

Blake A. Simmons, Ph.D.

Senior Manager
Biofuels and Biomaterials Science and Technology
Biomass and Bioenergy Program Lead
Sandia National Laboratories
Livermore, CA

Vice-President
Deconstruction Division
Joint BioEnergy Institute
Emeryville, CA

415-235-3170
basimmo@sandia.gov

EDUCATION: **Tulane University**, New Orleans, LA 9/97 – 8/01
Ph.D., Chemical Engineering

University of Washington, Seattle, WA 1/94 – 6/97
Bachelor of Science, Chemical Engineering

EXPERIENCE:

Sandia National Laboratories 5/10 – Present
Senior Manager, Biofuels and Biomaterials Science and Technology
Biomass Program Lead

- Vice-President, Deconstruction Division, Joint BioEnergy Institute**
- Manages two departments (40 total personnel) at Sandia working on biotechnology, biofuels, nanotechnology, biodefense, and nanobiology
 - Manages a group of 45 staff members, technologists, post-docs, and interns, including staff from SNL, LBNL, PNNL, and LLNL at JBEI
 - Coordinated, wrote, and co-led Sandia’s participation on the DOE BER funded \$125M, five-year renewal of the Joint BioEnergy Institute (JBEI), and will serve as Vice-President of Deconstruction (~\$5M/yr for five years), FY2013-17
 - Managing group of two SNL departments over three locations (Emeryville, Livermore, and Albuquerque) with over \$10M in annual funding
 - Coordinated LDRD funding portfolio of \$8M in annual discretionary funding for internal Sandia projects related to biodefense and biofuels
 - Major departmental thrust areas as a Senior Manager: biomass conversion, synthetic biology, advanced biofuels, algal biofuels, bio-nano interface, nanotoxicology, enzyme engineering, microbiology, extremophiles, and bioinspired materials
 - Led and participated in research on biofuels, including advanced biomass pretreatments, engineered lignocellulolytic enzymes, discovery of new enzymes isolated via targeted adaptation of microbial communities, and techno-economic modeling of biorefineries
 - Participated, coordinated, facilitated, and led multiple DOE (BER and EERE/OBP), USDA, and ARPA-E proposal teams for biomass (algae +

lignocellulose) conversion into biofuels using biochemical and thermochemical pathways

- Led program development activities around biomass, lignocellulosic biofuels, algal biofuels, and nanoporous materials for SNL and JBEI
- Coordinated and managed contracts/collaborations with federal, state, university, and industrial partners on the biofuels enterprise
- Served as Sandia's technical and programmatic lead for production of biofuels from lignocellulosic and algal biomass
- Participated in the development of proposals and internal projects on algal biofuels

Sandia National Laboratories

12/06 – 5/10

Manager, Biomass Science and Conversion Technologies Department

Manager, Energy Systems Department

Vice-President, Deconstruction Division, Joint BioEnergy Institute

- Managed a total group of 45 staff members, technologists, post-docs, and interns, including staff from SNL, LBNL, and LLNL at JBEI
- Coordinated, wrote, and co-led Sandia's participation on the DOE BER funded \$134M, initial five-year Joint BioEnergy Institute (JBEI), and will serve as Vice-President of Deconstruction (~\$5M/yr for five years), FY2008-2012.
- Major departmental thrust areas as a manager: biofuels, bio-nano interface, nanoporous materials, nanoelectronics, and hydrogen storage
- Led and participated in research on biofuels, including advanced biomass pretreatments, engineered lignocellulolytic enzymes, discovery of new enzymes isolated via targeted adaptation of microbial communities, and techno-economic modeling of biorefineries
- Participated, coordinated, facilitated, and led multiple DOE (BER and EERE/OBP), USDA, and ARPA-E proposal teams for biomass conversion into biofuels
- Led program development activities around biomass, lignocellulosic biofuels, and nanoporous materials for SNL and JBEI
- Coordinated and managed contracts/collaborations with federal, state, university, and industrial partners
- Served as Sandia technical/programmatic lead for production of biofuels from lignocellulosic biomass
- Participated in the development of proposals and internal projects on algal biofuels

