: Reaction and physicochemical characteristics. *Case Studies in Construction Materials*, Vol. 18, e01975.
78. Vy, V., Lee, Y., Bak, J.Y., Park, S., Park, S. and Yoon, H. (2023). Damage localization using acoustic emission sensors via convolutional neural network and continuous wavelet transform. *Mechanical Systems and Signal Processing*, Vol. 204, 110831.
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