Image of Research

2016

This is the complete submission of Austin Petz (senior, chemical engineering/premed), who won the Grand Prize in KU Libraries' 2016 *Image of Research* competition. Information about the competition is available at lib.ku.edu/ior.

Image 1

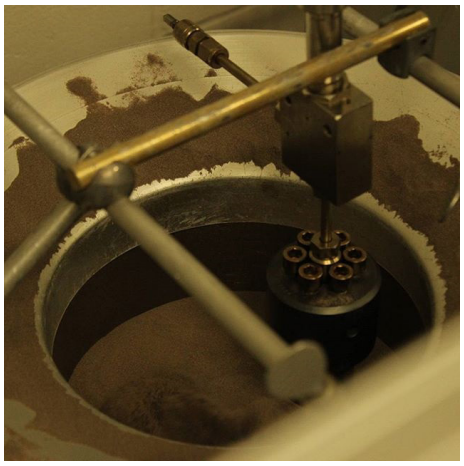

Image 2

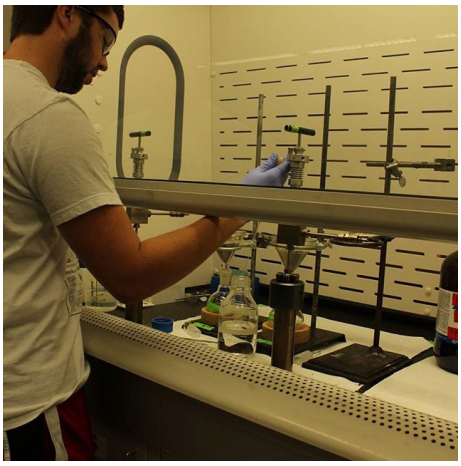

Image 3

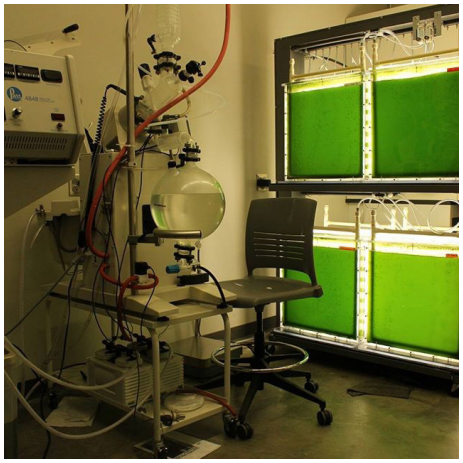

Image 4

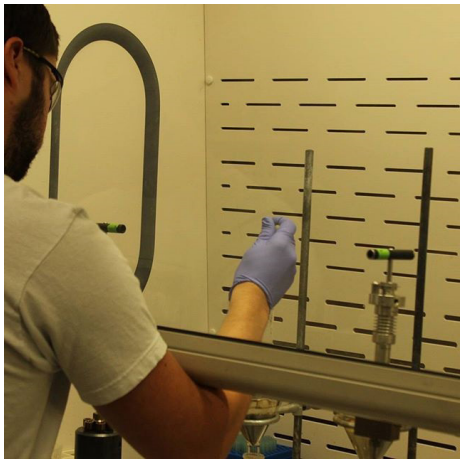

Image 5

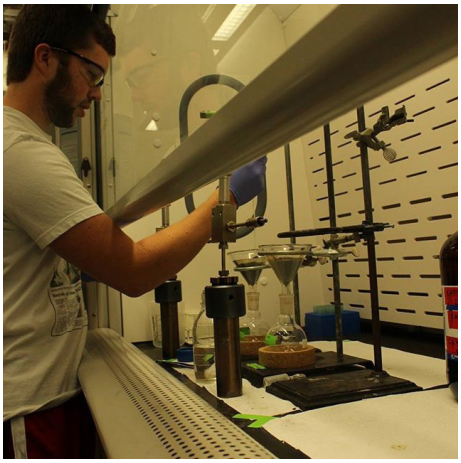

Image 6

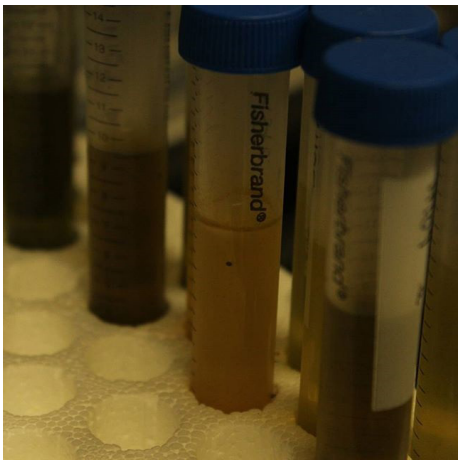

Image 7

Image 1: Algae is grown to be converted into biocrude oil via hydrothermal liquefaction (pressure cooking). Oil composition is researched with respect to changing algae compositions.

Image 2: Algae is loaded into a reactor to research effect of changing growth conditions on composition of crude oil.

Image 3: Crude oil produced from algae is extracted by organic solvent to analyze physical properties.

Image 4: Algae grown next to a giant Rotovap, which will eventually be used to evaporate organic solvent out of the oil.

Image 5: Liquid extraction of oil takes a very long time and requires squirting a ton of solvent by tiny pipettes.

Image 6: Yet another liquid extraction of crude oil produced from pressure cooking algae. Many hours were spent doing this in lab.

Image 7: The aqueous coproduct of hydrothermal liquefaction is wrapped up and sent off to be analyzed by inductively coupled plasma atomic emission spectroscopy for metal ion concentrations.

Photo credit to Emma Perkins.