Sandia National Laboratories

10/05 – 12/06

Principal Member of the Technical Staff

- Served as technical and project lead for the bioinspired synthesis of hierarchical silica structures based on diatom biomineralization
- Served as technical and project lead for the enhanced production of biofuels through enzyme and metabolic engineering
- Served as technical lead for biofuels section of Sandia's Transportation Fuel Initiative
- Served as technical lead on the development of polymer-nanoparticle composites for next-generation radiation detectors
- Served as technical lead for nanoimprint lithography technologies that include electroplating, block copolymer self-assembly, and polymer replication
- Developed methods and protocols to utilize block copolymers in the realization of ordered nanopatterns for use in nanoimprint lithography and

polymer replication to understand the bio-nano interface between living cells and surfaces

- Developed, designed, and fabricated polymeric microfluidic devices through injection molding and hot embossing for a variety of sensing and concentration applications including insulator-based dielectrophoresis
- Served as technical and project lead for the development of alternative desalination technologies that utilize clathrate hydrates and nanoporous membranes

Sandia National Laboratories

9/01 – 9/05

Senior Member of the Technical Staff

- Awarded research contract with Awwa Research Foundation to combine iDEP with Ultrafiltration (joint with CDC and Contra Costa Water District)
- Served as technical and project lead for the desalination of water using clathrate hydrates
- Served as SNL-CA project lead for the genetic engineering of oxidoreductase enzymes for power generation applications based on simple sugar oxidation
- Developed and utilized protocols for modifying polymeric substrates to interrogate whole cell-surface interactions as a function of surface treatment
- Coordinated the electroplating pipeline at SNL-CA for the development of nickel microfluidic replication tools
- Served as technical and project lead for the development of alternative desalination technologies that utilize clathrate hydrates
- Fabricated and functionalized polymeric surfaces for the selective adsorption of proteins for use in microarrays
- Synthesized, characterized, and developed immobilization techniques for a novel class of mixed metal oxide nanocrystalline photocatalysts
- Served as project and technical lead in the development, characterization, and utilization of a new class of cleavable surfactants for use in the synthesis of advanced materials
- Developed, designed, and fabricated polymeric microfluidic devices through injection molding and hot embossing for a variety of sensing and concentration applications
- Developed and synthesized various polymeric thin films and rigid mesophases for tamper indicating tags and seals

Tulane University

9/97 – 8/01

Graduate Student/Research Assistant

- Designed and conducted experiments for the synergistic synthesis of nanoscale and mesoscale advanced materials in a complex fluid environment
- Specialized in reverse micellar systems, organo- and organohydrogel synthesis and characterization, enzymatic free radical polymerization, templated synthesis of nanomaterials, ceramic-polymer composite materials, inorganic nanocrystals, quantum dot synthesis, and clathrate hydrate technology
- Trained to operate SEM, TEM, SANS, SAXS, AFM, EDS, FTIR, NMR, UV-VIS, GPC, HPLC, LS, XRD, TGA, PLM, ELISA, and SDS-PAGE

- Dow Chemical Company, Summer Intern** 6/96 – 9/96
- Developed and implemented pilot scale heat transfer apparatus, including the development and implementation of process control design parameters into software control program
- United States Navy, E-5** 3/88 - 8/93
- Nuclear Propulsion Operator – USS Carl Vinson
 - Regularly supervised 10-20 people for maintenance, operation, and readiness teams at various duty stations
 - Honorably discharged

