

## CURRICULUM VITAE

**William E. Holmes**, Director, Analytics and Process Chemistry  
The University of Louisiana at Lafayette  
College of Engineering / Energy Institute  
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### Education

Institution	Degree	Year	Major
U. of Southern MS.	B.S.	1982	Microbiology/Chemistry

ADVISOR: R.D. Ellender, Dean, University of Southern MS (Ret)

Directed study in Biochemistry: Reassociation and Hybridization properties of DNA

### Professional Experience

Director, Analytics	University of Louisiana at Lafayette	7/13-Present
Director, AIT	Mississippi State University	7/10-6/13
	Dave C. Swalm School of Chemical Engineering	
Director, AIT	Mississippi State Chemical Laboratory,	2/98-6/10
Application Chemist	Varian Instrument, Walnut Creek, CA	8/85-1/98
Research Assoc.	U. of Mississippi Medical Center,	1/83-6/85
	Dept. of Medicine, Jackson, MS	

### Synergistic Activities

For over 35 years Bill Holmes has been involved with instrumentation used for analytical chemistry separation and identification of organic chemicals. He has published over 80 scientific papers and given lectures at both national and international conferences. His research has focused on method development of various analyses from life science, petroleum, pharmaceutical, environmental, food science and basic chemical. Before returning to academics his experiences at a leading instrument company, Varian Associates in Walnut Creek, CA allowed him to gain expertise in instrumental hardware design and modifications to adapt to new or changing methodologies. His current research projects at UL include analysis and instrumentation development for biotechnology such as on-line systems for rapid monitoring of reaction processes. He is a member of the American Chemical Society, American Society of Mass Spectrometry, American Oil Chemists Society, and the Association of Official Analytical Chemist and recipient of the MS State University's 2012 Bagely College of Engineering Research Award. Holmes is also the recipient of the University of Louisiana 2015 Research Award, 2016-2017 Research Innovator Award, and chairs the UL Biosafety Committee.

## Publications

Alex Zappi, Rafael Hernandez, William Holmes. *A review of hydrogen production from anaerobic digestion*. International journal of Environmental Science and Technology. Submitted & under review- date doi.org/10.1007/s13762-020-03117-w

Fortela, D.L., Sharp, W., Revellame, E., Holmes, W., Hernandez, R., and Zappi, M. *Lipid Accumulation Capability of Typical Non-Acclimated Activated Sludge Microbial Consortia Using Methane Gas as Secondary Carbon Source*. Journal of the American Oil Chemist Society. Submitted & under review- date

Xu Zhang, Hong Yao, Xiaobo Lei, Qiyu Lian, William E. Holmes, Ling Fei, Mark E. Zappi, and Daniel Dianchen Gang. *Synergistic adsorption and degradation of sulfamethoxazole from synthetic urine by hickory-sawdust-derived biochar: the critical role of the aromatic structure*. Journal of Hazardous Materials. Submitted & under review- date

Qiyu Lian, Fahrin Islam, Zaki Uddin Ahmad, Xiaobo Lei, Dilip Depan, Mark Zappi, Daniel D. Gang\*, William Holmes, Hui Yan. *Enhanced Adsorption of Resorcinol onto Phosphate Functionalized Graphene Oxide Synthesized via Arbusov Reaction: A Proposed Mechanism of Hydrogen Bonding and  $\pi$ - $\pi$  Interactions*. Chemosphere. Submitted & under review- date

Xiaobo Lei, Lunguang Yao, Qiyu Lian, Xu Zhang, Tiejun Wang, Mark E. Zappi, William Holmes, Guoyu Ding, Daniel Dianchen Gang. *Enhanced adsorption of perfluorooctanoate (PFOA) on low oxygen content ordered mesoporous carbon (OMC): adsorption behaviors and mechanisms*. Journal Chemical Engineering. Submitted & under review- date

Revellame, E.D., Zappi, A., Hernandez, R., Gang, D., Holmes, W., Zappi, M.E. *Short Chain Carboxylic Acid Platform for Microbial Lipid Production through Integrated Anaerobic-Aerobic Biotreatment Processes: An Urban-based Biorefinery Model*. ACS Sustainable Chemistry & Engineering. Submitted & under review- date

Bimi Shrestha, Rafael Hernandez, Dhan Ford B. Fortela, Wayne Sharp, Andrei Chistoserdov, Daniel Gang, Emmanuel Revellame, William Holmes, Mark Zappi. *A Review of Pretreatment Methods to Enhance Solids Reduction during Anaerobic Digestion of Municipal Wastewater Sludges and the Resulting Digester Performance: Implications to Future Urban Biorefineries*. December 2020. Applied Sciences. <http://dx.doi.org/10.3390/app10249141>

