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- Education**
- 2003, Ph.D., Agricultural and Biological Engineering, Purdue University
 - 2000, M.S., Agricultural and Biological Engineering, Purdue University
 - 1997, B.S., Biological Systems Engineering, University of Nebraska-Lincoln
- Professional Positions**
- Professor – Agricultural and Biological Engineering Department, Purdue University – 2015 to present
 - Indiana Soybean Alliance Soybean Utilization Endowed Chair, Purdue University – 2015 to present
 - Graduate Programs Chair - Agricultural and Biological Engineering Department, Purdue University – 2013 to present
 - Associate Professor – Agricultural and Biological Engineering Department, Purdue University - 2009 to 2015
 - Assistant Professor – Agricultural and Biological Engineering Department, Purdue University, - 2003 to 2009
- Honors, Activities, and Organizations**
- IGERT Doctoral Fellow – 2000 to 2002
 - Applied Management Principles Class, Krannert Business School - 2000
 - American Society of Agricultural and Biological Engineers (ASABE) – Since 2003
 - American Chemical Society (ACS) – Since 1999
 - American Institute of Chemical Engineers (AIChE) – Since 1999
AIChE Sustainable Engineering Forum – Programming Chair 2012-2014
 - American Society for Engineering Education – Since 2004
 - American Association for the Advancement of Science – Since 2003
 - Society for Industrial Microbiology – Since 2005
 - *BioEnergy Research* Editorial Board and Associate Editor - 2007 to present
 - *Biotechnology for Biofuels* Editorial Board - 2007 to present
 - *Biotechnology and Bioengineering* Editorial Board – 2010 to present
 - U.S. Department of the Army Commendation - Exemplary performance in support of US Army “Tactical Biorefinery” project – 2006
 - Purdue “A Seed for Success Award” for \$1 Million in Grantsmanship – 2004, 2007, 2010, 2014
 - Purdue ABE Student Selected Engineering Teacher of the Year - 2012
 - National Academy of Engineering “Frontiers in Engineering Education” - 2013
 - Purdue College of Agriculture TEAM Award (C3Bio) – 2014
 - Purdue College of Agriculture Research Award - 2015
- Research Interests**
- Development of cellulosic biomass conversion technologies for fuels and chemicals
 - Chemical catalysts for biomass transformation to fuels and value-added chemicals
 - Enzyme mimicking catalysts for bioprocessing applications
 - Yeast and enzyme bioprocessing technology

Graduate Student Thesis Advisees - Total Number Sponsored: 14 (7 Ph.D., 7 M.S.)

Arun Athmanathan, PhD, Zymergen
Iman Beheshti, PhD, ADM
Julia Burchell, Student at Purdue University
Elizabeth (Casey) DeFreese, PhD, Novozymes

Shane Clingenpeel, MS, Kerry Ingredients & Flavours
Isaac Emery, PhD, Air Force Institute of Technology (AFIT)
Barron Hewetson, MS, Enviva
Amanda Kreger, MS, student at Purdue University
Yulin Lu, PhD, Hampton Creek
John Schumm, MS, Kerry Ingredients & Flavours
Brian Stamper, MS, Eli Lilly and Company
Ryan Warner, MS, POET
Chia-Ling Wu, PhD, Adjunct Faculty, IUPUI
Ximing Zhang, PhD, Assistant Professor, Zhejiang University

Patents

Ladisch, M.R.; Mosier, N.S.; Kim, Y. Biomass Liquefaction Processes and Uses of Same, U.S. Patent 9,359,619, June 7, 2016.

Kim, Y., Hendrickson, R. L., Mosier, N. S., Ladisch, M. R., Hillaly, A. K. Methods and Systems Useful for Drying Ethanol, U.S. Patent 9,221,733, December 29, 2015.

Mosier, N., Ladisch, M., Stater, B., Spindler, B. "Process for preparing enriched glucan biomass materials, U.S. Patent 8,790,904. July 29, 2014.

Vermerris, W., Ladisch, M.R., Mosier N., Methods for Increasing the Yield of Fermentable Sugars from Plant Stover, U.S. Patent 8,921,648, December 30, 2014.

Vermerris, W., Ladisch, M., Mosier, N., Maize Germplasm with Enhanced Bioprocessing Characteristics, U.S. Patent 7,968,764. New Zealand patent #562118. March 8, 2012.

Ladisch, M. R., Liu, X., Stewart, A. C., Chen, W., Mosier, N. S., Huang, T., Bwatwa, J., Hendrickson, R. Cell Concentration and Pathogen Recovery, U.S. Patent 7,547,526, June 16, 2009.

Rollo J. E., Mosier, N. S., Weiland, J. L., Welch, Gary, Ladisch, M. R. Heat Recovery from a Biomass Heat Source, U.S. Patent 7,566,383, July 28, 2009.

Ladisch, M. R., Mosier, N. S., Perkins, E. M. Bio-battery, U.S. Patent 7,410,709, August 12, 2008.

Publications

Books

Mosier, N.S., and Ladisch, M.R. *Modern Biotechnology: Connecting Innovations in Microbiology and Biochemistry to Engineering Fundamentals*, John Wiley & Sons, New York, NY, (2009).

Peer Reviewed Serial Journal Articles

Shiga, T.M.; Xiao, W.; Yang, H.; Zhang, X.; Olek, A.T.; Donohoe, B.S.; Liu, J.; Makowski, L.; Hou, T.; McCann, M.C.; Carpita, N.C.; Mosier, N.S. "Enhanced rates of enzymatic saccharification and catalytic synthesis of biofuel substrates in gelatinized cellulose generated by trifluoroacetic acid," *Biotechnology for Biofuels*, 10(1), 310 (2017).

Tabar, I.B.; Zhang, X.; Youngblood, J.P.; and Mosier, N.S. "Production of cellulose nanofibers using phenolic enhanced surface oxidation," *Carbohydrate Polymers*, 174, 120-127 (2017).

Zhang, X.; Eren, N.M.; Kreke, T.; Mosier, N.S.; Engelberth, A.S.; and Kilaz, G. "Concentrated HCl Catalyzed 5-(Chloromethyl) furfural Production from Corn Stover of Varying Particle Sizes," *BioEnergy Research*, 1-7 (2017).

Perras, F. A.; Luo, H.; Zhang, X.; Mosier, N.S.; Pruski, M.; and Abu-Omar, M.M. “Atomic-Level Structure Characterization of Biomass Pre- and Post-Lignin Treatment by Dynamic Nuclear Polarization-Enhanced Solid-State NMR,” *Journal of Physical Chemistry A*, 121(3), 623-630 (2017).