ACTIVITIES/AWARDS/HONORS

- Testified before the State of CA Assembly, Housing and Transportation Committee, regarding Low Carbon Fuel Standard and AB32
- Session Chair, 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, 2013
- Elected to College of Fellows, American Institute of Medical and Biological Engineers, elected 2011
- Adjunct Professor, University of Queensland, QAAFI, Brisbane, Australia
- Member, JGI Strategic Roadmap Panel, 2012
- CEO, i-GATE NEST Incubator, 2010-2012
- Invited contributor, DOE Quadrennial Technology Review, 2011
- USDA NIFA Bioenergy Center Review Panel, 2010-2011
- DOE ARPA-E Panelist, 2010-present
- DOE OBP Proposal Review, 2010-present
- Technical Advisory Board, National Advanced Biofuels Consortium, 2010-2011
- Lockheed Martin Equity Share Award, 2010
- Outstanding Young Alumnus in Science and Engineering, Tulane University, 2009
- Member of the State of California Low Carbon Fuel Standard Expert Working Group 2009-2010 – Lead sub-group on indirect effects of other fuels
- DOE Joint Genome Institute User Committee Member, 2008-2009
- Editorial board member, *Biofuels*, 2010-present
- Advisory Panel, MetaCyc, 2009-2010
- SAB Member, Allopartis, 2008-present
- SAC Member, West Coast Biorefinery, Pacific Ethanol, 2008-2009
- Served on Nanomaterials Standing Safety Committee, Sandia, 2007-2009
- Panelist and author for DOE EERE/OBP Algal Biofuels Roadmap, December 2008 – July 2009
- Panelist and author for DOE BES Basic Research Needs Catalysis Workshop, August 2007, focused on Biomass and Biofuels
- Co-Chair of MRS Fall 2007 National Meeting Session (NN) on Peptide-Directed Materials
- Successfully nominated Prof. Brian Kirby of Cornell University for a \$250k Presidential Early Career Award in Science and Engineering, 2007-2012
- Served on DOE EERE SBIR/STTR Review Panels 2007-present
- Served on USDA SBIR/STTR Review Panels 2007-present
- Served on NSF CAREER Review Panel 2005 and 2006
- Served on DOE BES Proposal Review Panel 2006-2008
- Served on User Proposal Review Panel, NIST NCNR 2005-present

- Journal reviewer: *Science, Nature, Nature Biotechnology, PNAS, Analytical Chemistry, JACS, Nature Physics, Energy & Environmental Science, Biotechnology and Bioengineering, NanoLetters, Bioresource Technology, Physical Chemistry and Chemical Physics, Journal of Physical Chemistry, Langmuir, Lab on a Chip, Electrophoresis, Analytica Chimica Acta, Biotechnology for Biofuels, ChemSusCom, Angewandte Chemie, Biofuels*
- Member, Institutional Biosafety Committee for Sandia National Laboratories, 2004-2006
- Successfully nominated Prof. William King of University of Illinois for a \$250k Presidential Early Career Award in Science and Engineering, 2005-2010
- Co-Chair of IMECE Conference Session on Nanofabrication, 2005
- Recipient, Sandia Team Employee Recognition Award 2005 and 2007
- Sandia National Laboratories Academic Recruiter 2004-present
- Invited instructor in educational outreach program (chemistry) at the Academy of Arts University, San Francisco, 2002
- Science bowl volunteer 2001-2002
- President, Tulane Graduate School Student Association, 2000-2001
- 1st Place 219th Annual ACS Colloids and Surfaces Poster Division, 2000
- Secretary, Tulane Graduate School Student Association, 1999-2000
- 1st Place 218th Annual ACS Colloids and Surfaces Poster Division, 1999
- Vice-President, Chemical Engineering Graduate Student Society, 1998
- Louisiana Board of Regents Fellowship, 1997-2001
- Dow Chemical Outstanding Junior in Chemical Engineering, 1996
- President, Tau Beta Pi Washington Alpha Chapter, 1996-1997

PROFESSIONAL SOCIETIES

- American Chemical Society, 1999-present
- AAAS, 2009-present
- Tau Beta Pi, 1996-present
- American Institute of Chemical Engineers, 1996-present
- Society of Industrial Microbiology, 2008-present
- Neutron Scattering Society of America, 1999-present

SELECTED PUBLICATIONS (out of >160, h-index = 32, i10-index = 65)

