DEPARTMENT OF CHEMISTRY

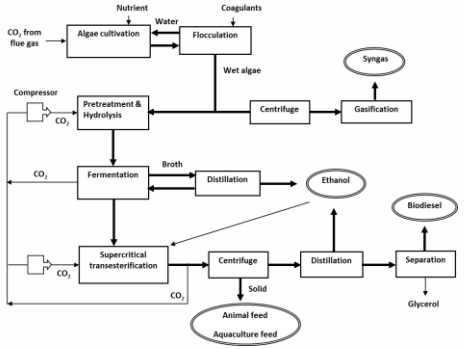
Missouri University of Science & Technology

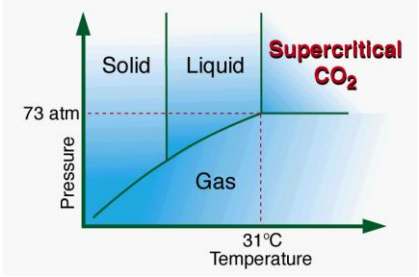
Chemistry for Sustainable Biomaterials, Health, and Environment

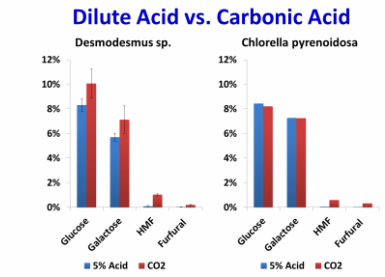
Research Topics:

- **Biosensors for medical applications**
- **Biomarkers for traumatic brain injury (TBI), seed quality, environmental stress, etc.**
- **Biofuels, biopolymers & other bio-based materials from renewable bioresources**
- **Environmental pollution monitoring & remediation**
- **Analytical method & instrument development**
- **Supercritical fluid-based reaction, extraction & chromatography**
- **Waste treatment & recycling technology**

Techniques: GC, GC-MS, HPLC, LC-MS, IC, SFE/SFC, SEC, CE, AA, ICPMS, UV/VIS, Fluorescence, FTIR, TGA, PSA, NMR







Biomass conversion to biofuels & bioproducts

Contact Information:

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Funding: NIH, USDA, DOE, EPA, Army, Navy, AirForce, NASA, MSMC, USB, USGS, MoLSRB, MoDNR, Private companies

Recognitions:

- American Foundry Society Special Merit Award, Molding Methods & Materials Division, 2013
- Excellence in Teaching Award, Missouri S&T Chemistry Department, 2012
- USDA “Grand Challenge” award for Bioenergy Awareness Days, 2008
- Best Paper Award, AOCS conference, 2000
- Patents: US 6,939,693; US 2005009158; US 6,800,318; US 6,793,951; US 6,547,987; US 6,605,590; US 6,342,651

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