



The December 2023 cover paper

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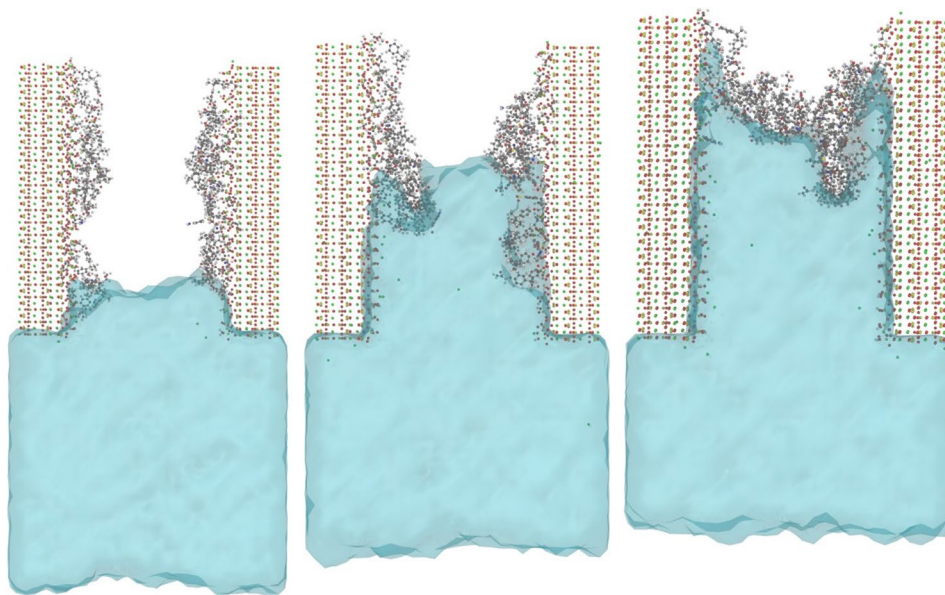
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GRAPHICAL ABSTRACT



The cover for the December 2023 issues of the Journal of Materials Science comes from the paper [1] by Xie and Luo of Chongqing Jiaotong University in China; Professor Luo is also associated with NUS Singapore and Aarhus University in Denmark. The paper is included in our “Computation & Theory” Topical Collection and was handled by our Editor Ghanshyam P. P. Dr. P. is working on machine learning and materials informatics having himself

a background in materials (especially polymers) by design and sustainability.

The authors kindly provided high-res copies of part of Fig. 2 at my request. The paper concerns the use of carbon fiber-reinforced polymer (CFRP) for construction projects—reflecting the authors’ interests in civil, environmental and architectural engineering. The paper aims to provide insights into the transport behavior of liquids in epoxy-modified C–S–H pores that are present in cement-based materials. It is

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a challenging problem for materials science linking polymers and ceramics with a liquid interacting with pores and interfaces! MD simulations are combined with experimental measurements.



Yiping Xie is currently pursuing a master's degree at the School of Civil Engineering, Chongqing Jiaotong University since 2021. His current research focuses on organic–inorganic interface failure, aiming to uncover the mechanisms behind this issue with the potential to impact concrete repair.



Prof. Qi Luo is an associate professor at the School of Civil Engineering, Chongqing Jiaotong University and currently serves as a researcher at Aarhus University in Denmark. His research is driven by the exploration of the fundamental failure mechanisms of advanced engineering materials, with a particular focus on devising innovative methods to reduce the carbon and energy footprint of civil engineering materials and infrastructure.

As always, the pdfs and hard copies of J Mater Sci are all in full color. This paper is published OA but it does also have a SharedIt link like all articles in JMS (<https://rdcu.be/dqhyK>) so it can be widely and immediately shared with readers along with the supplementary data; all papers published in JMS are free-to-read in their published form using the SharedIt link from the moment they appear online with their permanent DOI.

Reference

- [1] Xie Y, Luo Q (2023) Atomistic insights into the effect of temperature on capillary transport of water molecules in epoxy-modified calcium silicate hydrate nanopore: diffusion, kinetics, and mechanism. *J Mater Sci* 58:14773–14787. <https://doi.org/10.1007/s10853-023-08952-z>

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