1. Stephanie A. Eichorst, Pantanjali Varasani, Vatalie Stavila, Marcin Zemla, Manfred Auer, Seema Singh, Blake A. Simmons, Steven W. Singer **Community Dynamics of Cellulose-Adapted Thermophilic Consortia**, *Environmental Microbiology*, accepted, May 2013.
2. Jana Müller, Daniel MacEachran, Helcio Burd, Noppadon Sathitsuksanoh, Changhao Bi, Yi-Chun Yeh, Taek Soon Lee, Nathan J. Hillson, Swapnil R. Chhabra, Steven W. Singer, Harry R. Beller. **Engineering of *Ralstonia eutropha* H16 for Autotrophic and Heterotrophic Production of Methyl Ketones**. *Applied and Environmental Microbiology*, accepted, May 2013
3. Aaron M Socha, Samuel Plummer, Vitalie Stavila, Blake A Simmons and Seema Singh. **Comparison of sugar content for ionic liquid pretreated Douglas-fir woodchips and forestry residues**. *Biotechnology for Biofuels*, in press April 2013.
4. Ryan McAndrew et al., **From soil to structure: a novel dimeric B-glucosidase belonging to glycoside hydrolase family 3 isolated from compost using metagenomic analysis**, *Journal of Biological Chemistry*, in press April 2013.
5. Daniel Klein-Marcuschamer, Christopher Turner, Mark Allen, Ralf G Dietzgen, Peter Gray, Peter Gresshoff, Ben Hankamer, Kirsten Heimann, Paul Scott, Robert Speight, Evan Stephens, and Lars

- K. Nielsen. **Technoeconomic analysis of renewable aviation fuel from microalgae, *Pongamia pinnata*, and sugarcane.** *Biofpr*, in press April 2013.
6. Ning Sun, Hanbin Liu, Noppadon Sathitsuksanoh, Vitalie Stavila, Manali Sawant, Anaise Bonito, Kim Tran, Anthe George, Kenneth L Sale, Seema Singh, Blake A Simmons and Bradley M Holmes. **Production and Extraction of Sugars from Switchgrass Hydrolyzed in Ionic Liquids**, *Biotechnology for Biofuels*, 2013, 6:39.
 7. Dawn Chiniqy, Patanjali Varanasi, Taeyun Oh, Jesper Harholt, Jacob Katnelson, Seema Singh, Manfred Auer, Blake Simmons, Paul D. Adams, Henrik V. Scheller, Pamela C. Ronald. **Three novel rice genes closely related to the Arabidopsis IRX9, IRX9L, and IRX14 genes and their roles in xylan biosynthesis**, *Frontiers in Plant Biotechnology*, 2013, 4(83), 1-13.
 8. Alejandro G. Cruz, Chessa Scullin, Chen Mu, Gang Cheng, Vitalie Stavila, Patanjali Varanasi, Jeff Mentel, DongYan Xu, Yi-De A. Chung, Blake Simmons and Seema Singh. **Impact of High Biomass Loading on Ionic Liquid Pretreatment**, *Biotechnology for Biofuels*, 2013, 6:52.
 9. Dan Groff, Anthe George, Ning Sun, Noppadon Sathitsuksanoh, Gregory Bokinsky, Blake A. Simmons, Bradley M. Holmes and Jay D. Keasling. **Acid enhanced ionic liquid pretreatment of biomass**, *Green Chemistry*, available online March 2013, DOI: 10.1039/c3gc37086k.
