


Conference Publications


Conference Presentations


*Ballard, T., Freeman, O., Staggenborg, S. (2011, April). Annual oil production totals in Kansas from crop combinations. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.


Freeman, O., *Ballard, T., Staggenborg, S. (2011, April). Cover crop benefits in corn and forage sorghum rotations in the central plains. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.


Martinez, A., Maier, D.E. (2011, April). Quantifying feedstock availability using a geographical information system. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.
Michalsky, R., Pfromm, P.H. (2010, February). Sustainable production of ammonia from air, water and biomass in Kansas. Poster session presented at the annual Kansas State Research Forum, Manhattan, KS.

Michalsky, R., Pfromm, P.H. (2010, March). Sustainable production of ammonia from air, water and biomass in Kansas. Poster session presented at the annual Capitol Graduate Research Summit, Topeka, KS.

Michalsky, R., Pfromm, P.H. (2010, May). Sustainable production of ammonia utilizing a chromium reactant and solar processing. Poster session presented at the annual meeting of the Center for Sustainable Energy, Manhattan, KS.

Michalsky, R., Pfromm, P. H. (2010, September). Sustainable production of ammonia utilizing transition metal reactants and solar processing. Poster session presented at the annual IGERT Energy and Sustainability Conference, Newark, DE.


*Parman, B., Amanor-Boadu, V., Michalsky, R., Pfromm, P. H., (2011, April). Plant configuration, scale, and economic feasibility of Reactive NH3 synthesis using solar thermochemical processing. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.


Pfromm, P.H., Amanor-Boadu, V., Nelson, R. (2010, October). Sustainability of algae derived biodiesel: a mass balance approach. Presentation for Missouri University of Science and Technology Department of Chemical and Biological Engineering Research Seminar, Rolla, MO.
Pfromm, P.H., Amanor-Boadu, V., Nelson, R. (2010, October). Sustainability of algae derived biodiesel: a mass balance approach. Presentation for the University of Nebraska, Lincoln Department of Chemical and Biomolecular Engineering Research Seminar, Lincoln, NE.


2011-12 IGERT Report

Journal Articles in Refereed Publications


**Book Chapters**


**Conference Publications**


**Conference Presentations**


*Bollin, P., Young, M., Pfromm, P.H., & Rezac, M.E.(2012, May) Catalytic Upgrading of Bio-oil Using Metal Coated Membranes. Poster Session presented at the Kansas State University Center for Sustainable Energy Corporate Sustainability Symposium, Manhattan, KS.

*Boyer. E., and Rezac, M.E. (2012, May) Polymeric Membranes and High Temperature Gaseous Separations. Poster Session presented at the Kansas State University Center for Sustainable Energy Corporate Sustainability Symposium, Manhattan, KS.


* Freeman, O. F., and Staggenborg, S.A., (2012, March). Winter cover crops in a corn forage sorghum crop rotation system. Poster Session presented at the annual meeting of Minorities in Agriculture Natural Resources and Related Sciences, Atlanta, GA.


*McGowan, A., Inouye, J., Rice, C. (2011, October). Nitrous oxide emissions in different biofuel cropping systems. Poster session presented at the annual National Science Foundation Experimental Program to Stimulate Competitive Research meeting, Coeur d'Alen, ID.


Michalsky, R., Pfromm, P. H., *Parman, B., Amanor-Boadu V. (2011, October). Solar thermochemistry for sustainable fuel and food production and for industrial CO2 capture and sequestration. Poster session presented at the Annual Meeting of the American Institute of Chemical Engineers (AIChE), Minneapolis, MN.


Michalsky, R., Pfromm, P. H. (2011, November). Solar fuels and fertilizer and their link to sustainable biomass production and conversion. Poster session presented at the Society for Biological Engineering's (SBE’s) Conference on Electrofuels Research, Providence, RI.


*Probst, K.V. (2012, January). Bioemulsifiers from single cell oils. Poster session presented at the Global Aspects of Biobased Products and Bioenergy Conference at Kansas State University, Manhattan, KS.


Schulte, L., Rezac, M.E., Pfromm, P.H. (2012, May). Green Chemistry Applied to the Production of Cyclic Carbonates from an Epoxide and Carbon Dioxide. Poster Session presented at the Kansas State University Center for Sustainable Energy Corporate Sustainability Symposium, Manhattan, KS.

Stanford, J. and Rezac, M.E. (2012, May). Production of Dimethylfuran from Hydroxymethylfurfural, a Biomass Derived Product, using a Copper-Ruthenium Catalyst Coated Membrane. Poster Session presented at the Kansas State University Center for Sustainable Energy Corporate Sustainability Symposium, Manhattan, KS.

