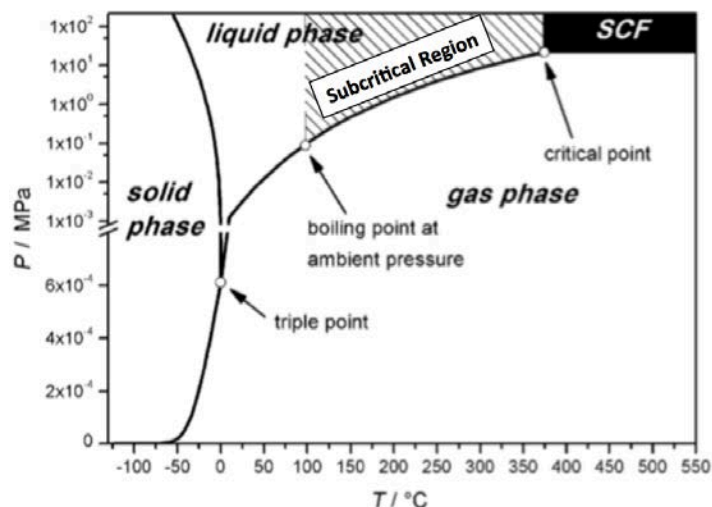


Algal Biofuels & High Value Co-products

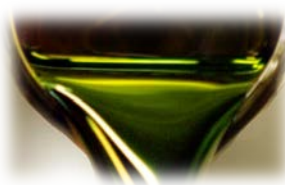
Algae hold great potential as a biomass feedstock due to its fast growth rates and ability to capture CO₂, nitrates, and phosphates that can be harmful to the environment. Using water at high temperatures/pressures (subcritical), a technique known as hydrothermal liquefaction, we can convert algae to biocrude oil and various other high value co-products simultaneously.

Keywords: Algae, Hydrothermal Liquefaction, Wastewater Treatment



Skills & Techniques

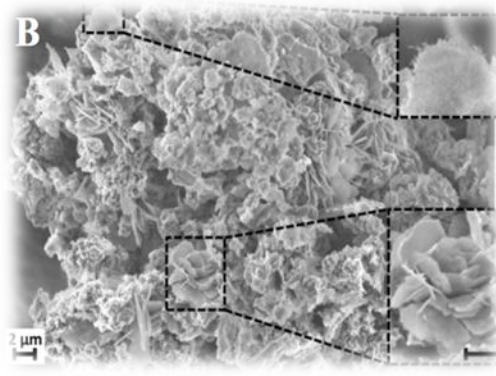
- **Oil Characterization**
 - Distillation Fractions
 - Elemental Analysis
 - Higher Heating Value
- **Catalysis Characterization**
 - X-ray Diffraction
 - BET Surface Area
 - Scanning Electron Microscopy



Biocrude Oil



Enhanced Fertilizers & Catalysts



Industry Partners

Renewable Energy Group (REG)

Collaborators

Dr. Belinda Sturm – Environmental Engr.

Dr. Chris Depcik – Mechanical Engr.

Courses

Material & Energy Balances

Reaction Kinetics

Thermodynamics

Organic Chemistry

Biology

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(a) High Temp/Pressure Parr Reactor
(b) SEM image of biochar crystals

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