 10. Kristen M. DeAngelis, Patrik D'Haeseleer, Dylan Chivian, Blake Simmons, Adam P. Arkin, Konstantinos Mavromatis, Stephanie Malfatti, Susannah Tringe, Terry C. Hazen **Metagenomes of tropical soil-derived anaerobic switchgrass-adapted consortia with and without iron**, *Standards in Genomic Sciences*, 2013, 7:3
 11. Seema Singh; Patanjali Varanasi; Priyanka Singh; Paul Adams; Manfred Auer; Blake Simmons. **Understanding the Impact of Ionic Liquid Pretreatment on Cellulose and Lignin via Thermochemical Analysis**, *Biomass & Bioenergy*, accepted February 2013
 12. Varanasi, P.; Singh, P.; Auer, M.; Adams, P.D.; Simmons, B.A.; Singh, S. **Survey of Renewable Chemicals Produced from Lignocellulosic Biomass during Ionic Liquid Pretreatment**, *Biotechnology for Biofuels*, 2013, 6(14).
 13. Yeh, Y.C., Mueller, J., Bi, C., Hillson, N.J, Beller, H.R., Chhabra, S.R., Singer S.W. **Functionalizing bacterial cell surfaces with a phage protein**. *Chemical Communications*, 2013, 49, 910-912.
 14. Persil-Cetinkol O, Smith-Moritz AM, Cheng G, Lao J, George A, Hong K, Henry R, Simmons B, Heazlewood JL, Holmes BM, **Structural and chemical characterization of hardwood from tree species with applications as bioenergy feedstocks**. *PLOS ONE*, December 2012, 7(12), e52820, 11 pages.
 15. Li, Chenlin; Sun, Lan; Simmons, Blake; Singh, Seema. **Comparing the Recalcitrance of Eucalyptus, Pine, and Switchgrass using Ionic Liquid and Dilute Acid Pretreatments**, *BioEnergy Research*, March 2013, 6(1), 14-23.
 16. Patanjali Varanasi, Priyanka Singh, Rohit Arora, Paul D. Adams, Manfred Auer, Blake A. Simmons, and Seema Singh. **Understanding changes in lignin of *Panicum virgatum* and *Eucalyptus globulus* as a function of ionic liquid pretreatment**, *Bioresource Technology*, Aug 31;126C:156-161 (epub ahead of print).
 17. Reddy, Amitha; Simmons, Christopher; Claypool, Joshua; Jabusch, Lauren; Burd, Helcio; Hadi, Masood; Simmons, Blake; Singer, Steven; VanderGheynst, Jean. **Thermophilic Enrichment of Microbial Communities in the Presence of the Ionic Liquid 1-ethyl-3-methylimidazolium acetate**, *Journal of Applied Microbiology*, 2012 Dec, 113(6), 1362-7.
 18. Jose A. Perez-Pimienta, Monica G. Lopez-Ortega, Patanjali Varanasi, Vitalie Stavila, Gang Cheng, Seema Singh, Blake A. Simmons. **Comparing the Impact of Ionic Liquid Pretreatment on Agave Bagasse and Switchgrass**, *Bioresource Technology*, 2013, 127, 18–24.
 19. Scott M. Paap, Todd H. West, Dawn K. Manley, Eric J. Steen, Harry R. Beller, Jay D. Keasling, Dean C. Dibble, Shiyang Change, Blake A. Simmons. **Biochemical Production of Ethanol and**

