

Selected Recent Publications
MICHAEL R. LADISCH

Journal Articles

- [1] Gaba, A., H. Li, R. Gomez, R. Bashir, T. Geng, A. Bhunia, J. Sturgis, J.P. Robinson, N.S. Mosier, and M.R. Ladisch, "Covalent Immobilization of anti-*Listeria monocytogenes* Antibody on a Silica Surface for an Impedance Biosensor Using Silane and Heterobifunctional Crosslinkers," *Biomed. Microdevices* (in press).
- [2] Kim, Y., R. Hendrickson, N. Mosier, and M.R. Ladisch, "Plug Flow Reactor for Continuous Hydrolysis of Glucans and Xylans from Pretreated Corn Fiber," *Energy and Fuels* (an American Chemical Society Journal) (in press).
- [3] Mosier, N., R. Hendrickson, N. Ho, M. Sedlak, and M.R. Ladisch, "Optimization of pH Controlled Liquid Hot Water Pretreatment of Corn Stover," *Bioresource Technology* (in press).
- [4] Chen, W-T., T. Geng, A.K. Bhunia, and M.R. Ladisch, "Membrane for Selective Capture of the Microbial Pathogen *Listeria monocytogenes*," *AIChE J.* (accepted with revisions).
- [5] Wyman, C.E., B.E. Dale, R.T. Elander, M. Holtzapple, M.R. Ladisch, and Y.Y. Lee, "Coordinated Development of Leading Biomass Pretreatment Technologies," *Bioresource Technology* (in press).
- [6] Wyman, C.E., B.E. Dale, R.T. Elander, M. Holtzapple, M.R. Ladisch, and Y.Y. Lee, "Comparative Sugar Recovery Data from Laboratory Scale Application of Leader Pretreatment Technologies to Corn Stover," *Bioresource Technology* (in press).
- [7] Mosier, N.S., R. Hendrickson, M. Brewer, N. Ho, M. Sedlak, R. Dreschel, G. Welch, B.S. Dien, A. Aden, and M.R. Ladisch, "Industrial Scale-up of pH Controlled Liquid Hot Water Pretreatment of Corn Fiber for Fuel Ethanol Production," *Applied Biochem. and Biotech.* (in press).
- [8] Huang, T.T., D. G. Taylor, M. Sedlak, N.S. Mosier, and M.R. Ladisch, "Microfiber-directed Boundary Flow in Press-fit Microdevices Fabricated from Self-adhesive Hydrophobic Surfaces," *Analytical Chemistry*, 77, 3671-3675 (2005).
- [9] Mosier, N., C. Wyman, B. Dale, R. Elander, Y.Y. Lee, M. Holtzapple, and M. Ladisch, "Features of Promising Technologies for Pretreatment of Lignocellulosic Biomass," *Bioresource Technology*, 96(6), 673-686 (2005).
- [10] Chen, W-T., R.L. Hendrickson, C-P. Huang, D. Sherman, T. Geng, A.K. Bhunia, and M.R. Ladisch, "Mechanistic Study of Membrane Concentration and Recovery of *Listeria monocytogenes*," *Biotechnol. Bioeng.*, 89, 263-273 (2005).
- [11] Mosier, N.S., J.J. Wilker, and M.R. Ladisch, "Rapid Chromatography for Evaluating Adsorption Characteristics of Cellulase Binding Domain Mimetics," *Biotechnol. Bioeng.*, 86(7), 756-764 (2004).

- [12] Chang, W.-J., K.W. Ro, T.T. Huang, Y.-M. Koo, J.H. Hahn, M.R. Ladisch, D. Akin, and R. Bashir, "Bioseparation Techniques in Microfluidic Devices Using Micro-Bead," *Theories and Applications of Chem. Eng.*, 10(1), 203-206 (2004).

Patents Granted and Allowed

- [1] Bashir, R., R. Gomez, P. Robinson, A. Bhunia, and M. R. Ladisch, Biosensor and Related Method, US Patent 6,716,620 B2 (April 6, 2004).

Research Papers and Posters Presented at National and International Professional Society Meetings

