导师简介

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| **学术头衔** | 1. 国际材料和结构实验研究联合会（RILEM）青年委员
2. 中国灾害防御协会会员
3. 《*Constr. Build. Mater.*》、《*Eng. Struct.*》、《*Mater. Struct.*》等期刊审稿人
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| **研究方向** | 1. 混凝土材料耐久性
2. 水泥基材料微结构调控机理
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| **主要学习、科研和工作经历** | 学习经历：2012.09～2016.06 华北水利水电大学，水利水电工程，学士2017.09～2020.06 郑州大学，水工结构工程，硕士2020.09～2024.06 郑州大学，水工结构工程，博士2023.08～2024.08 新加坡国立大学，结构工程，联合培养博士工作经历：2024.07～至今 郑州大学，水利与交通学院，副研究员 |
| **代表性科研成****果** | 代表性论文：1. Kun Wang, Jinjun Guo\*, Jinjin Wang, Donghui Qi, Yuanxun Zheng, Shaowei Hu. Bio-inspired widening concrete using cellulose nanofiber to enhance multiscale Fiber–Matrix interface[J]. *Journal of Materials Research and Technology*, 2024, 33, 6223-6233. (SCI, IF=6.4, 中科院1区, TOP期刊)
2. Kun Wang, Kang Dong, Jinjun Guo\*, Hongjian Du. Absorption and Release mechanism of superabsorbent polymers and its impact on shrinkage and durability of internally cured concrete – A review[J]. *Case Studies in Construction Materials*, 2024, 21, e03909. (SCI, IF=4.9, 中科院2区)
3. Kun Wang, Jinjun Guo\*, Juan Wang, Yuanxun Zheng, Peng Zhang, Hongjian Du. Numerical and experimental analysis of the effect of multi-ion electrical coupling on the sulfate convection zone in hydraulic concrete[J]. Construction and Building Materials, 2024, 449, 138340-138340. (SCI, IF=7.4, 中科院1区, TOP期刊)
4. Kun Wang, Juhyuk Moon, Hongjian Du, Xing Xia, Duo Zhu, Peng Zhang, Jinjun Guo\*. Early-age shrinkage and hydration of concrete incorporating a mutually reinforcing systems of super absorbent polymers and MgO expansive agent under low humidity conditions[J]. *Construction and Building Materials*, 2024, 417, 135350. (SCI, IF=7.4, 中科院1区, TOP期刊)
5. Kun Wang, Yuanyuan Cheng, Benbo Sun, Lin Yang, Peng Zhang, Jinjun Guo\*. Effects and interactions of scouring abrasion and external sulfate attack on deterioration of lining concrete: Experiments and preliminary modeling[J]. *Construction and Building Materials*, 2023, 263, 120635. (SCI, IF=7.4, 中科院1区, TOP期刊)
6. Jinjun Guo, Kun Wang, Peng Zhang, Hongyin Xu. Effect of internal curing on early-age properties of concrete under simulative natural environment in arid regions[J]. *Construction and Building Materials*, 2023, 362, 129697. (SCI, IF=7.4, 中科院1区, TOP期刊)
7. Jinjun Guo, Xiaomeng Li, Yaoqun Xu, Peng Zhang, Kun Wang\*. Neutralization evolution of concrete under acid rain and carbonation erosion: A review[J]. *Journal of Materials Research and Technology* 2023, 25. (SCI, IF=6.4, 中科院1区, TOP期刊)
8. Kun Wang, Jinjun Guo\*, Lin Yang, Peng Zhang, Hongyin Xu. Multiphysical damage characteristics of concrete exposed to external sulfate attack: Elucidating effect of drying–wetting cycles[J]. *Construction and Building Materials*, 2022, 329, 127143. (SCI, IF=7.4, 中科院1区, TOP期刊)
9. Jinjun Guo, Minghao Gao, Kun Wang\*, Peng Zhang. Mechanisms and influential variables on the abrasion resistance hydraulic concrete[J]. *Nanotechnology Reviews*, 2022, 11: 2997–3019(SCI, IF=7.4, 中科院2区)
10. Yan Lu, Kun Wang\*, Duo Zhu, Qingxin Meng, Liyan Cui. Hydration and pore structure characteristics of concrete incorporating internal curing materials in a dry and large-temperature-difference environment[J]. *Materials Research Express*, 2022, 9, 035502.
11. Kun Wang, Jinjun Guo\*, Peng Zhang, Qingxin Meng. The counterbalance of the adverse effect of abrasion on the properties of concrete incorporating nano-SiO2 and polypropylene fiber based on pore structure fractal characteristics[J]. *Fractal and Fractional*, 2022, 6, 392. (SCI, IF=5.4, 中科院1区)
12. Kun Wang, Jinjun Guo\*, Lin Yang. Effect of dry–wet ratio on sulfate transport-reaction mechanism in concrete[J]. *Construction and Building Materials*, 2021, 302, 124418. (SCI, IF=7.4, 中科院1区, TOP期刊)
13. Kun Wang, Jinjun Guo\*, Xuanjun Liu, Lin Yang, Peng Zhang. Effect of dry–wet ratio on pore-structure characteristics of fly ash concrete under sulfate attack[J]. *Materials and Structures*, 2021, 54, 100. (SCI, IF=3.8, 中科院3区)
14. Jinjun Guo, Kun Wang\*, Cuige Qi. Determining the Mineral Admixture and Fiber on Mechanics and Fracture Properties of Concrete under Sulfate Attack[J]. *Journal of Marine Science and Engineering*, 2021, 9, 251.
15. Kun Wang, Jinjun Guo\*, Hao Wu, Lin Yang. Influence of dry-wet ratio on properties and microstructure of concrete under sulfate attack[J]. *Construction and Building Materials*, 2020, 263, 120635. (SCI, IF=7.4, 中科院1区, TOP期刊)

授权发明专利：1. 郭进军，王锟，韩易辰，程林.一种用于防渗面板的抗裂混凝土及制备方法. 专利号：ZL201810115496.5. 授权日：2021年03月26日.
2. 郭进军，王锟，孟庆鑫，高明昊，梅莉.一种定量检测受硫酸盐侵蚀混凝土中钙矾石含量的方法. 专利号：ZL201911284392.8. 授权日：2023年05月02日.
3. 郭进军，王锟，卢燕.一种用于混凝土内部相对湿度测量的试验装置. 专利号：ZL201811591139.2. 授权日：2024年05月10日.
4. 徐宏殷，郭进军，陈旭东，张亚东，王锟.等 一种适用于结构受拉区的微生物定位自修复混凝土材料及其制备方法. 专利号：ZL202110518295.1. 授权日：2021年05月12日.
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