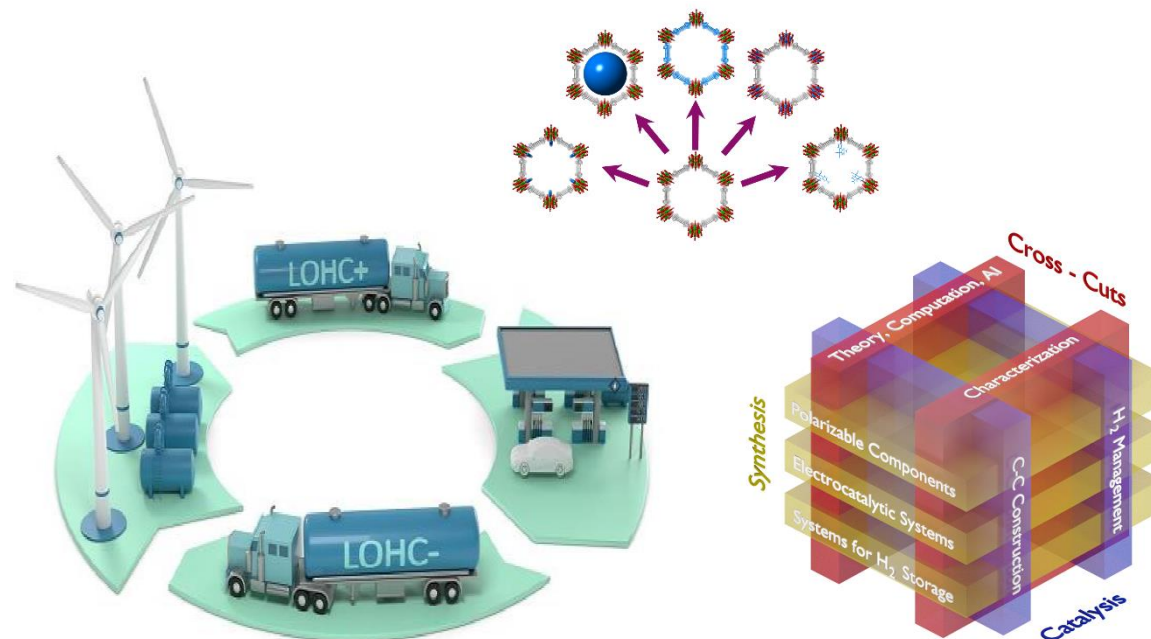


# Catalyst Design for Decarbonization Center (CD4DC)

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**MISSION:** Identify promising pathways for  $H_2$  addition and removal into carbon-based energy carriers. Identify the mechanism of the required reactions experimentally and theoretically in order to guide catalyst development. Discover and develop *reticular metal-organic framework* materials as unique catalysts for low-temperature hydrogen addition and removal as well as carbon-carbon bond manipulation.



**RESEARCH PLAN:** CD4DC will address the essential need for alternate forms of  $H_2$  transport and storage, via the development of  $CH_3OH$  and liquid organic hydrogen carriers (LOHCs), and discover new, low temperature, high activity catalysts for hydrogen addition and removal, and C-C bond formation.



<https://cd4dc.center.uchicago.edu>