Hewetson, Barron B; Zhang, Ximing; Mosier, Nathan S; “Enhanced Acid-Catalyzed Biomass Conversion to Hydroxymethylfurfural Following Cellulose Solvent-and Organic Solvent-Based Lignocellulosic Fractionation Pretreatment,” *Energy & Fuels*, 30(11), 9975-9977 (2016).

Zhang, Ximing; Murria, Priya; Jiang, Yuan; Xiao, Weihua; Kenttämä, Hilikka I.; Abu-Omar, Mahdi M.; Mosier, Nathan S. “Maleic Acid and Aluminum Chloride Catalyzed Conversion of Glucose to 5-(Hydroxymethyl)furfural and Levulinic Acid in Aqueous Media,” *Green Chemistry* 18(19), 5219-5229 (2016).

McCann, M.; Abu-Omar, M.; Agrawal, R.; Bozell, J.; Carpita, N.; Chapple, C.; Crowley, M.; Delgass, N.; Donohoe, B.; Himmel, M.; Kenttämä, H.; Makowski, L.; Meilan, R.; Mosier, N.; Murphy, A.; Peer, W.; Ribeiro, F.; Tucker, M.; “Tailoring Biomass for Biochemical, Chemical or Thermochemical Catalytic Conversion,” *The FASEB Journal*, 29(1 Supplement), pp.485-3 (2015).

Jiang, Yuan; Yang, Linan; Bohn, Christine M; Li, Guannan; Han, Dong; **Mosier, Nathan S**; Miller, Jeffrey T; Kenttämä, Hilikka I; and Abu-Omar, Mahdi M. Speciation and kinetic study of iron promoted sugar conversion to 5-hydroxymethylfurfural (HMF) and levulinic acid (LA) *Org. Chem. Front.*, 2, 1388-1396 (2015).

Zhang, X.M.; Hewetson, B.B.; **Mosier, N.S.** “Kinetics of Maleic Acid and Aluminum Chloride Catalyzed Dehydration and Degradation of Glucose,” *Energy & Fuels*, 29(4), 2387-2393 DOI: 10.1021/ef502461s (2015).

Zeng, Y.N.; Zhao, S.; Wei, H.; Tucker, M.P.; Himmel, M.E.; **Mosier, N.S.**; Meilan, R.; Ding, S.Y. “In situ micro-spectroscopic investigation of lignin in poplar cell walls pretreated by maleic acid,” *Biotechnology For Biofuels*. 8, DOI: 10.1186/s13068-015-0312-1 (2015).

Parsell T, Yohe S, Degenstein J, Jarrell T, Klein I, Gencer E, Heweston B, Hurt M, Kim JI, Choudhari H, Saha B, Meilan R, **Mosier N**, Ribeiro F, Delgass WN, Chapple C, Kenttämä HI, Agrawal R, Abu-Omar MM. A “Synergistic Biorefinery Based on Catalytic Conversion of Lignin Prior to Cellulose Starting from Lignocellulosic Biomass,” *Green Chemistry*, 17, 1492-1499 (2015).

Page, L.H., Ni, J.-Q., Zhang, H., Heber, A.J., **Mosier, N.S.**, Liu, X., Joo, H.-S., Ndegwa, P.M., Harrison, J.H. “Reduction of volatile fatty acids and odor offensiveness by anaerobic digestion and solid separation of dairy manure during manure storage,” *Journal of Environmental Management*. 152, 91-98 (2015).

Vinueza, N.R.; Kim, E.S.; Gallardo, V.A.; **Mosier, N.S.**; Abu-Omar, M. M.; Carpita, N.C.; Kenttämä, H.I. “Tandem mass spectrometric characterization of the conversion of xylose to furfural,” *Biomass and Bioenergy*, 74, 1–5, (2015).

Athmanathan, A.; Emery, I.R.; Kuczek, T.; **Mosier, N.S.** “Impact of temperature, moisture, and storage duration on the chemical composition of switchgrass, corn stover, and sweet sorghum bagasse,” *BioEnergy Research*, 8(2), 843-856, (2015).

Emery, I.R.; **Mosier, N.S.** “Direct emission of methane and nitrous oxide from switchgrass and corn stover: implications for large-scale biomass storage,” *GCB Bioenergy*, doi: 10.1111/gcbb.12196 (2014)

Kim, Y.; Kreke, T.; Mosier, N.S.; Ladisch, M.R. “Severity Factor Coefficients for Subcritical Liquid Hot Water Pretreatment of Hardwood Chips,” *Biotechnology and Bioengineering*, 111(2), 254-263, (2014)

Penning, B.W.; Sykes, R.W.; Babcock, N.C.; Dugard, C.K.; Klimek, J.F.; Gamblin, D.; Davis, M.; Filley, T.R.; **Mosier, N.S.**; Weil, C.F.; McCann, M.C.; Carpita, N.C. “Validation of PyMBMS as a High-throughput Screen for Lignin Abundance in Lignocellulosic Biomass of Grasses,” *BioEnergy Research*, 7(3), 899-908 (2014).

Thomas, M.A.; Ahiablame, L.M.; Engel, B.A.; Chaubey, I.; **Mosier, N.** “Modeling Water Quality Impacts of Cellulosic Biofuel Production from Corn Silage,” *BioEnergy Research*, 7(2), 636-653 (2014).

Penning, B.W.; Sykes, R.W.; Babcock, N.C.; Dugard, C.K.; Held, M.A.; Klimek, J.F.; Shreve, J.T.; Fowler, M.; Ziebell, A.; Davis, M.F.; Decker, S.R.; Turner, G.B.; **Mosier, N.S.**; Springer, N.M.; Thimmapuram, J.; Weil, C.F.; McCann, M.C.; Carpita, N.C. “Genetic determinants for enzymatic digestion of lignocellulosic biomass are independent of those for lignin abundance in a maize recombinant inbred population,” *Plant Physiology* 165(4), 1475-1487 (2014).

Ciesielski, P.N., Resch, M.G., Hewetson, B., Killgore, J.P., Curtin, A., Anderson, N., Chiaramonti, A.N., Hurley, D.C., Sanders, A., Himmel, M.E., Chapple, C., **Mosier, N.** Donohoe, B.S. “Engineering Plant Cell Walls: Tuning Lignin Monomer Composition for Deconstructable Biofuel Feedstocks or Resilient Biomaterials,” *Green Chemistry*, 16, 2627-2635 (2014).

Page, L. H., Ni, J.-Q., Heber, A. J., **Mosier, N. S.**, Liu, X., Joo, H.-S., Ndegwa, P. M. & Harrison, J. H. “Characteristics of Volatile Fatty Acids in Stored Dairy Manure Before and After Anaerobic Digestion,” *Biosystems Engineering*, 118, 16-28 (2014).