- Fatty Acid Ethyl Ester from Switchgrass: a Comparative Analysis of Environmental and Economic Performance**, *Biomass and Bioenergy*, 2013, 49, 49-62.
20. Jian Shi, Vicki S. Thompson, Neal A. Yancey, Vitalie Stavila, Blake A. Simmons, and Seema Singh. **Impact of Mixed Feedstocks and Feedstock Densification on Ionic Liquid Pretreatment Efficiency**, *Biofuels*, Jan 2013, 4(1), 63-72.
 21. Lan Sun, Chenlin Li, Zhengjun Xue, Blake A. Simmons, and Seema Singh, **Unveiling High-Resolution, Tissue Specific Dynamic Changes in Corn Stover during Ionic Liquid Pretreatment**, *RSC Advances*, 2013, 3, 2017-2027.
 22. Cheng, Gang; Varanasi, Patanjali; Arora, Rohit; Stavila, Vitalie; Simmons, Blake; Kent, Michael; Singh, Seema. **Impact of Ionic Liquid Pretreatment Conditions on Cellulose Crystalline Structure Using 1-Ethyl-3-Methylimidazolium Acetate**, *Journal of Physical Chemistry B*, 2012, 116, 10049-10054.
 23. Shara D McClendon, Tanveer Baath, Christopher J Petzold, Paul D Adams, Blake A Simmons and Steven W Singer, ***Thermoascus aurantiacus* is a promising source of enzymes for biomass deconstruction under thermophilic conditions**, *Biotechnology for Biofuels*, 2012, 5, 54.
 24. Patanjali Varanasi, Jacob Katsnelson, David Larson, Rita Sharma, Manoj Sharma, Miguel Vega-Sanchez, Marcin Zemla, Pamela Ronald, Blake Simmons, Seema Singh, Paul Adams, and Manfred Auer, **Mechanical Stress Analysis as a Method to Understand the Impact of Genetically Engineered Rice and Arabidopsis Plants**, *Industrial Biotechnology*, 2012, 8(4), 238-244.
 25. Gang Cheng, Michael S. Kent, Lilin He, Patanjali Varanasi, Dean Dibble, Rohit Arora, Kai Deng, Kunlun Hong, Yuri B. Melnichenko, Blake A. Simmons, and Seema Singh, **Effect of Ionic Liquid Treatment on the Structures of Lignins in Solutions: Molecular Subunits Released from Lignin**, *Langmuir*, 2012, 28, 1850-11857.
 26. Michael J Dougherty, Patrik D'haeseleer, Blake A Simmons, Paul D Adams and Masood Z Hadi, **Glycoside Hydrolases from a targeted Compost Metagenome, Activity-screening and Functional Characterization**, *BMC Biotechnology*, 2012, 12, 38.
 27. Zhiwei Chen, Gregory D. Friedland, Jose H. Pereira, Sonia A. Reveco, Rosa Chan, Joshua I. Park, Michael P. Thelen, Paul D. Adams, Adam P. Arkin, Jay D. Keasling, Harvey W. Blanch, Blake A. Simmons, Kenneth L. Sale, Dylan Chivian and Swapnil R. Chhabra. **Tracing determinants of dual-substrate specificity in glycoside hydrolase family 5**, *Journal of Biological Chemistry*, 2012, 287(30), 25335-25343.
 28. Vega-Sanchez, Miguel E.; Verherbruggen, Yves; Christensen, Ulla; Chen, Xuewei; Sharma, Vaishali; Varanasi, Patanjali; Jobling, Stephen A.; Talbot, Mark; White, Rosemary G.; Joo, Michael; Singh, Seema; Auer, Manfred; Scheller, Henrik V.; Ronald, Pamela C. **Loss of Cellulose synthase-like F6 function affects mixed-linkage glucan deposition, cell wall mechanical properties, and defense responses in vegetative tissues of rice**, *Plant Physiology*, 2012, 159(1), 56-69.
 29. Liu, Hanbin; Cheng, Gang; Kent, Michael; Stavila, Vitalie; Simmons, Blake; Sale, Kenneth; Singh, Seema. **Simulations Reveal Conformational Changes of Methylhydroxyl Groups during Dissolution of Cellulose I β in Ionic Liquid 1-Ethyl-3-Methyl Imidazolium Acetate**, *Journal of Physical Chemistry B*, 2012, 116(28), 8131–8138.
 30. Cheng, Gang; Datta, Supratim; Liu, Zelin; Wang, Chao; Murton, Jaclyn; Brown, Page; Jablin, Michael; Dubey, Manish; Majewski, Jaroslaw; Halbert, Candice; Browning, James; Esker, Alan; Watson, Brian; Zhang, Haito; Hutcheson, Steven; Huber, Dale; Sale, Kenneth; Simmons, Blake; Kent, Michael. **Interactions of Endoglucanases with Amorphous Cellulose Films Resolved by Neutron Reflectometry and Quartz Crystal Microbalance with Dissipation Monitoring**, *Langmuir*, 2012, 28(22), 8348-58.
 31. Joshua I. Park, Eric J. Steen, Helcio Burd, Sophia S. Evans, Alyssa M. Redding-Johnson, Tanveer Bath, Peter I. Benke, Patrik D'haeseleer, Ning Sun, Kenneth L. Sale, Jay D. Keasling, Taek Soon