Qiyu Lian, Amitava Roy, Orhan Kizilkaya, Daniel Gang, William Holmes, Mark Zappi, Xu Zhang, Hong Yao. *Uniform Mesoporous Amorphous Cobalt-Inherent Silicon Oxide as a Highly Active Heterogeneous Catalyst in the Activation of Peroxymonosulfate for Rapid Oxidation of 2,4-Dichlorophenol: The Important Role of Inherent Cobalt in the Catalytic Mechanism*. November 2020. ACS Applied Materials & Interfaces. DOI: 10.1021/asami.0c20341

Emmanuel Revellame, Remil Aguda, Shayla LeBoeuf, Cody Stelly, Samantha Bonilla, Brandon LeBlanc, William Holmes, Rafael Hernandez, Mark Zappi. *The Potential of Non-ionic*

*Surfactants for Extraction of Lactic Acid from Aqueous Solution*. July 2020. Applied Sciences. DOI:10.3390/app10155315

Alex Zappi, Dhan Lord Foertela, William Holmes. *An Assessment of Methanotrophs Producing Industrial-Grade Lipids for Biofuels and Other Commercial Chemicals*. July 2020. Energies.

Dhan Lord Fortela, Wayne Sharp, Emmanuel Revellame, Andrei Chistoserdov, William Holmes, Daniel Gang, Rafael Hernandez, Mark Zappi. *Lipid accumulation capability of typical non-acclimated activated sludge microbial consortia using methane gas as secondary carbon source*. March 2020. Engineering Reports. DOI: 10.1002/eng2.12148

Robert Bertrand, William Holmes, Cory Orgeron, Carl McIntyre, Rafael Hernandez, Emmanuel Revellame. *Rapid Estimation of Parameters for Gelatinization of Waxy Corn Starch*. November 2019. Food Engineering and Technology.

Liew Go, Rafael Hernandez, Dhan Fortela, Emmanuel Revellame, William Holmes, Mark Zappi, William Chirdon. *Emerging biorefineries from biobased chemicals and energy recovered from waste microbial matrices*. August 2019. Current Opinion in Chemical Engineering.

Mark Zappi, Dhan Lord Fortela, Wayne Sharp, Rakesh Bajpai, Daniel Gang, William Holmes, Rafael Hernandez, Emmanuel Revellame. *Evaluation of the Methane Production Potential of Catfish Processing Wastewater Using Various Anaerobic Digestion Strategies*. June 2019. Processes 7(6):368, DOI: 10.1109/GreenTech.2019.8767129

Emmanuel Revellame, Dhan Lord Fortela, Rafael Hernandez, William Holmes, Wayne Sharp, Daniel Gang, Mark Zappi, Ashley Mikolajczyk, Krishna Nigam, Rakesh Bajpai. *Evaluation of the Potential Conversion of Catfish Processing Wastewater into Energetic Co-Products using various Anaerobic Digestion Strategies*. May 2019. Industrial & Engineering Chemistry Research, DOI:10.1021/acs.iecr.9b01554

Dhan Lord Fortela, Rafael Hernandez, Emmanuel Revellame, William Holmes, Wayne Sharp, Mark Zappi. *Lipids from Wastewater-Activated Sludge Cultivated on Acetic Acid as Potential Alternatives to High-Value Oils and Fats*. May 2019. Journal of the American Oil Chemists' Society, DOI: 10.1002/aocs.12225

Qiyu Lian, Mas Konggidinata, Zaki Ahmad, Daniel Gang, Lunguang Yao, Ramalingam Subramaniam, Emmanuel Revellame, William Holmes, Mark Zappi. *Combined effects of textural and surface properties of modified orderedmesoporous carbon (OMC) on BTEX adsorption*. May 2019. Journal of Hazardous Materials 377, 381-390. DOI:10.1016/j.jhazmat.2019.05.079

Mark Zappi, Emmanuel Revellame, Dhan Lord Fortela, Rafael Hernandez, Daniel Gang, William Holmes, Wayne Sharp, Ashley Mikolajczyk, Krishna Nigam, Rakesh Bajpai. *Evaluation of the Potential to Produce Biogas and Other Energetic Coproducts Using Anaerobic Digestion of Wastewater Generated at Shrimp Processing Operations*. May 2019. Industrial & Engineering Chemistry Research, DOI: 10.1109/GreenTech.2019.8767129