Casey, E.; **Mosier, N.S.**, Adamec, J.; Stockdale, Z.; Ho, N.; Sedlak, M. “Effect of salts on the Co-fermentation of glucose and xylose by a genetically engineered strain of *Saccharomyces cerevisiae*,” *Biotechnology For Biofuels* 6: 83 (2013).

Dweikat, I.; Weil, C.; Moose, S.; Kochian, L.; **Mosier, N.**; Ileleji, K.; Brown, P.; Peer, W.; Murphy, A.; Taheripour, F.; McCann, M.; Carpita, N. “Envisioning the Transition to a Next-Generation Biofuels Industry in the US Midwest,” *Biofuels Bioproducts & Biorefining* 6(4): 376-386 (2012).

Emery, I.R.; **Mosier, N.S.** “The impact of dry matter loss during herbaceous biomass storage on net greenhouse gas emissions from biofuels production,” *Biomass & Bioenergy* 39(SI): 237-246 (2012).

Kim, E.S.; Liu, S.; Abu-Omar, M.M.; **Mosier, N.S.** “Selective Conversion of Biomass Hemicellulose to Furfural Using Maleic Acid with Microwave Heating,” *Energy & Fuels* 26(2): 1298-1304 (2012).

Zeng, M.J.; Ximenes, E.; Ladisch, M.R.; **Mosier, N.S.**; Vermerris, W.; Huang, C.P.; Sherman, D.M. “Tissue-specific biomass recalcitrance in corn stover pretreated with liquid hot-water: Enzymatic hydrolysis (part 1),” *Biotechnology and Bioengineering* 109(2):390-397 (2012).

Zeng, M.J.; Ximenes, E.; Ladisch, M.R.; **Mosier, N.S.**; Vermerris, W.; Huang, C.P.; Sherman, D.M. “Tissue-specific biomass recalcitrance in corn stover pretreated with liquid hot-water: SEM imaging (part 2),” *Biotechnology and Bioengineering* 109(2):398-404 (2012).

Wyman, C.E.; Balan, V.; Dale, B.E.; Elander, R.T.; Falls, M.; Hames, B.; Holtzapple, M.T.; Ladisch, M.R.; Lee, Y.Y.; **Mosier, N.S.**; Pallapolu, V.R.; Shi, J.; Thomas, S.R.; Warner, R.E. “Comparative data on effects of leading pretreatments and enzyme loadings and formulations on sugar yields from different switchgrass sources,” *Bioresource Technology*, 102(24): 11052-11062 (2011).

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Shi, J.; Ebrik, M.A.; Yang, B.; Garlock, R.J.; Balan, V.; Dale, B.E.; V. Pallapolu, V.R.; Lee, Y.Y.; Kim, Y.; **Mosier, N.S.**; Ladisch, M.R.; Falls, M.; Holtzapple, M.T.; Sierra-Ramirez, R.; Donohoe, B.S.; Vinzant, T.B.; Elander, R.T.; Hames, B.; Thomas, S.; Warner, R.E.; Wyman, C.E. "Application of cellulase and hemicellulase to pure xylan, pure cellulose, and switchgrass solids from leading pretreatments," *Bioresource Technology* 102(24): 11080-11088 (2011).

Kim, Y.; **Mosier, N.S.**; Ladisch, M.R.; Pallapolu, V.R.; Lee, Y.Y.; Garlock, R.J.; Balan, V.; Dale, B.E.; Donohoe, B.S.; Vinzant, T.B.; Elander, R.T.; Falls, M.; Holtzapple, M.T.; Sierra-Ramirez, R.; Shi, J.; Ebrik, M.A.; Redmond, T.; Yang, B.; Wyman, C.E.; Warner, R.E. "Comparative study on enzymatic digestibility of switchgrass varieties and harvests processed by leading pretreatment technologies," *Bioresource Technology* 102(24): 11089-11096 (2011).

Donohoe, B.S.; Vinzant, T.B.; Elander, R.T.; Pallapolu, V.R.; Lee, Y.Y.; Garlock, R.J.; Balan, V.; Dale, B.E.; Kim, Y.; **Mosier, N.S.**; Ladisch, M.R.; Falls, M.; Holtzapple, M.T.; Sierra-Ramirez, R.; Shi, J.; Ebrik, M.A.; Redmond, T.; Yang, B.; Wyman, C.E.; Hames, B.; Thomas, S.; Warner, R.E. "Surface and ultrastructural characterization of raw and pretreated switchgrass," *Bioresource Technology* 102(24): 11097-11104 (2011).

Tao, L.; Aden, A.; Elander, R.T.; Pallapolu, V.R.; Lee, Y.Y.; Garlock, R.J.; Balan, V.; Dale, B.E.; Kim, Y.; **Mosier, N.S.**; Ladisch, M.R.; Falls, M.; Holtzapple, M.T.; Sierra-Ramirez, R.; Shi, J.; Ebrik, M.A.; Redmond, T.; Yang, B.; Wyman, C.E.; Hames, B.; Thomas, S.; Warner, R.E. "Process and technoeconomic analysis of leading pretreatment technologies for lignocellulosic ethanol production using switchgrass," *Bioresource Technology* 102(24): 11105-11114 (2011).

Pallapolu, V.R.; Lee, Y.Y.; Garlock, R.J.; Balan, V.; Dale, B.E.; Kim, Y.; **Mosier, N.S.**; Ladisch, M.R.; Falls, M.; Holtzapple, M.T.; Sierra-Ramirez, R.; Shi, J.; Ebrik, M.A.; Redmond, T.; Yang, B.; Wyman, C.E.; Donohoe, B.S.; Vinzant, T.B.; Elander, R.T.; Hames, B.; Thomas, S.; Warner, R.E. "Effects of enzyme loading and β -glucosidase supplementation on enzymatic hydrolysis of switchgrass processed by leading pretreatment technologies," *Bioresource Technology* 102(24): 11115-11120 (2011).

Kim, Y.; Hendrickson, R.; **Mosier, N.**; Hilaly, A.; Ladisch, M.R. "Cassava Starch Pearls as a Desiccant for Drying Ethanol," *Industrial & Engineering Chemistry Research* 50(14):8678-8685 (2011).

Kim, Y.; Ximenes, E.; **Mosier, N.S.**; Ladisch, M.R. "Soluble inhibitors/deactivators of cellulase enzymes from lignocellulosic biomass," *Enzyme and Microbial Technology* 48:408-415 (2011).