- [1] Ladisch, M.R., T. Huang, R. Armstrong, and N. Mosier, "Fundamentals of Nanotechnology in Agriculture," Division of Agricultural and Food Chemistry, Paper 205, 229th National ACS Meeting of the American Chemical Society, San Diego, CA (March 17, 2005).
- [2] Zeng, M., N.S. Mosier, J. Goetz, P. Fan, D. Sherman, and M.R. Ladisch, "Microscopic Examination of Plant Cell Structure of Enzyme-treated Corn Stover," Division of Biochemical Technology, Poster 335, 229th National ACS Meeting of the American Chemical Society, San Diego, CA (March 16, 2005).
- [3] Zang, Y., X. Liu, B. Tyner, A. Stewart, W-T. Chen, M. Sedlak, N.S. Mosier, B. Craig, and M. R. Ladisch, "Probability Distribution Model for Predicting Cell Capture from Dilute Solutions for Microfluidic Biosensors," Division of Biochemical Technology, Poster 341, 229th National ACS Meeting of the American Chemical Society, San Diego, CA (March 16, 2005).
- [4] Bwatwa, J., N.S. Mosier, T. Huang, X. Liu, A. Stewart, C.M. Ladisch, and M.R. Ladisch, "Bacterial Transport in Rolled Stationary Phase Monoliths," Division of Analytical Chemistry, Paper 349, 229th National ACS Meeting of the American Chemical Society, San Diego, CA (March 15, 2005).
- [5] Huang, T., N.S. Mosier, and M.R. Ladisch, "Rapid Prototyping of Purification Platforms," Division of Biochemical Technology, Paper 63, 229th National ACS Meeting of the American Chemical Society, San Diego, CA (March 14, 2005).
- [6] Chen, W-T., T. Huang, N.S. Mosier, and M R. Ladisch, "Fabrication of Press-fit Microdevices Using Modified Gold Wires," Division of Biochemical Technology, Paper 77, 229th National ACS Meeting of the American Chemical Society, San Diego, CA (March 14, 2005).
- [7] Mosier, N., R. Hendrickson, N.W.Y. Ho, M. Sedlak, and M. Ladisch, "Pretreatment of Lignocellulosic Biomass: Update on Biomass Refining CAFI Studies I," Paper 31d, at the AIChE Annual Meeting and Fall Showcase, Optimization of pH Controlled Liquid Hot Water Pretreatment of Corn Stover, Austin, TX (November 10, 2004).
- [8] Huang, T., W. Chen, T. Geng, R. Gomez, R. Bashir, A. Bhunia, and M.R. Ladisch, "Fundamentals of Nanotechnology: Relationship to Food Science and Technology," Invited Lecture, Paper 45-1, at the Annual Meeting of Institute of Food Technologists, Symposium:

Nanoscale Science, Engineering and Technology for Food Safety and Engineering, Las Vegas, NV (July 14, 2004).

- [9] Kim, Y., N.S. Mosier, R.L. Hendrickson, and M.R. Ladisch, "Hydrolysis of Soluble Oligosaccharides Derived from Corn Fiber by Heterogeneous Catalysis," Poster 18, Poster Session: Corn Utilization & Technology Conference, Indianapolis, IN (June 7-9, 2004).
- [10] Mosier, N.S., R. Hendrickson, M. Brewer, N.W.Y. Ho, M. Sedlak, R. Dreschel, G. Welch, B.S. Dien, A. Aden, and M.R. Ladisch, "Industrial Scale up of pH Controlled Liquid Hot Water Pretreatment of Corn Fiber for Fuel Ethanol Production," Poster 63, Poster Session: Corn Utilization & Technology Conference, Indianapolis, IN (June 7-9, 2004).
- [11] Zhu, F., C.M. Ladisch, N.S. Mosier, and M.R. Ladisch, "Isolation and Characterization of an Antibacterial Peptide in a Resorbable Tissue Scaffold," BIOT Division, Poster 266, Poster Session: 227th National Meeting of the American Chemical Society, Anaheim, CA (March 31, 2004).
- [12] Chen, W-T., M.R. Ladisch, T. Geng, A.K. Bhunia, and X. Liu, "Pathogen Capture and Concentration on Functionalized Polycarbonate Membrane Detection and Sample Preparation Based on Immuno-filters," BIOT Division, Paper 140, 227th ACS National Meeting, Section: High Throughput Screening/Genomics and Proteomics, Anaheim, CA (March 30, 2004).
- [13] Kim, Y., R. Hendrickson, N.S. Mosier, and M.R. Ladisch, "Primary Fractionation of Fermentable Sugars from Corn Fiber," BIOT Division, Paper 130, 227th ACS National Meeting, Section: Bioseparations for Primary Recovery, Anaheim, CA (March 30, 2004).
- [14] Bwatwa, J., M. Sedlak, N.W.Y. Ho, N.S. Mosier, and M.R. Ladisch, "Rapid Microfiltration of *E. coli*," BIOT Division, Paper 74, 227th ACS National Meeting, Section: Microbial Fermentation Process Development, Anaheim, CA (March 29, 2004).
- [15] Huang, T., D. Taylor, M. Sedlak, G. Grégori, D. Akin, R. Bashir, M.R. Ladisch, and P. Robinson, "Detection of Labeled Microbial Cells Using Microfluidic Biosensor," BIOT Division, Paper 10, 227th ACS National Meeting, Section: Biosensors and Bioprocess Monitoring and Control, Anaheim, CA (March 28, 2004).