Rafael Hernandez, Liew Chien Go, William Holmes. *Evaluation of extracellular polymeric substances extracted from waste activated sludge as a renewable corrosion inhibitor*. May 2019. PeerJ, DOI: 10.7717/peerj.7193

Oladapo S Akinyemi, Lulin Jiang, Rafael Hernandez, Carl McIntyre, Williams Holmes. *Combustion of Straight Algae Oil in a Swirl-Stabilized Burner Using a Novel Twin-Fluid Injector*. April 2019. Fuel Journal. JFUE-D-18-03373R1

Joshua Borton, Frank Lopez, Linh Doan, William Holmes, Tracy Benson. *Conversion of High Free Fatty Acid Lipid Feedstocks to Biofuel Using Triazabicyclodecene Catalyst (Homogeneous and Heterogeneous)*. March 2019. Energy & Fuels, DOI: 10.1021/acs.energyfuels.9b00359

Liew Chein Go, William Holmes, Rafael Hernandez. *Sweet corrosion inhibition on carbon steel using waste activated sludge extract*. March 2019. IEEE Green Technologies Conference, DOI: 10.1109/GreenTech.2019.8767129

Daniel Gang, Qiyu Lian, Mas I Konggidinata, Bing Chao, Lunguang Yao, Ramalingam Subramaniam, Emmanuel Revellame, William E. Holmes, Mark Zappi. *Chemical modification and surface functionalization of Ordered Mesoporous Carbon (OMC) for BTEX removal from aqueous solutions*. November 2018. Chemical Engineering Journal

Dhan Lord Fortela, Ashley Mikolajczyk, Rafael Hernandez, Emmanuel Revellame, William Holmes, Mark Zappi. *Techno-economic Potential of Integrated Anaerobic Digestion and Aerobic Lipid Accumulation for Fuels and Materials Recovery from Wastewater Treatment Plants*. September 2018. Journal of Fundamentals of Renewable Energy and Applications 8: 268

Jorge Belgodere, Emmanuel Revellame, Rafael Hernandez, William Holmes, Lance Collazos, Rakesh Bajpai, Mark Zappi. *Liquid-Liquid Equilibria for volatile fatty (acids + water + alcohol ethoxylate): Experimental measurement of pseudo-ternary systems*. August 2018. The Journal of Chemical Thermodynamics 128

Oladapo Akinyemi, Lulin Jiang, Prashanth Buchireddy, Stanislav Barskov, John Guillory, William Holmes. *Investigation of Effect of Biomass Torrefaction Temperature on Volatile Energy Recovery Through Combustion*. June 2018. Journal of Energy Resources Technology

Emmanuel Revellame, William Holmes. *Pretreatment of Solid Wastes from Vegetable Processing*. April 2017. AIChE Annual Meeting, Minneapolis, MN

William Gardner, William Holmes. *Development of a High-Resolution GC Separation for Identification and BTU Heating Value Calculations for Torrefaction VOC Emissions*. April 2017. AOAC Annual Meeting, Atlanta, GA

Ben Boone, Matthew Crawford, Maci Gauthreaux, William Holmes, Emmanuel Revellame, Andro Mondala. *Renewable Fuels from Plastic Medical Wastes*. April 2017. AOAC Annual Meeting, Atlanta, GA

Maci Gauthreaux, William Holmes, Rafael Hernandez, Mark Zappi, Jay Turner, Tre Bertrand, Danny Cormier. *Extraction of Amines in Petroleum Drilling Fluids by Rapid GC/MS Method*. April 2017. AOAC Annual Meeting, Atlanta, GA

Hannah Hymel, Robert Bertrand, William Holmes, Emmanuel Revellame. *Novel Process to Enhance Essential Oils, as Natural Chemical Insect Repellents*. April 2017. AOAC Annual Meeting, Atlanta, GA

Kyle Zappi, Kyle Leleux, William Holmes, Dhan Lord Fortela, Emmanuel Revellame. *Development of a Microbial Fuel Cell for Waste to Electricity Conversion*. April 2017. AOAC Annual Meeting, Atlanta, GA

David LaCour Jr., Emmanuel Revellame, Mark Zappi, William Holmes. *Microbial Digestion of Waste Materials for Biogas Production*. April 2017. AOAC Annual Meeting, Atlanta, GA

