

ChemCatBio Webinar Series

“Electrochemical CO₂ Utilization: The Effect of Membrane Electrode Assembly Architecture”



Jack Ferrell, National Renewable Energy Laboratory
Chemical Catalysis for Bioenergy Consortium

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12–12:45 p.m. MDT

Registration: <https://attendee.gotowebinar.com/register/5542331758272416782>

In this webinar, different types of membrane electrode assemblies (MEAs) employed in low-temperature electrochemical CO₂ utilization will be explored. The MEA is critical for scaling up CO₂ electrolysis, and consists of a membrane with a cathode electrode on one side and an anode electrode on the opposing side. As such, the MEA is the core repeat unit of an electrolyzer device, and multiple MEAs are stacked together for scaleup. CO₂ electrolysis presents additional challenges as compared to simpler chemistries (e.g., hydrogen oxidation), which have implications in MEA design. Despite recent significant research interest in electrochemical CO₂ reduction, there is currently no consensus on the best MEA architecture to lead to stable and long-term operation at high current density (> 100 mA/cm²). MEAs are typically classified by the type of membrane used, and the membrane material can dictate operational requirements for the MEA. The architectures of both proton exchange membrane and anion exchange membrane MEAs will be explored in detail, and the advantages and limitations of each type will be presented.

For more information, please visit our website at ChemCatBio.org or email us directly at Contact@ChemCatBio.org. ChemCatBio is funded by the U.S. Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Bioenergy Technologies Office.