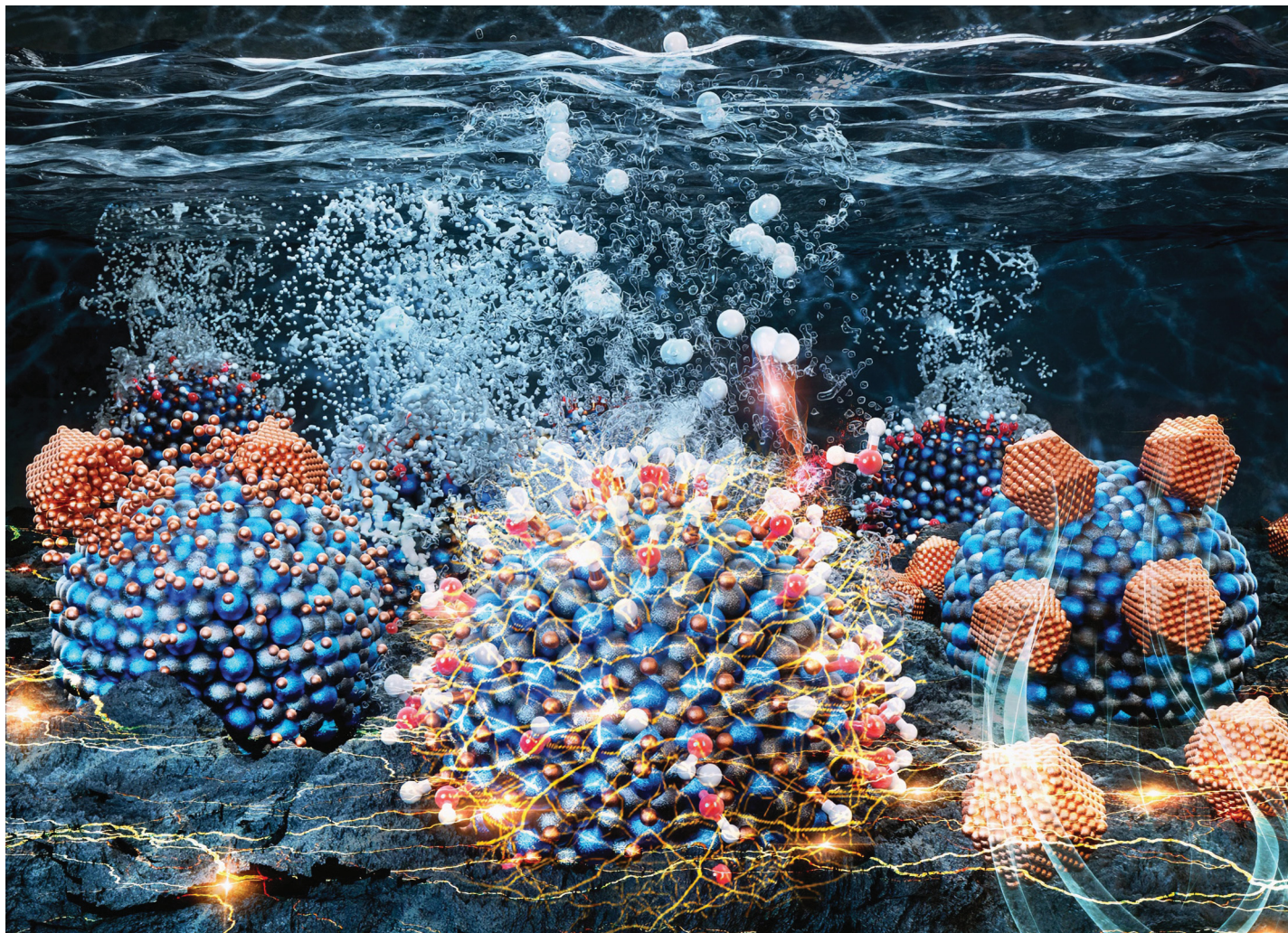




**Showcasing research from Professor Jinwoo Lee's laboratory,
Department of Chemical and Biomolecular Engineering,
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South Korea.**

Self-assembly-assisted dynamic placement of noble metals selectively on multifunctional carbide supports for alkaline hydrogen electrocatalysis

The sluggish kinetics of alkaline hydrogen evolution pose major challenges for anion-exchange membrane water electrolyzers (AEMWEs), requiring high Pt loading. To address this, we develop atomically dispersed Pt on multifunctional MoxC supports (aPt/MoxC) via a self-assembly-assisted dynamic placement, where Pt nanoparticles migrate to MoxC and disintegrate into atomic dispersion. This design maximizes Pt utilization and boosts electrokinetics by optimizing the interfacial water structure, enabling aPt/MoxC to achieve state-of-the-art AEMWE performance with low Pt loading.

As featured in:



See Hyungjun Kim, Jinwoo Lee *et al.*,
Energy Environ. Sci., 2025, **18**, 659.