Rahul Ukey, William Holmes, Rakesh Bajpai, Andrei Chistoserdov. *Evaluation of thioesterases from *Acinetobacter baylyi* for production of free fatty acids*. March 2017. Canadian Journal of Microbiology 63(4):1-9

Dhan Ford Fortela, Rafael Hernandez, Andrei Chistoserdov, Mark Zappi, Rakesh Bajpai, Daniel Gang, Emmanuel Revellame, William Holmes. *Biodiesel Profile Stabilization and Microbial Community Selection of Activated Sludge Feeding on Acetic Acid as a Carbon Source*. October 2016. ACS Sustainable Chemistry & Engineering 4(12):6427–6434

Dhan Ford Fortela, Rafael Hernandez, Todd French, Mark Zappi, Emmanuel Revellame, William Holmes, Andro Mondala. *Extent of inhibition and utilization of volatile fatty acids as carbon sources for activated sludge microbial consortia dedicated for biodiesel production*. October 2016. Renewable Energy 96:11-19

Keyvan Mollaeian, Suying Wei, Mohammad Islam, Bleinie Dickerson, William Holmes, Tracy Benson. *Development of an Online Raman Analysis Technique for Monitoring the Production of Biofuels*. April 2016. Energy & Fuels 30(5)

Dhan Ford Fortela, Rafael Hernandez, Mark Zappi, Todd French, Rakesh Bajpai, Andrei Chistoserdov, Emmanuel Revellame, William Holmes. *Microbial Lipid Accumulation Capability of Activated Sludge Feeding on Short Chain Fatty Acids as Carbon Sources through Fed-Batch Cultivation*. April 2016. Journal of Bioprocessing & Biotechniques 6:4

Dhan Lord Fortela, William Holmes. *The Dynamics of Biodiesel Profile and Fungal Diversity of Activated Sludge during Lipid Accumulation on Acetic Acid*. April 2016. AIChE Annual Meeting, San Francisco, CA

Obakore Agbroko, Keyvan Mollaeian, William E. Holmes, Tracy J Benson. *in Situ Raman Analysis for the Production of Biofuel Using a Heterogeneous Layered Double Hydroxide Catalyst*. April 2016. AIChE Annual Meeting, San Francisco, CA

Dhan Lord Fortela, William Holmes, Rafael Hernandez, Mark Zappi. *The Case of Making Fuel Oil from Sanitary Sewage*. April 2016. AIChE Annual Meeting, San Francisco, CA

Danial Gang, William Holmes. *BTEX Removal from Synthetic Wastewater Using Ordered Mesoporous Carbons (OMCs)*. April 2016. AIChE Annual Meeting, San Francisco, CA

Danial Gang, William Holmes. *Removal of Metals Form Industrial Wastewater Using Pecan Shell Based Activated Carbon*. April 2016. AIChE Annual Meeting, San Francisco, CA

William Holmes, Dhan Lord Fortela, Emmanuel Revellame. *Surfactant-Aided Extraction of Volatile Organic Acids from Aqueous Solution*. April 2016. AIChE Annual Meeting, San Francisco, CA

Emmanuel Revellame, William Holmes, Rafael Hernandez, Todd French, Allison Forks, Taylor Ashe, L. Antonio Estevez. *Experimental measurement and prediction of liquid-liquid-liquid equilibrium for the system (n-hexadecane + water + triacetin)*. November 2015. The Journal of Chemical Thermodynamics 95

Ashley Mikolajczyk, William Holmes. *Evaluation of the Effect of Commercially Manufactured Feeds with Different Fat Compositions on Fatty Acid Composition of Captive Breeding Alligator Eggs*. April 2015. AOAC Annual Meeting, Atlanta, GA

Alyssa Bienvenu and William Holmes. *A Proposed Rapid Analytical Method for Quantification of Volatile Organic Acids in Fermentation Broth*. April 2015. AOAC Annual Meeting, Atlanta, GA

William Holmes. *Converting Waste to Value-Added Products*. April 2015. AOAC Annual Meeting, Atlanta, GA

Troy Manuel, Claire Maraist, Timothy Boudreaux, William Holmes, Prashanth Buchireddy. *Char It! Black is the New Green, Using Mass Spectrometry to Analyze Compositions and BTU Content of Off-Gas from Torrefaction Process*. April 2015. AOAC Annual Meeting, Atlanta, GA

Maci Gauthreaux, Whitney Melancon, William Holmes, Troy Primeaux, Mark Zappi. *Ask Me About My Pepper, Y'all! Analytical Determination of Scoville Heat Units Using High Pressure Liquid Chromatography*. April 2015. AOAC Annual Meeting, Atlanta, GA

