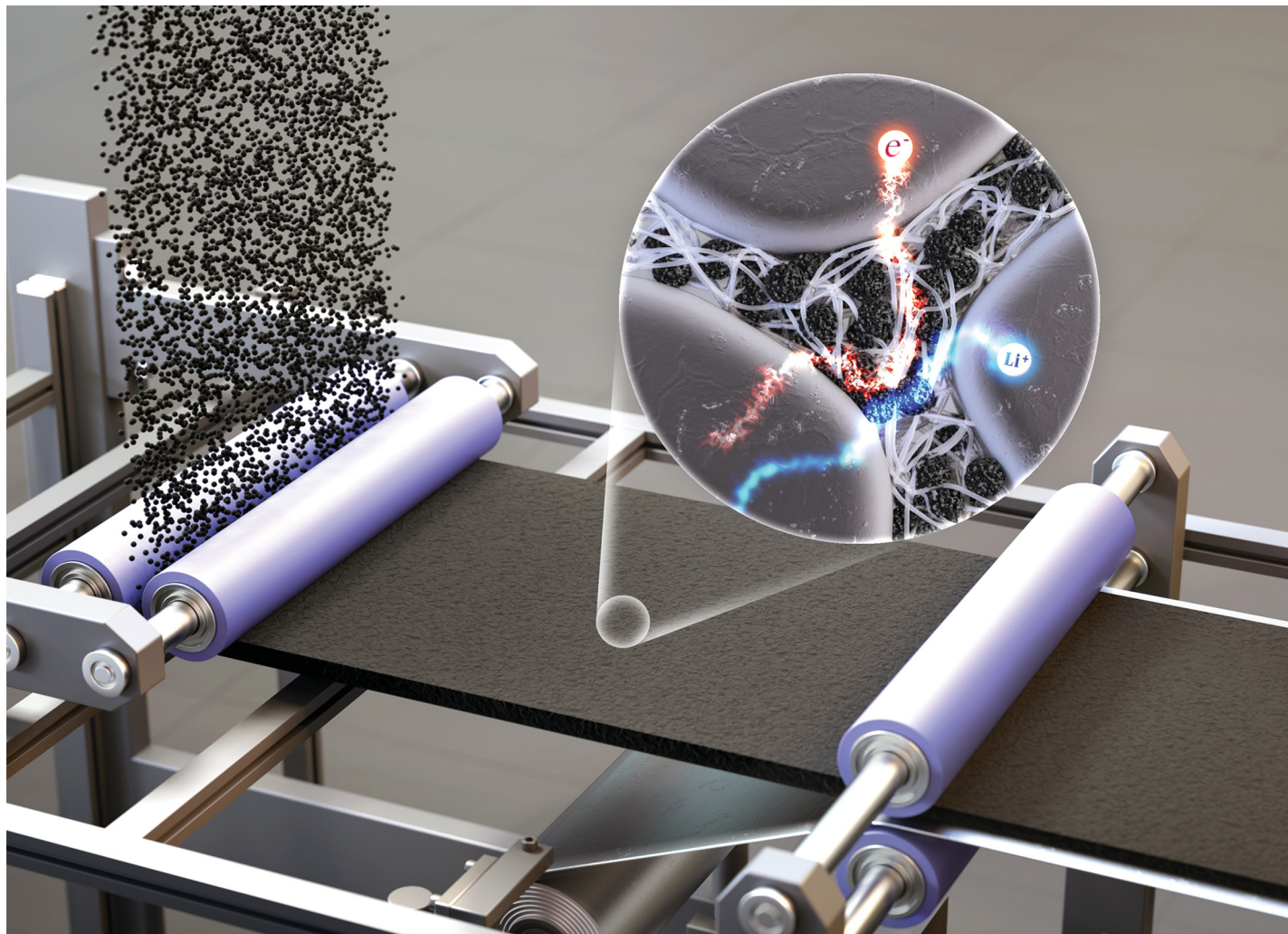




Showcasing research from Professor Kyeong-Min Jeong's laboratory, School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, South Korea.

Dry-processed thick electrode design with a porous conductive agent enabling 20 mA h cm^{-2} for high-energy-density lithium-ion batteries

This study introduces a solvent-free dry electrode process that produces thick electrodes enabling areal capacities of $10\text{--}20 \text{ mA h cm}^{-2}$ and a composite density of 3.65 g cm^{-3} . By incorporating porous spherical conductive agents, we achieved significant improvements in both electrical and ionic conductivity. These enhancements addressed critical challenges to achieve homogeneous microstructures. The resulting cathodes exhibit excellent rate performance and long cycle life, providing a sustainable and efficient approach for high-energy-density LIB applications.

As featured in:



See Kyeong-Min Jeong *et al.*,
Energy Environ. Sci., 2025, **18**, 645.