

JIN SHANG

Prof. Jin Shang is a tenured Associate Professor leading Adsorption Separation Lab in the School of Energy and Environment at the City University of Hong Kong. Trained as a chemical engineer, Jin specializes in adsorption-based gas separation technology for various energy and environmental applications, especially carbon capture to decarbonize power generation and industrial processes, carbon removal, natural gas purification, hydrogen purification, and removal of ambient toxic gases/vapors (e.g., NO_x and VOCs). His research is focused on understanding the fundamental physical chemistry of the molecular adsorption process via combined experimental and computational methods, to engineer designer adsorbents, develop adsorption processes, and advance the adsorption science underpinning separation, catalysis, sensing, and storage. Prof. Shang discovered a new gas separation mechanism, i.e., molecular trapdoor mechanism, which has been recognized as the 4th mechanism for adsorptive gas separation, demonstrating the highest CO₂ selectivity in natural gas purification. Prof Shang is the only researcher in Hong Kong who actively works on carbon capture technology, spanning from adsorbent materials design and development to separation process development and demonstration. Prof. Shang has published over 110 papers (h-index 48, citations > 5800, as of May 2024) in journals such as *Nature Communications*, *Journal of the American Chemical Society*, *Angewandte Chemie*, *Chemical Science*, *Advanced Science*, *Advanced Materials*, *Advanced Functional Materials*, *ACS Nano*, *Nano Letters*, *Chemical Communications*, *Separation and Purification Technology*, *Chemical Engineering Journal*, *AIChE journal*, *Environmental Science & Technology*, *Green Chemistry*, etc.