Athmanathan, A.; Sedlak, M.; Ho, N.W.Y.; **Mosier, N.S.** "Effect of Product Inhibition on Xylose Fermentation to Ethanol by *Saccharomyces cerevisiae* 424A (LNH-ST)," *Biological Engineering* 3(2): 111-124 (2011).

Ximenes, E.; Kim, Y.; **Mosier, N.**; Dien, B.; Ladisch, M. "Deactivation of Cellulases by Phenols," *Enzyme and Microbial Technology* 48(1): 54-60 (2011).

Kim, Y.; Hendrickson, R.; **Mosier, N.S.**; Ladisch, M.R. Bals, B.; Balan, V.; Dale, B.E.; Dien, B.S.; Cotta, M.A. "Effect of compositional variability of distillers' grains on cellulosic ethanol production," *Bioresource Technology* 101(14): 5385-5393 (2010).

Casey, E.; Sedlak, M.; Ho, N. W. Y.; and **Mosier, N. S.** "Effect of acetic acid and pH on the co-fermentation of glucose and xylose to ethanol by recombinant *S. cerevisiae*" *FEMS Yeast Research* 10(4): 385-393 (2010).

Ximenes, E.; Kim, Y.; **Mosier, N.**; Dien, B.; Ladisch, M. "Inhibition of cellulases by phenols," *Enzyme and Microbial Technology* 46(3-4): 170-176 (2010).

Kim, Y.; **Mosier, N.S.**; Ladisch, M.R. "Enzymatic digestion of liquid hot water pretreated hybrid poplar," *Biotechnology Progress* 25(2): 340-348 (2009).

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Kootstra, A.M.J.; **Mosier, N.S.**; Scott, E.L.; Beefink, H.H.; and Sanders, J.P.M. "Differential effects of mineral and organic acids on the kinetics of arabinose degradation under lignocellulose pretreatment conditions," *Biochemical Engineering Journal* 43(1): 92-97 (2009).

Yang W.-C.; Sedlak M.; Regnier F.; **Mosier N.**; Ho N.; and Adamec J. "Simultaneous Quantification of Metabolites Involved in Central Carbon and Energy Metabolism Using Reverse Phase Liquid Chromatography-Mass Spectrometry and in vitro ¹³C Labeling," *Analytical Chemistry* 80(24), 9508-9516, (2008).

Lu, Y.; and **Mosier, N. S.** "Kinetic Modeling Analysis of Maleic Acid Catalyzed Hemicellulose Hydrolysis in Corn Stover," *Biotechnology and Bioengineering* 101 (6):1170-1181 (2008).

Ladisch, M.; Dale, M.; Tyner, W.; **Mosier, N.**; Kim, Y.; Cotta, M.; Dien, B.; Blaschek, H.; Laurenas, E.; Shanks, B.; Verkad, J.; Schell, C.; Petersen, G. "Cellulose conversion in dry grind ethanol plants," *Bioresource Technology* 99(12): 5157-5159 (2008).

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Vermerris, W. Saballos, A., **Mosier, N.S.**, Ladisch, M.R., and Carpita, N.C. "Molecular Breeding to Enhance Ethanol Production from Corn and Sorghum Stover," *Crop Science* 47(S3):S142-S153 (2007).

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Huang, T. T.; Mosier, N. S.; Ladisch, M. R. "Surface Engineering of Microchannel Walls for Protein Separation and Directed Microfluidic Flow," *Journal of Separation Science* 29(12):1733-1742 (2006).

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Kim, Y.; Hendrickson, R.; **Mosier, N.**; and Ladisch, M.R. "Plug Flow Reactor for Continuous Hydrolysis of Glucans and Xylans from Pretreated Corn Fiber," *Energy and Fuels* 19(5):2189-2200 (2005).

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Mosier, N. S.; Wilker, J. J.; and Ladisch, M. R. "Rapid Chromatography for Evaluating Adsorption Characteristics of Cellulase Binding Domain Mimetics," *Biotechnology and Bioengineering* 86(7):756-764 (2004).

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Mosier, N.S., Ladisch, C.M., and Ladisch, M.R. "Characterization of acid catalytic domains for cellulose hydrolysis and glucose degradation," *Biotechnology and Bioengineering* 79(6), 610-618 (2002).

Li, Chenghong, Ladisch, C.M. Yang, Y., Hendrickson, R., Keim, C., **Mosier, N.**, and Ladisch, M.R. "Optimal Packing Characteristics of Rolled Continuous Stationary Phase Columns," *Biotechnology Progress* 18(2), 309-316 (2002).

Mosier, N.S., Sarikaya, A., Ladisch, C.M., and Ladisch, M.R. "Characterization of Di-carboxylic Acids for Cellulose Hydrolysis," *Biotechnology Progress*, 17, 474-480 (2001).

Non-Peer Reviewed Serial Journal Articles

Ladisch, M.R.; Mosier, N.S.; Kim, Y.; Ximenes, E.; Hogsett, D. "Converting Cellulose to Biofuels," *Chemical Engineering Progress* 106(3): 56-63 (2010).

Book Chapters

Saha, B.; **Mosier, N. S.**; Abu-Omar, M. M. "Catalytic Dehydration of Lignocellulosic Derived Xylose to Furfural," McCann C. et al. (eds.), *Plants and BioEnergy, Advances in Plant Biology* 4, Springer, New York, NY, 267-276 (2014).

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Leading Pretreatment Technologies for Biological Conversion of Corn Stover, PoplarWood, and Switchgrass to Sugars,” Chapter 12 in Aqueous Pretreatment of Plant Biomass for Biological and Chemical Conversion to Fuels and Chemicals, Charles Wyman, ed., Wiley, NY (ISBN 978-0-470-97202-1 (May, 2013).

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Schwietzke, S., Kim, Y., Ximenes, E. **Mosier, N.S.**, Ladisch, M.R. “Ethanol Production from Maize”, A.L. Kriz, B.A. Larkins (eds.), *Molecular Genetics Approaches to Maize Improvement, Biotechnology in Agriculture and Forestry*, Springer-Verlag, Berlin Heidelberg, 63, 347-364 (2009).

Lu, Y.; **Mosier, N. S.** “Current technologies for fuel ethanol production from lignocellulosic plant biomass,” Vermerris, W. (ed.), *Genetic Improvement of Bioenergy Crops*, Springer-Verlag, Berlin, Germany, 161-182 (2008).

Mosier, N.S., Hall, P., Ladisch, C.M., and Ladisch, M.R. “Reaction Kinetics, Molecular Action, and Mechanisms of Cellulolytic Proteins,” *Advances in Biochemical Engineering/Biotechnology*, 65, 24-40 (1999).