2012-13 IGERT Report

Journal Articles in Refereed Publications


Michalsky, R., Pfromm, P.H. (2012, October). Thermodynamics of metal reactants for ammonia synthesis from steam, nitrogen and biomass at atmospheric pressure, American Institute of Chemical Engineers Journal 58, 3203-3213.


Books


**Book Chapters**

**Patent Applications**

**Patents Awarded**

**Conference Presentations**


*Horstmeier, M., Kulcsar, L. (2013, April). The right to own land, the impact of land acquisitions for biofuels production on resident populations. Poster session presented at the 2013 K-State Center for Sustainable Energy Symposium, Manhattan, KS.


*McGowan, A., Rice, C., Sattazahn, B. (2013, April). Greenhouse gas balance of cellulosic biofuel, understanding the importance of nitrous oxide from soils. Poster session presented at the 2013 K-State Center for Sustainable Energy Symposium, Manhattan, KS.


*McGowan, A., Rice, C., Staggenborg, S. (2012, August). Nitrous oxide emissions in bioenergy cropping systems. Implications for life cycle assessment. Poster session presented at the Environmental Sustainability and Bioenergy symposium conducted at the Department of Soil Science, University of Sao Paulo, Piracicaba, Sao Paulo, Brazil.


*Probst, K.V., Vadlani, P. (2012, August). Optimization of single cell oil production from oleaginous yeast using fed-batch fermentation. Paper presented at the annual international meeting of the American Society of Agricultural and Biological Engineers (ASABE), Dallas, TX.


**Journal Articles in Refereed Publications**


Zhang, Y. & Vadlani, V.P. (2013). D-lactic acid biosynthesis from biomass derived sugars via Lactobacillus delbrueckii fermentation. Bioprocess and Biosystems Engineering. 36(12):1897-1904


Conference Publications


Conference Presentations

*Appiah-Nkansah, A., *Probst, K. & Madl, R. (2013, July). Ethanol fermentation from grain sorghum starch and recommended ways of obtaining information on biofuels topics. Oral presentation for the Multicultural Academic Program Success summer bridge program at Kansas State University, Manhattan, Kansas, USA.


Bergtold, J.S. (2013, June). Farmer’s willingness to produce alternative cellulosic biofuel feedstocks in Kansas using stated choice experiments. Presented as a seminar in the Department of Economics, Administration, and Sociology, ESALQ, University of Sao Paulo, Piracicaba, San Paulo, Brazil.

Guragain, Y.N., Meier, G.T., & Vadlani, P.V. (2013, August). 2, 3 butanediol synthesis from mixed sugars: Fermentation and product concentration. Poster presented at Research Experience for Undergraduates (REU) Program at Kansas State University, Manhattan, Kansas, USA.


Guragain, Y.N., & Vadlani, P. (2014, April). EVALUATION OF ORGANIC SOLVENTS FOR THE BIOMASS PRETREATMENT TO PRODUCE 2, 3-BUTANEDIOL. Poster presented at the Center for Sustainable Energy, Energy Symposium at Kansas State University, Manhattan, Kansas, USA.


Martinez-Kawas, Adrian, & Maier, D. (2013, August). A feasibility study of postharvest handling, storage and logistics of bioenergy crops. (Doctoral dissertation defense at Kansas State University, Manhattan, Kansas, USA.) http://krex.k-state.edu/dspace/handle/2097/16304


Michalsky, R. & Pfromm, P.H. (2014, July). Solar-driven thermochemical ammonia synthesis from air and water at ambient pressure. Invited seminar at Meeting of the Royal Society, Do we need a global project on artificial photosynthesis (solar fuels and chemicals). Oral presentation at Chicheley Hall, UK.


Parman, B., Featherstone, A., & Amanor-Boadu, V. (2013, August). Economies of scale for data envelopment analysis with a Kansas farm application. (Doctoral dissertation defense at Kansas State University, Manhattan, Kansas, USA.) http://krex.k-state.edu/dspace/handle/2097/16002


Probst, K.V. (2013, September). Single cell oils from oleaginous yeast Lipomyces starkeyi. Oral presentation at Grain Science Graduate Student Symposium at Kansas State University, Manhattan, Kansas, USA.

*Probst, K., & Vadlani, P. (2014, April). UTILIZATION OF HEMICELLULOSE-RICH BIOMASS FEEDSTOCKS FOR PRODUCTION OF SINGLE CELL OILS. Poster presented at the Center for Sustainable Energy, Energy Symposium at Kansas State University, Manhattan, Kansas, USA.


*Schulte, L. (2013, October). Using a membrane reactor to upgrade biodiesel to more valuable fatty alcohols. Poster presented at Research and the State at Kansas State University, Manhattan, Kansas, USA.