Stanislav Barskov, Stephen Dufreche, William Holmes, Rafael Hernandez, Rakesh Bajpai, Mark Zappi, Ramalingam Subramaniam. *388012 Biological Isolation of Protein from Shrimp Waste*. November 2014. Conference: 14 AIChE Annual Meeting

Dhan Ford Fortela, Rafael Hernandez, Mark Zappi, William Holmes, Emmanuel Revellame, Stephen Dufreche, Ramalingam Subramaniam, Todd French. *385550 Refining the Concept of Integrating Anaerobic-Aerobic Microbial Systems to Produce Chemicals and Lipids for Fuels*. November 2014. Conference: 14 AIChE Annual Meeting

Christopher Giogio, Stephen Dufreche, William Holmes, Rafael Hernandez, Mark Zappi, Rakesh Bajpai, Ramalingam Subramaniam. 387725 *Effect of C/N Ratio on Microbial Lipid Production with the Oleaginous Yeast Lipomyces Starkeyi*. November 2014. Conference: 14 AIChE Annual Meeting

Emmanuel Revellame, Dhan Lord Fortela, William Holmes, Rafael Hernandez. 383463 *Fuels and Chemicals from Wastes through Anaerobic Digestion*. November 2014. Conference: 14 AIChE Annual Meeting

Ashley Mikolajczyk, Hannah Hymel, William Holmes, Ted Joanen, Errol Falgout, Mark Staton, Mark Zappi. 389899 *Engineering Alligator Diets to Increase Reproductive Performance of Alligator Eggs from a Captive Population*. November 2014. Conference: 14 AIChE Annual Meeting

Dhan Ford Fortela, Rafael Hernandez, Mark Zappi, William Holmes, Emmanuel Revellame, Stephen Dufreche, Ramalingam Subramaniam, Todd French. 385722 *Discrete-Continuous Simulations for Performance Evaluation of Sequential Batch Reactor System for Lipid Accumulation from Volatile Fatty Acids By Activated Sludge Microorganisms Following Seasonal Stochastic Variations*. November 2014. Conference: 14 AIChE Annual Meeting

M. Rahman, Stephen Dufreche, William Holmes, Rakesh Bajpai, Rafael Hernandez. 387399 *Cost Effective Lipid Production By Lipomyces Starkeyi Using Different Carbon Sources*. November 2014. Conference: 14 AIChE Annual Meeting

Alyssa Bienvenu, William Holmes, Emmanuel Revellame, Dhan Ford Fortela, Andro Mondala, Rafael Hernandez, Mark Zappi. 387555 *A Rapid Analytical Method for Quantification of Volatile Organic Acids in Fermentation Broth*. November 2014. Conference: 14 AIChE Annual Meeting

Ashley Mikolajczyk, Mark Zappi, William Holmes, Rafael Hernandez. 389666 *An Evaluation of Processes for the Capture of Lipids for Later Use As Feedstocks for Fuels and Other Chemicals Production*. November 2014. Conference: 14 AIChE Annual Meeting

William Holmes, Mark Zappi, Rafael Hernandez, Prashanth Buchireddy, Terry Chambers, and Emmanuel Revellame. *An introduction to energy research at The University of Louisiana's Cleco Alternative Energy Center*. April 2014. AOAC Annual Meeting, Atlanta, GA

Edith Martinez-Guerra, Veera Gnanaswar Gude, Andro Mondala, William Holmes, Rafael Hernandez. *Microwave and ultrasound enhanced extractive-transesterification of algal lipids*. September 2014. Applied Energy 129:354–363

Edith Martinez-Guerra, Veera Gnanaswar Gude, Andro Mondala, William Holmes, Rafael Hernandez. *Extractive-transesterification of algal lipids under microwave irradiation with hexane as solvent*. March 2014. Bioresource Technology 156(240):240–247

Marta Amir Sadeghi, Todd French, Rafael Hernandez, William Holmes. 334950 *Evaluation of the Effect of Different Carbon Sources On Lipid Production By Rhodotorula Glutinis From Pulp and Paper Wastewater As Fermentation Media*. November 2013. Conference: 13 AIChE Annual Meeting

Dhan Lord Fortela, Rafael Hernandez, Todd French, Andro Mondala, William Holmes, Emmanuel Revellame, Efreem Egede. 332408 *Integration of Anaerobic Digestion of Cellulose Into Lipid Accumulation By a Mixed Microbial Consortium*. November 2013. Conference: 13 AIChE Annual Meeting