Extension Publications

Mosier, N.S. and Ileleji, K. “How Fuel Ethanol is Made from Corn” Purdue Extension Publication ID-328 (<http://www.ces.purdue.edu/bioenergy>) (2006).

Mosier, N.S. “Cellulosic Ethanol – Biofuels Beyond Corn” Purdue Extension Publication ID-335 (<http://www.ces.purdue.edu/bioenergy>) (2006).

Warner, R.E., and **Mosier, N.S.** “Biofuels Technological Assessment: Ethanol and Biodiesel” Sun Grant Bioweb (<http://bioweb.sungrant.org/>) (2007).

NATIONAL AND INTERNATIONAL PROFESSIONAL SOCIETY MEETINGS

Invited Presentations

Mosier, N.S. “Catalysts for Selective Conversion of Plant Cell Wall,” *Frontiers in Biorefining*, St. Simons Island, GA, October 22, 2014.

Mosier, N.S. “Functional Polysaccharide Materials,” Invited Oral Presentation, Workshop on the Future of Glycoscience, National Academies, Washington, DC, January 12, 2012.

Mosier, N.S. “Biochemically Derived Liquid Biofuels from Plant Biomass,” Invited Plenary Lecture at V Simposio Internacional de Biofábricas, Universidad Nacional de Colombia – Sede Medellín, Medellín, Colombia, August 30, 2011.

Mosier, N.S. “Biochemically Derived Liquid Biofuels from Plant Biomass,” Invited Lecture at the Inaugural International Symposium on Biofuel Technology, Indian Institute of Technology – Kharagpur, January 7, 2010.

Mosier*†, N. S. “Cellulosic Biofuels: Plant, Microbial, and Enzyme Biotechnology in Overcoming Economic Hurdles,” Korean-American Scientist and Engineers Association Conference on Science, Technology, and Entrepreneurship, San Diego, CA, August 14, 2008.

Mosier*†, N. S. “Cellulosic Biofuels: Engineering Challenges,” Practical Solutions to Global Warming: A China - US Dialogue Sponsored by Global Cause Foundation and Drexel University, Drexel University, Philadelphia, PA, May 14, 2008.

Vermerris, W., **Mosier, N. S.***, and Ladisch, M. R., “Modifying Lignin Composition To Enhance Ethanol Production”, CPBR Symposium, Washington, DC, February 28, 2006.

Vermerris, W.*, Campos, J., Tayengwa, R., Lu, Y., Carpita, N., **Mosier, N. S.**, and Ladisch, M. R., “Metabolic Engineering of Cell Wall Properties to Enhance the Production of Ethanol from Maize Stover,” ASA-CSSA-SSCA, Salt Lake City, UT, Nov 6-11, 2005.

Mosier*, N. S.; Craig, B. “Predicting Cell Capture from Dilute Samples for Microfluidic Biosensors” Workshop on Overarching Issues in Risk Analysis, National Institute of Statistical Sciences, Ames, IA, October 28, 2005.

Mosier*, N. S. “Nanoscale, Enzyme Mimicking Catalysts for Bioprocessing Agricultural Feedstocks to Value-added Products” Paper 189, Annual Meeting of the American Chemical Society, San Diego, CA, March 16, 2005.

Mosier*, N. S.; Hendrickson, R.; Ho, N.; Sedlak, M.; and Ladisch, M. R. “Optimization of pH Controlled Liquid Hot Water Pretreatment of Corn Stover” , Paper 31D, Annual Meeting of the American Institute of Chemical Engineers, Austin, TX, November 10, 2004.

Lu, Y.; and **Mosier*, N. S.** “Enzyme Mimetics for Bioprocessing Agricultural Residues” Paper 473-7, 36th Great Lakes Regional Meeting of the American Chemical Society, Peoria, IL, October 17, 2004.

Presentations

Hengge, N.; Kim, D.I; Mosier, N.S.; Kim, Y.; Ximenes, E.; Ladisch*, M.R. “Liquefaction of Lignocellulose,” 2016 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 15, 2016.

Burchell*, J., Martinez, S. D.; Zhang, X.; Mosier, N.S. “Enzymatic Process for Making Plasticizers from High Oleic Soybean Oil,” 2016 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 15, 2016.

Kreger*, A.; Zhang, X.; Mosier, N.S. “Synthesis and Characterization of Maleic Acid-Aluminum Catalyst for Glucose Conversion,” 2016 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 14, 2016.

Beheshti Tabar*, I.; Mosier, N.S. “Phenolic Catalyzed Hydroxyl Radical Oxidation for Cellulose Nanofiber Production,” 2016 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 14, 2016.

Hewetson*, B.; Kreger, A.; **Mosier, N.S.** “Concentrated Phosphoric Acid for Enhanced Conversion of Cellulose to HMF,” 2014 Annual Meeting of the American Institute of Chemical Engineers, Atlanta, GA, November 20, 2014.

Beheshti Tabar*, I.; Murphy, P.T.; **Mosier, N.S.** “Ozone Pretreatment of Compacted Switchgrass,” 2014 Annual Meeting of the American Institute of Chemical Engineers, Atlanta, GA, November 20, 2014.

Zhang*, X., **Mosier, N.S.** “Reaction Mechanism and Kinetics of Maleic Acid for Altering the Selectivity of Glucose Dehydration and Degradation,” 2014 Annual Meeting of the American Institute of Chemical Engineers, Atlanta, GA, November 20, 2014.

Engelberth, A.S.; **Mosier*, N.S.** “Sustainability Metrics For Biofuel Production Process Design,” 2013 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 4, 2013.

Zhang*, X.; **Mosier N.S.** “Kinetics of 5-(hydroxymethyl)Furfural Production From Aqueous Glucose Solution By Using AlCl₃ Combined With Brönsted Acid Catalysts,” 2013 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 7, 2013.

Quitana-Marin*, J.C.; Ruiz, A.; **Mosier, N.S.** “Liquid Hot Water Pretreatment of Banana Agricultural Waste for Monomeric Sugars Production,” 2012 Annual Meeting of the American Institute of Chemical Engineers, Pittsburgh, PA, October 31, 2012.

Mosier*, N.S.; Sedlak, M.; Ho, N.W.Y. “Systems Biology Analysis of the Effect of Acetic Acid On *S. cerevisiae* 424A(LNH-ST) and Resistant Strains During the Co-Fermentation of Glucose and Xylose,” 2012 Annual Meeting of the American Institute of Chemical Engineers, Pittsburgh, PA, October 30, 2012.

