

Portland Section Meeting Notice

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September 2024

From Lab to Grid: Scaling Pre-Combustion Carbon Capture via Methane Pyrolysis

a talk by

Alex Pearse, PhD

Lead technology strategist and a senior scientist at Modern Hydrogen, Seattle, WA

Wednesday September 11, 2024, 6:30-9 PM

Dinner Reservations

Venue: Helioterra Winery
2025 SE 7th Ave.
Portland, OR 97214

Schedule

Doors open at 6:30pm on Wednesday September 11th.

Helioterra Winery is a women-owned and operated small scale winery. Dinners will feature local food from around the Portland metro area and wines from Helioterra for purchase, as well as beer and non-alcoholic beverages.

7:30 PM speaker presentation

Bio and Abstract next page

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Talk Summary



From Lab to Grid: Scaling Pre-Combustion Carbon Capture via Methane Pyrolysis

Reducing CO₂ emissions is a critical challenge for the 21st century, and meeting emissions targets means scaling the buildout of new infrastructure at an unprecedented pace. In this talk, I will demonstrate how on-site methane pyrolysis, which transforms natural gas into hydrogen and solid carbon, can be used to rapidly decarbonize several hard-to-abate sectors in industry while requiring minimal replacement of existing infrastructure. Key challenges discussed include thermokinetic optimization of the reaction, building novel chemical reactors that can continuously remove solid products at high temperatures, and how to valorize the generated carbon.

Speaker Bio

Alex Pearse is the lead technology strategist and a senior scientist at Modern Hydrogen, a venture-backed company based in Seattle inventing, building, and deploying solutions for rapid industrial decarbonization. He holds a dual B.A. in Physics and Mathematics from the University of Pennsylvania and Ph.D. in Materials Science from the University of Maryland, College Park.

ACS Denver Picture



Left to right: Sr Dr. Mary Virginia Orna, Archaeologist, Color Chemist, Emerita, College of New Rochelle; Martha Dibblee, Portland Section; Ann Nalley, Past President, ACS; Prof. Anna Wilson, Purdue University. Photo taken at Senior Chemists breakfast.