Adebola Coker, Rafael Hernandez, Emmanuel Revellame, William Holmes, Todd French. 340640 *Update to Biodiesel Production From Activated Sludge and Economic Analysis*. November 2013. Conference: 13 AIChE Annual Meeting

Emmanuel Revellame, William Holmes, Rafael Hernandez, Todd French. 340552 *Fluid-Bed Catalysis of Lipid-Enhanced Activated Sludge and Its Integration With Wastewater Treatment Facilities*. November 2013. Conference: 13 AIChE Annual Meeting

William Holmes, Emmanuel Revellame, Rafael Hernandez, Prashanth Buchireddy. 336262 *Recovery of Phenolic Compounds From Pyrolysis Wastewater By Adsorption to Kenaf: Comparison of Different Kenaf Pre-Treatments*. November 2013. Conference: 13 AIChE Annual Meeting

Emmanuel Revellame, William Holmes, Rafael Hernandez, Todd French, Lader Lerma, Allison Forks, Taylor Ashe, L. Antonio Estevez. *Experimental measurement and modeling of the Type 3 ternary system containing (decane + water + triacetin)*. November 2013. The Journal of Chemical Thermodynamics 67:21-27

Andro Mondala, Rafael Hernandez, Todd French, Linda McFarland, Darrell Sparks, William Holmes, Monica Haque. *Enhanced Microbial Oil Production by Activated Sludge Microorganisms via Co-Fermentation of Glucose and Xylose*. November 2013. AIChE Journal 59(11)

Emmanuel Revellame, Rafael Hernandez, Todd French, William Holmes, Allison Forks, Robert Callahan II. *Lipid-enhancement of activated sludges obtained from conventional activated sludge and oxidation ditch processes*. September 2013. Bioresource Technology 148C:487-493

Kamal Lamichhane, Andro Mondala, Rafael Hernandez, Todd French, Magan Green, Linda McFarland, William Holmes. *Biocrude production by activated sludge microbial cultures using pulp and paper wastewaters as fermentation substrate*. June 2013. Environmental Technology 34(13-16):2171-8

Teresa Braunwald, Lisa Schwemmlin, Simone Graeff, Todd French, Rafael Hernandez, William Holmes, Wilhelm Claupein. *Effect of different C/N ratios on carotenoid and lipid production by Rhodotorula glutinis*. June 2013. Applied Microbiology and Biotechnology 97(14)



Yolanda Gonzalez Garcia, Rafael Hernandez, Guochang Zhang, Froylan Escalante, William Holmes, Todd French. *Lipids accumulation in Rhodotorula glutinis and Cryptococcus curvatus growing on distillery wastewater as culture medium*. April 2013. Environmental Progress & Sustainable Energy 32(1)

Mark White, A. T. Coker, Rafael Hernandez, Emmanuel Revellame, Todd French, Alexei Iretskii, William Holmes. *Comparison of 1- and 2- Step Biodiesel Production From Activated Sludge Using Supercritical Methanol and Economic Analysis*. November 2012. Conference: AIChE Annual Meeting. At: Pittsburgh, PA

Andro Mondala, Rafael Hernandez, Todd French, William Holmes, Magan Green, Linda McFarland, Larry Pearson, Jesse Simmons, Robert Glenn, Brady Biggers. *274200 Evaluation of a Pilot-Scale Facility for Biocrude Production by Activated Sludge Cultures Via Lignocelullose Sugar Fermentation and Downstream Recovery Processes*. October 2012. Conference: 12 AIChE Annual Meeting

Emmanuel Revellame, William Holmes, Rafael Hernandez, L. Antonio Estevez, Todd French. *274057 Application of High Voltage for the Destabilization of Water-in-Oil Emulsion for the Extraction of Lipids From Microorganisms without Removal of Water*. October 2012. Conference: 12 AIChE Annual Meeting

Emmanuel Revellame, William Holmes, Rafael Hernandez, Todd French. *274543 Production of Renewable Fuel From Enhanced Activated Sludge Through a Fluidized-Bed Catalytic Cracking (FCC) Process*. October 2012. Conference: 12 AIChE Annual Meeting. April 2012. AOCS Annual Meeting. Long Beach, CA

Mondala, A., Hernandez, R., French, W., Green, M., McFarland, L., Holmes, W., Ramakrishnan, G. *Volatile Fatty Acids As a Sole Carbon Source for Biocrude Production by Enhanced Activated Sludge Cultures*. October 2012. Conference: 12 AIChE Annual meeting.