Mosier*, N.S.; Kim, E.; Liu, S.; Abu-Omar, M. “Mixed Catalysts for the Conversion of Hemicellulose and Cellulose,” 2012 Annual Meeting of the American Institute of Chemical Engineers, Pittsburgh, PA, November 1, 2012.

Athmanathan*, A.; **Mosier, N.S.** “Effect of Storage Method and Duration On the Bioprocessing of Lignocellulosic Biomass,” 2011 Annual Meeting of the American Institute of Chemical Engineers, Minneapolis, MN, October 18, 2011.

Athmanathan, A.; Friedemann, P.; **Mosier***, N.S. “Optimizing Pretreatment of Brown Midrib Maize Silage for Effective Fermentation at High Solids Loading,” 2010 Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, UT, November 9, 2010.

Mosier*, N.S.; Sedlak, M.; Ho, N.W.Y. “Improving Acetic Acid and Ethanol Resistance of *S. cerevisiae* 424A(LNH-ST) during the Co-fermentation of Glucose and Xylose,” 2010 Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, UT, November 9, 2010.

Hettenhaus, J.R.*; **Mosier, N.S.** “Validating reliable feedstock supply,” 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

Kim, Y.*; Ximenes, E.; **Mosier, N.S.** “Potential cellulase inhibitors/deactivators in lignocellulosic biomass,” 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

Kim, Y.; **Mosier***, N.S.; Ladisch, M.R.; Holtzapple, M.; Dale, B.; Lee, Y.Y.; Wyman, C. “Comparative Study On Enzymatic Digestibility of Upland and Lowland Switchgrass Varieties Processed by Leading Pretreatment Technologies,” 2009 Annual Meeting of the American Institute of Chemical Engineers, Nashville, TN, November 9, 2009.

Vermerris, W. Caicedo, H.M.; **Mosier, N.S.**; Ladisch, M.R. “Enhanced bioprocessing of maize cell wall mutants,” Presentation 1-05, 31th Symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA, May, 2009.

Ladisch, M. Flatt, J.; Belcher, A.; van Rooyen, J.; Sivasubramanian, M.S.; Dimasi, D.; Lynd, L.R.; Wyman, C.; Hogsett, D.A.; Draeger, J.; Kim, Y.; Ximenes, E.A.; **Mosier, N.** “Development and Deployment of Consolidated Bioprocessing for Production of Ethanol,” Presentation 7-03, 31th Symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA, May, 2009.

Kim, Y.; **Mosier, N.S.**; and Ladisch, M.R. “Effect of Liquid Hot Water Pretreatment on Switchgrass Hydrolysis,” 2008 Annual Meeting of the American Institute of Chemical Engineers, Philadelphia, PA, November 20, 2008.

Ximenes, E.; Kim, Y.; **Mosier, N.S.**; and Ladisch, M.R. “Defining Enzyme Inhibitors for Cellulose Hydrolysis,” 2008 Annual Meeting of the American Institute of Chemical Engineers, Philadelphia, PA, November 19, 2008.

Kim, Y.; **Mosier, N.S.**; Hendrickson, R.; Zang, Y.; Hilaly, A.; Beggin, J.; Beery, K.; Ladisch*, M.R. "Ethanol Enrichment by Corn Grit Adsorbents," 2007 Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, UT, November 9, 2007.

Kim*, Y.; Hendrickson, R.; **Mosier, N.S.**; Ladisch, M. R. "Modified Dry Grind Process Integrating Cellulosic Ethanol From Distiller's Grains," 2007 Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, UT, November 8, 2007.

Mosier*, **N.S.**; Kim, Y.; Ladisch, M. R. "Enzymatic Digestion and Fermentation of Liquid Hot Water Pretreated Yellow Poplar," 2007 Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, UT, November 8, 2007.

Ladisch*, M.; Tyner, W.; **Mosier, N.**; Cotta, M.; Dien, B.; Blaschek, H.; Dale, B.; Shanks, B.; and Petersen, G. "Research challenges and opportunities for cellulose conversion technology in a dry mill pathway," Oral Presentation 2-03, 28th Symposium on Biotechnology for Fuels and Chemicals, Nashville, TN, May 1, 2006.

Mosier*, **N. S.**; Warner, R.; Sedlak, M.; Ho, N.; Hendrickson, R.; and Ladisch, M. R. "Effect of Fermentation Inhibitors on the Cofermentation of Glucose and Xylose from Pretreated Lignocellulosic Biomass by Recombinant Yeast," Oral Presentation 516f, 2006 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 16, 2006.

Mosier*, **N.S.** "Dry Grind Processing: Bridge to Cellulosic Ethanol," Purdue Energy Center Bioenergy Symposium, West Lafayette, IN, February 23, 2006.

Mosier*, **N.S.**; Warner, R.; Sedlak, M.; Ho, N. W. Y.; Hendrickson, R.; and Ladisch, M. R. "Fermentation of Pretreated Corn Stover Hydrolysate," Paper 183E, 2005 Annual Meeting of the American Institute of Chemical Engineers, Cincinnati, OH, November 1, 2005.

Kim*, Y.; Hendrickson, R.; **Mosier, N.**; and Ladisch, M. R. "Oligosaccharide Hydrolysis in Plug Flow Reactor using Strong Acid Catalyst" Oral Presentation 6-07, 27th Symposium on Biotechnology for Fuels and Chemicals, Denver, CO, May 4, 2005.

Campos, J.; Saballos, A.; Lu, Y.; Medina, A. A.; Ejeta, G.; **Mosier, N. S.**; and Vermerris*, W. "Enhanced Processing Characteristics Via Simultaneous Optimization of Stover Composition and Pretreatment Conditions" Oral Presentation 3A-07, 27th Symposium on Biotechnology for Fuels and Chemicals, Denver, CO, May 3, 2005.

Wyman, C. E.; Lee, Y. Y.; Dale, B. E.; Eggeman, T.; Elander, R. T.; Ladisch*, M. R.; Ho, N.; Sedlak, M.; **Mosier, N.**; Holtzapple, M. T.; Saddler, J. N. "Enzymatic Hydrolysis of Cellulose and Hemicellulose in Solids Prepared by Leading Pretreatment Technologies: Pentose Fermentation" Report on Pretreatment for Biomass Refining, 2nd World Congress on Industrial Biotechnology and Bioprocessing Orlando, Florida, April 20, 2005

Huang*, T.; Taylor, D.; **Mosier, N.**; Sedlak, M.; and Ladisch, M. "Nanotechnology and Press-fit Microdevices, Novel Applications" Nanobiotechnology Section, 2nd World Congress on Industrial Biotechnology and Bioprocessing Orlando, Florida, April 20, 2005

Vermerris*, W.; Medina, A. A.; and **Mosier, N.S.** "Enhanced Ethanol Production from Maize and Sorghum Stover with Modified Lignin Composition" Paper 6B-01, 26th Symposium on Biotechnology for Fuels and Chemicals, Chattanooga, TN, May 12, 2004.