*Stanford, J. (2014, April). HYDROGENATION OF HYDROXYMETHYLFURFURAL USING A RUTHENIUM COATED POLYMERIC MEMBRANE REACTOR. Poster presented at the Center for Sustainable Energy, Energy Symposium at Kansas State University, Manhattan, Kansas, USA.


*Wales, M.D., Traylor, M.E., Rezac, M.E., & Pfromm, P.H. (2013, October). Membrane reactors for use in the partial hydrogenation of vegetable oil: Understanding the influence of pressure and the ratio of membrane area to reaction volume. Poster presented at Research and the State Graduate Student Poster Session at Kansas State University, Manhattan, Kansas, USA.

*Wales, M.D., Traylor, W., Joos, L., Pfroom, P.H., Rezac, M.E. (2014, April). LIGNIN VALORIZATION USING CATALYTIC MEMBRANE REACTORS. Poster presented at the Center for Sustainable Energy, Energy Symposium at Kansas State University, Manhattan, Kansas, USA.

*Walker, V., & Rice, C. (2014, April). NUTRIENT AMENDMENT AND MANAGEMENT EFFECTS DURING BIOFUEL PRODUCTION ON SOIL MICROBIAL DYNAMICS AT KONZA TALLGRASS PRAIRIE ECOSYSTEM. Poster presented at the Center for Sustainable Energy, Energy Symposium at Kansas State University, Manhattan, Kansas, USA.

*Young, M., Pfroom, P., Rezac, M., & Law, B. (2014, April). IN SITU ATOMIC FORCE MICROSCOPY STUDY OF METAL SURFACES IN CATALYTIC HYDROGENATION MEMBRANE REACTORS. Poster presented at the Center for Sustainable Energy, Energy Symposium at Kansas State University, Manhattan, Kansas, USA.

Zhang, Y., & Vadlani, P. (2014, April). LACTIC ACID PRODUCTION FROM BIOMASS DERIVED SUGARS USING COCULTURE FERMENTATION, Poster presented at the Center for Sustainable Energy, Energy Symposium at Kansas State University, Manhattan, Kansas, USA.


2014-15 IGERT Report

Journal Articles in Refereed Publications


Martinez, A., Maier, D.E. (2014). Quantification of biomass feedstock availability to a biorefinery based on multi-crop rotation cropping systems using a geographic information system based method. Transactions of the American Society of Agricultural and Biological Engineers, 7 (1), 3-16.


Conference Presentations

Appiah-Nkansah*, N. B. & Wang, D. (2015, April). Model study on extraction of both fermentable sugars and no-structural carbohydrate from sweet sorghum using diffusion process. Poster presentation at Kansas State University, Center for Sustainable Energy, Energy Symposium, Manhattan, KS.


Carter*, T., & Rice, C. (2015, April). Effect of Grassland Grazing Systems on Microbial Communities. Poster presentation at the Kansas State University, Center for Sustainable Energy, Energy Symposium at Kansas State University, Manhattan, KS.


Guragain, Y., Vadlani, P. (2015, April). Alkaline organic solvent pretreatment to facilitate 2,3-butenediol production from diverse biomass resources. Poster presentation at Kansas State University, Center for Sustainable Energy, Energy Symposium, Manhattan, KS.

Heidlage*, M. G., & Pfromm, P. H. (2015, April). Development of a sustainable solar thermochemical reaction cycle for ammonia production. Poster presentation at Kansas State University, Center for Sustainable Energy, Energy Symposium, Manhattan, KS.

McDonald*, I., & Min, D. (2015, April). Switchgrass Genotype Study as a Bioenergy Crop. Poster presentation at Kansas State University, Center for Sustainable Energy, Energy Symposium, Manhattan, KS.


Pradyawong, S., & Wang, D. (2015, April). Develop Lignin-Protein Based Adhesives. Poster presentation at the Kansas State University, Center for Sustainable Energy, Energy Symposium at Kansas State University, Manhattan, KS.

Rissler*, P., & Kulcsar, L. (2015, March). Renewable Energy and Community Capitals In Rural Kansas. Oral presentation at the Graduate Research Symposium, Kansas State University, Manhattan, KS.


Young*, M., & Pfromm, P. (2015, April). In-Situ Atomic Force Microscopy Study of Catalytic Surfaces. Poster presentation at Kansas State University, Center for Sustainable Energy, Energy Symposium, Manhattan, KS.


Zhang, Y., & Vadlani, P. (2015, April). D-lactic acid production from corn stover using genetically engineered Lactobacillus plantarum. Poster presentation at Kansas State University, Center for Sustainable Energy, Energy Symposium, Manhattan, KS.
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Martinez, A., Maier, D.E. (2014). Quantification of biomass feedstock availability to a biorefinery based on multi-crop rotation cropping systems using a geographic information system based method. Transactions of the American Society of Agricultural and Biological Engineers, 7 (1), 3-16.


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