Dayou Luo, PhD	
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EDUCATION

- PhD, Civil Engineering, University of Massachusetts, Lowell, MA, 2024
- MS, Safety Engineering, Central South University (Changsha, China), 2019
- BS, Safety Engineering, Qingdao University of Technology (Qingdao, China), 2015

SELECTED RESEARCH PROJECTS

Dr. Luo has contributed to over 10 research projects, with a total of approximately $2M, since 2016. His current and recent research projects cover the following topics: (1) nano-engineered concrete internal conditioning technique for targeted suppression of alkali-silica reaction; (2) alternative cement (calcined clay cement blends, limestone, and recycled ground-glass pozzolan); and (3) ultra-high performance concrete reinforced with multi-scale hybrid fibers.

SELECTED PUBLICATIONS

Dr. Luo has published over 20 peer-reviewed journal papers and 2 other peer-reviewed papers.

- Luo, D., K. Wang, D. Wang, A. Sharma, W. Li, and I. H. Choi. 2025. Artificial Intelligence in the Design, Optimization, and Performance Prediction of Concrete Materials: A Comprehensive Review. *Materials Sustainability*, Vol. 3.
- Yang, Z., C. Li, D. Luo, J. Wei, F. Che, Z. Gu. 2024. Electrodeposition of Cu-based nanoarrays with tailored hierarchical nanostructure and their application for electrochemical nitrate sensing. *Journal of Electroanalytical Chemistry*, Vol. 978.
- Luo, D., and J. Wei. 2024. Early-age shrinkage behavior of cement mixtures regulated with metakaolin-based internal conditioning. *Applied Clay Science*, Vol. 261.
- Luo, D., A. Sinha, R. Mulcahy, and J. Wei. 2024. Influence of enforced carbonation on alkali-silica reaction: Performance and multi-scale mechanisms. *Cement and Concrete Composites*.
- Wu, Z., Y. Chen, and D. Luo. Comparative study of five machine learning algorithms on prediction of the height of the water-conducting fractured zone in undersea mining. *Scientific Reports*, Vol. 14.
- Luo, D., and J. Wei. 2024. Elucidating the role of magnesium in alkali-silica reaction: Performance and mechanisms. *Construction and Building Materials*, Vol. 437.
- Luo, D., and J. Wei. 2023. Efficacy of functionalized sodium-montmorillonite in mitigating alkali-silica reaction. *Applied Clay Science*, Vol. 245.
- Luo, D., and J. Wei. 2023. Hydration and phase evolution of blended cement composites containing lithium and saturated metakaolin. *Cement and Concrete Composites*, Vol. 144.

- Luo, D., and J. Wei. 2023. Understanding the role of a novel internal conditioning technique with functionalized montmorillonite in cement hydration kinetics. *Construction and Building Materials*, Vol. 385.
- Luo, D., A. Sinha, M. Adhikari, and J. Wei. 2022. Mitigating alkali-silica reaction through metakaolin-based internal conditioning: New insights into property evolution and mitigation mechanism. *Cement and Concrete Research*, Vol. 159.