Vermerris*, W.; Lu, Y.; and **Mosier, N.S.** "Increasing fermentable sugar yields from corn stover through the genetic modification of maize and the development of cellulase mimetic," CELL Paper 191, Feedstocks for the Future: Renewables for the Production of Chemicals and Materials, Annual Meeting of the American Chemical Society, Division of Cellulose and Renewable Materials (CELL), Anaheim, CA, April 1, 2004.

Kim*, Y.; Hendrickson, R.; **Mosier, N.S.**; and Ladisch, M.R. "Primary fractionation of fermentable sugars from corn fiber," BIOT Paper 130, Bioseparations for Primary Recovery, Annual Meeting of the American Chemical Society, Division of Biochemical Technology (BIOT), Anaheim, CA, March 30, 2004.

Bwatwa*, J.; Sedlak, M.; Ho, N.W.Y.; **Mosier, N.S.**; and Ladisch, M.R. "Rapid microfiltration of *E. coli*," BIOT Paper 47, Microbial Fermentation Process Development, Annual Meeting of the American Chemical Society, Division of Biochemical Technology (BIOT), Anaheim, CA, March 29, 2004.

Mosier, N.S.; Hendrickson, R.; Kim, Y.; Zeng, M.; Dien, B.; Welch, G.; Wyman, C. E.; and Ladisch*, M. R. "Optimization of Controlled pH Liquid Hot Water Pretreatment of Corn Fiber and Stover," Paper 163D, 2003 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 20, 2003.

Kim*, Y.; **Mosier, N.**; Hendrickson, R.; and Ladisch, M. R. "Strong Cation Exchange Catalysts for Hydrolyzing Soluble Oligosaccharides Derived from Plant Biomass," Paper 160D, 2003 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 19, 2003.

Huang*, T. T.; Chang, W-J.; Akin, D.; Gomez, R.; Bashir, R.; **Mosier, N.**; Ladisch, M. "Fabrication of Microfluidic Channels Using Microfibers with Poly(dimethylsiloxane)," Paper 1963A, 2003 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 17, 2003.

Mosier, N.S.; Hendrickson, R.; Welch, G.; Dreschel, R.; Dien, B.; and Ladisch*, M. R. "Corn Fiber Pretreatment Scale-up and Evaluation in an Industrial Corn to Ethanol Facility" Paper 6A-04, 25th Symposium on Biotechnology for Fuels and Chemicals, Breckenridge, CO., May 7, 2003.

Ladisch*, M.R., **Mosier, N.S.**, Hendrickson, R., Dreschel, R., Welch, G., Dien, B.S. and Bothast, R.. "Principles and economics of pretreating cellulose in water for ethanol production", AGFD Paper 103, Processes for Utilization of Agricultural By-Products, Annual Meeting of the American Chemical Society, Division of Agricultural Food Chemistry (AGFD), New Orleans, LA, March 26, 2003.

Mosier*, N.S., Wilker, J., and Ladisch, M.R. "Structure/Function Fundamentals of Enzyme Mimetics for Cellulose Hydrolysis", Paper 332h, Advances in Biocatalysis and Protein Engineering II, 2002 Annual Meeting of the American Institute of Chemical Engineers, Indianapolis, IN, November 8, 2002.

Mosier, N.S., Hendrickson, R., Welch, G., Ladisch, C.M., and Ladisch*, M.R. "Design and Scale-Up of Corn Fiber and Corn Stover Pretreatment for Fuel Ethanol Production", Paper 26c, Pretreatment of Lignocellulosic Biomass I, 2002 Annual Meeting of the American Institute of Chemical Engineers, Indianapolis, IN, November 4, 2002.

Mosier*, N.S., Wilker, J., and Ladisch, M.R. "Binding domains for the construction of an cellulolytic enzyme mimetic", Biot Paper 175, Advances in Biocatalysis, 224th Annual Meeting of the American Chemical Society, Division of Biochemical Technology (BIOT), Boston, MA, August 21, 2002.

Mosier, N.S.*, Sarikaya, A., and Ladisch, M.R. "Structure/function studies for the construction of a cellulolytic enzyme mimetic", Biot Paper 4, Section A, Advances in Biocatalysis, 219th Annual Meeting of the American Chemical Society, Division of Biochemical Technology (BIOT), San Francisco, CA, March 26, 2000.

Li*, C., Ladisch, C.M., Yang, Y., Hendrickson, R., Keim, C., **Mosier, N.**, and Ladisch, M.R. "Structural properties of cotton-based fabric stationary phases for rapid chromatography of proteins," CELL Paper 148, Section B, 219th Annual Meeting of the American Chemical Society, San Francisco, CA., Cellulose, Paper, and Textile Division (CELL), Cellulose Modification: Chemical and Structural Aspects, March 29, 2000.

Beery, K., Hendrickson, R., Brewer, M., **Mosier, N.**, Dien, B., Dreschel, R., Welch, G., Bothast, R., Ladisch*, M.R. "Incremental ethanol yields from processing corn fiber by thermal pretreatment and enzymatic hydrolysis", BTEC Paper 46, 219th Annual Meeting of the American Chemical Society, San Francisco, CA., Biotechnology Secretariat (BTEC), Biobased Processing to Chemicals V: Process Engineering, March 29, 2000.

Posters

Hewetson, B.; **Mosier, N.S.** “Concentrated Phosphoric Acid for Enhanced Conversion of Cellulose to HMF,” Frontiers in Biorefining, St. Simons Island, GA, October 22, 2014.

Athmanathan*, A.; **Mosier, N.S.** “Investigating the Impact of Storage Parameters upon Switchgrass Feedstock Quality,” 35nd Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 30, 2013.

Wu, C-L., Clingenpeel, S.; **Mosier, N.S.**; Ho, N.W.Y.; Sedlak*, M. “Effect of acetic acid and ethanol on xylose fermentation by *S. cerevisiae* 424A(LNH-ST) and its ethanol (424A(LNH-ST)-ER) and acetic acid (424A(LNH-ST)-AR) resistant variants,” 35nd Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 30, 2013.

Emery, I.; **Mosier N.S.**; “Integrating dry matter losses and direct gas emissions during biomass storage into life cycle inventory models of switchgrass and Miscanthus based ethanol production,” 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 – May 1, 2012.

