

## Assistant Professor Rui Liang

Department of Engineering Science, Faculty of Innovation Engineering  
Macau University of Science and Technology

MS. Supervisor

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PhD in Civil Engineering, The Hong Kong University of Science and Technology, 2018

MPhil in Chemical and Biomolecular Engineering, The Hong Kong University of Science and Technology,  
2014

MSc in Mechanical Engineering, The Hong Kong University of Science and Technology, 2012

B.E. in Inorganic Nonmetal Materials Engineering, Shandong University, China, 2010

Mystery of Materials

- ♦ Organic/inorganic composite
- ♦ Functional hydrogels enhanced by nanoparticles
- ♦ Polymer-modified cementitious materials
- ♦ High-strength lightweight construction materials

2022-now **Assistant Professor**, Department of Engineering Science, Faculty of Innovation Engineering, Macau  
University of Science and Technology

2021-2022 **Chief Technical Officer**, Advanced Materials R&D Center, Zhuhai UM Science & Technology  
Research Institute

2019-2021 **Postdoctoral Fellow**, Institute of Applied Physics and Materials Engineering, University of

2017-2018 **Research Assistant**, Institute of Applied Physics and Materials Engineering, University of Macau

- ♦ **China Postdoctoral Science Foundation 2022M713666** -tiny  
nanoparticles to strengthen conductive nanocomposite hydrogels with high stretchability and low  
"Principal Investigator, 2022.
- ♦ **2220004000047**  
" Principal Investigator, 2022.
- ♦ **2022 FDCT-GDST Jointly Funding 2022A0505030026**  
" Principal Investigator, 2022.

[1] **Liang, R.**, Liu, Q., Hou, D.\*, Li, Z., & Sun, G.\* (2022). Flexural strength enhancement of cement paste through monomer incorporation and in situ bond formation. Cement and Concrete Research, 152, 106675.

[2] **Liang, R.**, Li, Z., Weng, L., Zhang, L., & Sun, G\*. (2018). Recoverable hydrogel with high stretchability and toughness achieved by low-temperature hydration of Portland

301,124035.

- [9] Liu, Q., Lu, Z., Hu, X., Chen, B., Li, Z., **Liang, R.\***, & Sun, G.\* (2021). A mechanical strong polymer-cement composite fabricated by in situ polymerization within the cement matrix. *Journal of Building Engineering*, 103048.
- [10] Guo, H., Xu, J., Tang, Z., Liu, Q., Wang, M., **Liang, R.\***, & Sun, G.\* (2022). Effect of super water absorbing polymer based anti-washout admixtures on the properties of seawater-mixed cement paste. *Materials and Structures*, 55(2), 1-14.
- [11] Wang, M., Liu, Q., Liang, X., Xu, J., Li, Z., **Liang, R.\***, & Sun, G. (2022). Influence of Metakaolin on Properties of Magnesium Potassium Phosphate Cement with High Water-to-Solid Ratio. *Journal of Materials in Civil Engineering*, 34(9), 04022227.

## Professional Certification and Awards

2022 年度澳門科學技術獎 技術發明獎三等獎 主要完成人（50%）

## Journal Editorship

Invited peer reviewer for

- Construction and Building Materials (Elsevier)
- RSC Advances (Royal Soc Chemistry)