Emmanuel Revellame, William Holmes, Tracy Benson, Allison Forks, Todd French, Rafael Hernandez. *Parametric Study on the Production of Renewable Fuels and Chemicals from Phospholipid-Containing Biomass*. May 2012. Topics in Catalysis 55(3-4):185-195

Candace Williams, S. Willard, A. Kouba, Darrell Sparks, William Holmes, J. Falcone, C.H. Williams, Ashli Brown. *Dietary shifts affect the gastrointestinal microflora of the giant panda (Ailuropoda melanoleuca)*. April 2012. J Anim Physiol a Anim Nutr 97(3)

Teresa Braunwald, Simone Graeff, Todd French, Rafael Hernandez, Wilhelm Clauppein, William Holmes, Nikolaus Merkt. *Screening of Industrial Wastewaters as Feedstock for the Microbial Production of Oils for Biodiesel Production and High-Quality Pigments*. April 2012. Journal of Combustion 2012(2090-1968)

Zhang, G., French, W.T., Hernandez, R., Holmes, W. *Batch and Continuous Production of Microbial Oils as Biodiesel Feedstock from Hydrolyzate of Switchgrass*. April 2012. AOCS Annual meeting. Long Beach, CA

Revellame, E., Holmes, W., Lerma, L., Hernandez, R., Estevez, L. A., French, W.T. *High Voltage Electrostatic Destabilization of Water-oil Emulsion for the Extraction of Lipids in Wastewater Bacteria for Biofuel Production*. April 2012. AOCS Annual meeting. Long Beach, CA.

Revellame, M., Sparks, D., Hernandez, R., Holmes, W., Brown, A. *Generation of Renewable Fuels and Carotenoids from Rhodotorula glutinis using Sweet Sorghum Juice*. April 2012. AOCS Annual meeting. Long Beach, CA. October 2011. MSU Biofuels Conference: Mississippi State University

Mondala, A., Hernandez, R., French, W.T., Holmes, W. *Effect of Aerobic and Anoxic Conditions on Biocrude Production by Activated Sludge via Sugar Fermentation*. April 2012. AOCS Annual meeting. Long Beach, CA.

Holmes, W., Revellame, E., Lerma, L., Estevez, L. A., Hernandez, R., French, W.T. *Development of a Laboratory Scale Electrostatic Coalescer Unit for Separation of Water-oil Emulsions for Biofuel Production*. April 2012. AOCS Annual meeting. Long Beach, CA.

Diamond, C., O'Neal, B., Simmons, J., Hartley, L., Holmes, W. E., Hernandez, R., French, W. T., Mondala, A. H., Holmes, A. E. *Downstream: Pilot Scale Biocrude Optimization Study*. April 2012. AOCS Annual meeting. Long Beach, CA.

Barfield, S. K., Holmes, W. E., Hernandez, R., French, W. T., Mondala, A. H., Hetrick, M., Green, M., Holmes, A. E. *Upstream: Pilot Scale Biocrude Optimization Study*. April 2012. AOCS Annual meeting. Long Beach, CA.

Keisha Walters, Caitlin Naske, P. Zach Wynne, Jason Speed, William Holmes, Philip Polk. *Postcondensation Filtration of Pine and Cottonwood Pyrolysis Oil and Impacts on Accelerated Aging Reactions*. February 2012. Energy & Fuels 26(2):1284-1297

Emmanuel Revellame, Rafael Hernandez, Todd French, William Holmes, Tracy Benson, Patrisha Pham, Allison Forks, Robert Callahan II. *Lipid storage compounds in raw activated sludge microorganisms for biofuels and oleochemicals production*. February 2012. RSC Advances 2(5):2015-2031

Andro Mondala, Rafael Hernandez, Todd French, Linda McFarland, Darrell Sparks, William Holmes, Monica Haque. *Effect of acetic acid on lipid accumulation by glucose-fed activated sludge cultures*. January 2012. Journal of Chemical Technology & Biotechnology 87(1):33-41

Lester Khoo, Andrew Goodwin, David Wise, William Holmes, Larry Hanson, James Steadman, Larry McIntyre, Pat Gaunt. *The pathology associated with visceral toxicosis of catfish*. November 2011. Journal of veterinary diagnostic investigation: official publication of the American Association of Veterinary Laboratory Diagnosticians, Inc 23(6):1217-21

William Holmes, Emmanuel Revellame, Rafael Hernandez, Todd French. *Development of a Fluidized-Bed Catalytic Cracking (FCC) System with On-Line Product Analyses for Conversion of Activated Sludge to Green Fuels*. October 2011. Conference: 2011 AIChE Annual Meeting. October 2011. MSU Biofuels Conference: Mississippi State University.