Zeng, M.; Ximenes, E.; Ladisch, M.; **Mosier, N.**; Vermerris, V.; Huang, C.P.; Sherman, D. “Tissue-specific biomass recalcitrance in corn stover pretreated with liquid hot-water: enzymatic hydrolysis and SEM imaging,” 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 – May 1, 2012.

Casey, E.; Wu, C.L.; **Mosier, N.**; Ho N.W.Y.; Sedlak, M. “Development of acetic acid resistant derivatives of *S. cerevisiae* 424A (LNH-ST) for glucose /xylose co-fermentation,” 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 – May 1, 2012.

Wu, C.L. **Mosier, N.S.**; Adamec, J.; Ho, N.W.Y.; Sedlak, M. “Systems biology comparison of glucose/xylose fermentation by *Saccharomyces cerevisiae* 424A (LNH-ST) and 424A (LNH-ST)-AAR in the presence of acetic acid,” 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 – May 1, 2012.

Wu, C.; **Mosier, N.S.**; Kim, J.; Adamec, J.; Ho, N.W.Y.; Sedlak, M. “Effect of Furfural On Xylose Fermentation Using *Saccharomyces cerevisiae* 424A (LNH-ST),” 2011 Annual Meeting of the American Institute of Chemical Engineers, Minneapolis, MN, October 18, 2011.

Kim, J.; Adamec, J.; **Mosier, N.S.**; Ho, N.W.Y.; Sedlak, M. “Differential Analysis of Lipids In Xylose Fermenting *S. Cerevisiae* 424A (LNH-ST) and Its Ethanol Resistant Variant *S. cerevisiae* 424A (LNH-ST)-ER,” 2011 Annual Meeting of the American Institute of Chemical Engineers, Minneapolis, MN, October 18, 2011.

Kim, E.; Liu, S.; Abu-Omar, M.; **Mosier, N.S.** “Maleic Acid Catalyzed Conversion of Hemicellulose to Furfural,” 2011 Annual Meeting of the American Institute of Chemical Engineers, Minneapolis, MN, October 18, 2011.

Emery I.*; **Mosier N.S.** “Sorghum and switchgrass storage systems’ impact on net greenhouse gas emissions from cellulosic ethanol production,” 33rd Symposium on Biotechnology for Fuels and Chemicals, Seattle, WA, April, 2011.

Casey*, E.; **Mosier, N.S.**; Stockdale, Z.; Ho, N.W.Y.; Adamec, J.; Sedlak, M. “Effect of cations and anions on glucose/xylose co-fermentation and the distribution of intracellular metabolites of recombinant *S. cerevisiae* 424A(LNH-ST),” 33rd Symposium on Biotechnology for Fuels and Chemicals, Seattle, WA, April, 2011.

Emery I.*; **Mosier N.S.** “Implications of biomass storage systems for a life cycle inventory of greenhouse gas emissions from ethanol production,” 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

Mosier, N.S.; Kim, Y*; Ladisch, M.R.; Holtzapple, M.T.; Dale, B.E.; Lee, Y.Y.; Wyman, C.E. “Comparative study of the effect of switchgrass feedstock variability on enzymatic digestibility before and after pretreatments studied by CAFI,” 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

Shi*, M.A.; Redmond, E.T.; Yang, B.; C.E. Wyman, C.E.; Garlock, R.; Balan, V.; Dale, B.E.; Kim, Y; **Mosier, N.S.**; Ladisch, M.R.; Holtzapple, M.T.; Falls, M.; Sierra, R.; Donohoe, B.S.; Vinzant, T.B.; Elander, R.T.; Hames, B.R.; Thomas, S.R.; Warner, R.E. "Interactions of cellulase and non-cellulase enzymes with ideal substrates and switchgrass processed by leading pretreatment technologies," 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

Garlock*, R.; Balan, V.; Dale, B.E.; Pallapolu, V.R.; Lee, Y.Y.; Kim, Y; **Mosier, N.S.**; Ladisch, M.R.; Holtzapple, M.T.; Falls, M.; Sierra, R.; Shi, M.A.; Redmond, E.T.; Yang, B.; C.E. Wyman, C.E.; Donohoe, B.S.; Vinzant, T.B.; Elander, R.T.; Hames, B.R.; Thomas, S.R. "Comparative material balances around leading pretreatment technologies for the conversion of switchgrass to soluble sugars," 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

Ximenes*, E.; Kim, Y.; Siqueira, F.G.; **Mosier, N.S.**; Ladisch, M.R. "Inhibition of cellulolytic enzymes due to products of hemicellulose hydrolysis," 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

Ximenes*, E.; Kim, Y.; Siqueira, F.G.; **Mosier, N.S.**; Ladisch, M.R.; Ferreira-Filho, E.X. "Enzymatic conversion of cellulosic substrates in the process of surface active additives, laccase and protease inhibitors," 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

Casey, E.*; Sedlak, M.; Ho, N.W.Y.; **Mosier, N.S.** "Transcriptomic analysis of the effect of acetic acid on *S. cerevisiae* 424A(LNH-ST) during the cofermentation of glucose and xylose," 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

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Wu, C.L.*; **Mosier, N.S.**; Adamec, J.; Ho, N.W.Y.; Sedlak, M. "System biology approach to determine differences between acetic acid tolerant *S. cerevisiae* 424A(LNHST) and original *S. cerevisiae* 424A(LNH-ST) during glucose/xylose fermentation," 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April, 2010.

Mohammad, H.; **Mosier, N.S.**; Ho, N.; Sedlak, M. "Effect of Na⁺, K⁺, NH₄⁺ and glycerol on the glucose/xylose co-fermentation by recombinant *S. cerevisiae* 424A(LNH-ST)," Poster 2-67, 31th Symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA, May, 2009.

Casey, E.; Sedlak, M.; Ho, N.W.Y.; Adamec, J.; Jannasch, A.; **Mosier, N.S.** "Metabolic analysis of the effect of acetic acid on the co-fermentation of glucose and xylose by *S. cerevisiae* 424A(LNH-ST)," Poster 2-68, 31th Symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA, May, 2009.

Kim, Y.; M.R. Ladisch, M.R.; Lickfeldt, D.W.; Armstrong, K.; **Mosier, N.S.** "Rates and Yields of Cellulosic Ethanol from Maize Silage with Effect of Brown Midrib Mutations," Poster 12-30, 31th Symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA, May, 2009.

Kim, Y.; Mosier, N.S.; Ladisch, M.R. "CAFI 3: Optimization of Controlled pH Liquid Hot Water Pretreatment and Enzyme Blends for Maximizing Saccharification of Switchgrass" 31st Symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA May. 2009.

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