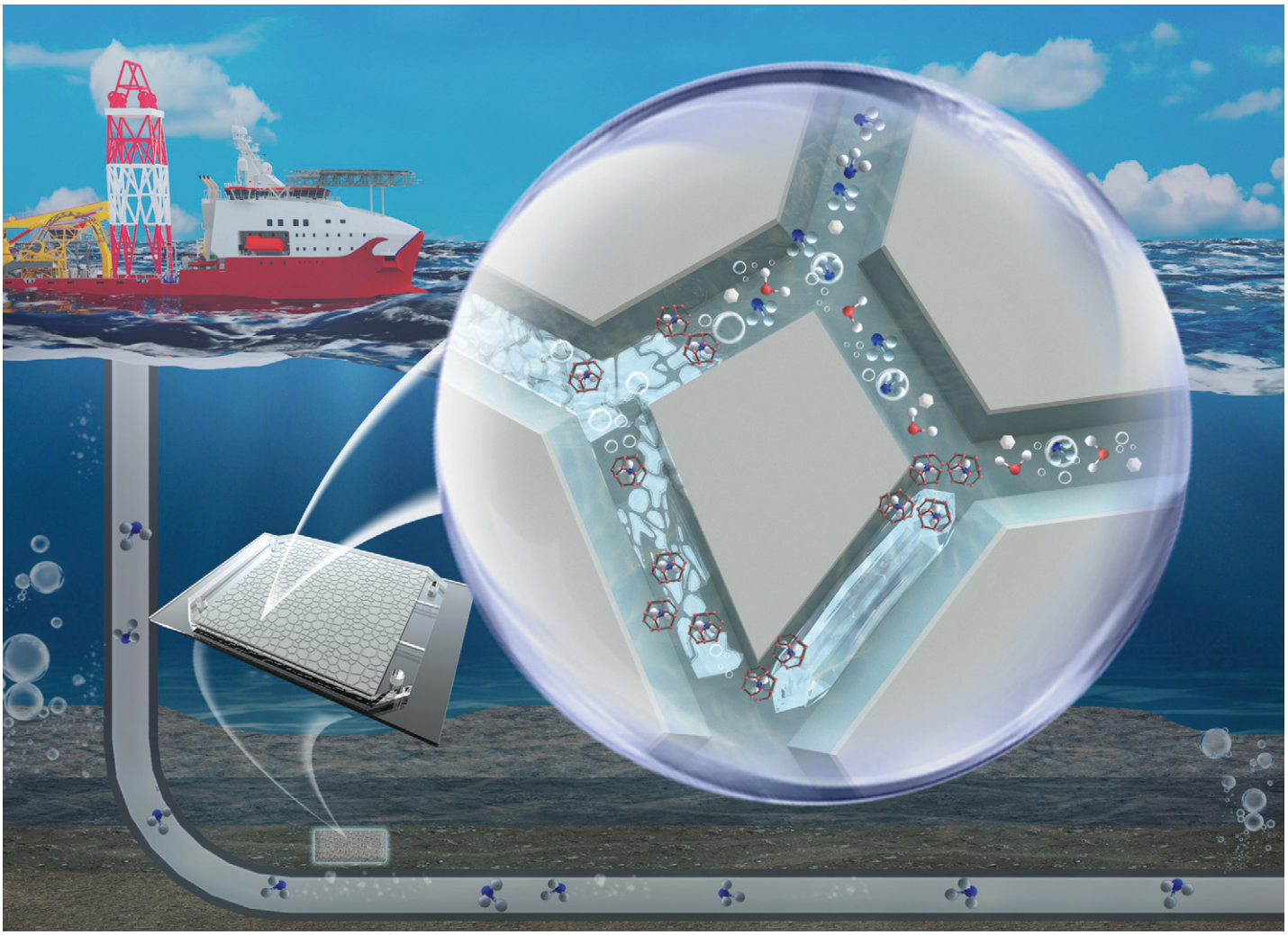

Showcasing research from Professor Zhenyuan Yin's gas hydrate and carbon storage laboratory at Institute for Ocean Engineering, Tsinghua Shenzhen International Graduate School, Shenzhen, Guangdong, China.

Path-dependent morphology of CH_4 hydrates and their dissociation studied with high-pressure microfluidics

Natural gas hydrates are abundant in nature as a potential energy resource and their impact on climate change and carbon cycling is substantial. In this study, a novel high-pressure (up to 20 MPa) microfluidic system with an image analysis technique was developed to directly visualize the phase change of CH_4 hydrate and the dynamic multiphase flow behaviour at pore scale. The method can be extended to applications of underground CO_2 sequestration and H_2 storage that contribute to carbon neutrality.

As featured in:

See Zhenyuan Yin *et al.*, *Lab Chip*, 2024, **24**, 1602.

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