Mark White, Adebola Coker, Rafael Hernandez, Todd French, Alexei Iretskii, Emmanuel Revellame, William Holmes, Guochang Zhang. *Production of Biodiesel by Direct Transesterification of Activated Sludge using Supercritical Methanol*. May 2011. Conference: Southern Biomass Symposium, Jackson, MS. October 2011. MSU Biofuels Conference: Mississippi State University. October 2011. AIChE Annual Meeting: Minneapolis, MN

Revellame, E., Holmes, W., Hernandez, R., French, W.T. and Forks, A. *Elucidation of reaction pathway for the heterogeneous cracking of a saturated fatty alcohol on H<sup>+</sup>ZSM5*. October 2011. MSU Biofuels Conference. Mississippi State University

Zhang, G., French, W.T., Hernandez, R. and Holmes, W. *Microbial Oils As Biodiesel Feedstock From Hydrolyzate of Switchgrass*. October 2011. AIChE Annual Meeting. Minneapolis, MN.

Mondala, A., Pham, P.J., Hernandez, R., French, T., McFarland, L., Green, M., Cain, J., Johnson, J. and Holmes, W. *Enhanced Biocrude Production by Activated and Anaerobic Digester Sludges Via Cultivation In Sugar-Fed Aerobic Bioreactors*. October 2011. AIChE Annual Meeting. Minneapolis, MN.

Revellame, E., Holmes, W., Hernandez, R. and French, W. *Renewable Fuel From Activated Sludge Using Fluidized-Bed Catalytic Cracking (FCC) Process*. October 2011. AIChE Annual Meeting: Minneapolis, MN.

Guochang Zhang, Todd French, Rafael Hernandez, Jaclyn Hall, Darrell Starks, William Holmes. *Microbial lipid production as biodiesel feedstock from N-acetylglucosamine by oleaginous microorganisms*. May 2011. Journal of Chemical Technology & Biotechnology 86(5):642 – 650

William Holmes, Darrell Sparks, Andro Mondala, Rafael Hernandez. *Rapid Gas Chromatographic Analysis of Furfural and Acetic Acid from Lignocellulose Hydrolysate in Fermentation Media*. April 2011. AOAC Annual Meeting, Atlanta, GA

Mary Hetrick, Jaclyn I. Hall, Todd French, Rafael Hernandez, Hodon Ryu, William Holmes, Kyle Barfield and Elisabeth Gent. *Using Municipal Wastewater as a Medium for the Induction of Lipid Synthesis in the Oleaginous Yeast *Rhodotorula glutinis**. April 2011. AOAC Annual Meeting, Atlanta, GA

Andrew McDaniel, William Holmes, Paul Williams, Kevin Armbrust, Darrell Sparks, Ashli Brown. *Effect of Matrix Clean-Up for Aflatoxin Analysis in Corn and Dried Distillers Grains*. January 2011. Natural Resources 02(04)

Jacqueline Hall, Mark Hetrick, Todd French, Rafael Hernandez, Janet Donaldson, Andro Mondala, William Holmes. *Oil production by a consortium of oleaginous microorganisms*

*grown on primary effluent wastewater*. January 2011. Journal of Chemical Technology & Biotechnology 86(1):54 – 60

Emmanuel Revellame, Rafael Hernandez, Todd French, William Holmes, Earl Alley, Robert Callahan II. *Production of biodiesel from wet activated sludge*. January 2011. Journal of Chemical Technology & Biotechnology 86(1):61 – 68

French, Todd; Hernandez, Rafael; Zhang, Guochang; Holmes, William; Alley, Earl. *Conversion of N-acetylglucosamine into lipids: Bio-derived diesel feedstock*. December 2010. Southeast Regional Meeting of the American Chemical Society: New Orleans, LA

Emmanuel Revellame, Rafael Hernandez, Todd French, Earl Alley, William Holmes. *The Conversion of Lipids Derived From Activated Sludge Into Biofuels*. November 2010. Conference: 2010 AIChE Annual Meeting

Lder Lerma-Caicedo, L. Antonio Estevez, Rafael Hernandez, Todd French, William Holmes. *Phase Diagram of Two Ternary Systems Water + Triacetin + Alkane by a Novel Experimental Technique*. November 2010. Conference: 2010 AIChE Annual Meeting

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