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The Next Generation Electrolyzers and Electrolysis

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Conventional electrolyzers are primarily optimized for efficient molecular conversions, such as water electrolysis. However, the potential of associated ion transports within these systems during electrolysis remains underutilized for critical industrial applications. In this talk, I will discuss the development of next-generation electrolyzers being pioneered in my research lab and startup. These innovative systems “reopen” the gap of electrolyzers and their untapped potential, enabling lower-cost and more energy-efficient carbon capture, chemical manufacturing and critical metal recovery.