- Lee, Christopher J. Petzold, Aindrila Mukhopadhyay, Terry C. Hazen, Steven W. Singer, Blake A. Simmons, and John Gladden. **A Thermophilic Ionic liquid-tolerant Cellulase Cocktail for the Production of Cellulosic Biofuels**, *PLoS ONE*, 2012, 7(5), e37010-
32. Jane I. Khudyakov, Patrik D'haeseleer, Sharon E. Borglin, Kristen M. DeAngelis, Hannah Woo, Erika A. Lindquist, Terry C. Hazen, Blake A. Simmons and Michael P. Thelen. **Global transcriptome response to ionic liquid by a tropical rain forest soil bacterium, *Enterobacter lignolyticus* SCF1**, *Proceedings of the National Academy of Sciences*, 109(32), E2173–E2182.
 33. Gabriella Papa, Patanjali Varanasi, Lan Sun, Gang Cheng, Vitalie Stavila, Bradley M. Holmes, Blake A. Simmons, Fabrizio Adani, and Seema Singh. **Exploring the effect of different plant lignin content and composition on ionic liquid pretreatment efficiency and enzymatic saccharification of *Eucalyptus globulus* L. mutants**, *Bioresource Technology*, 2012, 117, 352-359.
 34. Aymerick Eudes, Anthe George, Purba Mukerjee, Jin S. Kim, Brigitte Pollet, Peter I. Benke, Fan Yang, Prajakta Mitra, Lan Sun, Ozgul P. Cetinkol, Salem Chabout, Gregory Mouille, Ludivine Soubigou-Taconnat, Sandrine Balzergue, Seema Singh, Bradley M. Holmes, Aindrila Mukhopadhyay, Jay D. Keasling, Blake A. Simmons, Catherine Lapierre, John Ralph and Dominique Loque. **Biosynthesis and incorporation of side-chain-truncated lignin monomers to reduce lignin polymerization and enhance saccharification**, *Plant Biotechnology Journal*, 2012, DOI:10.1111/j.1467-7652.2012.00692.x
 35. Kirk M. Torr, Karen T. Love, Özgül P. Çetinkol, Lloyd A. Donaldson, Anthe George, Bradley M. Holmes and Blake A. Simmons. **The impact of ionic liquid pretreatment on the chemistry and enzymatic digestibility of *Pinus radiata* compression wood**, *Green Chemistry*, 2012, 14, 778-787.
 36. Matthew Greving, Xiaoliang Cheng, Wolfgang Reindl, Benjamin Bowen, Kai Deng, Katherine Louie, Michael Nyman, Joseph Cohen, Anup Singh, Blake Simmons, Paul Adams, Gary Siuzdak, and Trent Northen, **Acoustic deposition with NIMS as a high throughput enzyme activity assay**, *Analytical and Bioanalytical Chemistry*, accepted February 2012, epub ahead of print
 37. Wolfgang Reindl, Kai Deng, Xiaoliang Cheng, Anup K. Singh, Blake A. Simmons, Paul D. Adams, and Trent R. Northen. **Nanostructure-Initiator Mass Spectrometry (NIMS) for the Analysis of Enzyme Activities**, *Current Protocols in Chemical Biology*, accepted February 2012
 38. Kristen DeAngelis et al., **Anaerobic decomposition of switchgrass by tropical soil-derived feedstock adapted consortia**, *mBio*, vol. 3 no. 1 e00249-11
 39. Oleskowicz-Popiel, Piotr; Kadar, Zsafia; Heiske, Stefan; Klein-Marcuschamer, Daniel; Simmons, Blake A.; Blanch, Harvey W.; Schmidt, Jens Ejbye. **Co-production of ethanol, biogas, protein fodder and natural fertilizer in organic farming - Evaluation of a concept for a farm-scale biorefinery**. *Bioresource Technology*, 2012, 104, 440-446.
 40. Oliver Welz, Judit Zádor, John D. Savee, Martin Y. Ng, Giovanni Meloni, Ravi X. Fernandes, Leonid Sheps, Blake A. Simmons, Taek Soon Lee, David L. Osborn, and Craig A. Taatjes. **Low-temperature combustion chemistry of biofuels: pathways in the initial low-temperature (550 K--750 K) oxidation chemistry of isopentanol**, *Phys. Chem. Chem. Phys.*, 2012, DOI:10.1039/C2CP23248K
 41. Zendejas, Frank J.; Benke, Peter I.; Lane, Pamela D.; Simmons, Blake A.; Lane, Todd W. **Characterization of the acylglycerols and resulting biodiesel derived from vegetable oil and microalgae (*Thalassiosira pseudonana* and *Phaeodactylum tricorutum*)**. *Biotechnology and Bioengineering* (2012) ePub Ahead of Print.
 42. Klein-Marcuschamer, Daniel; Oleskowicz-Popiel, Piotr; Simmons, Blake A.; Blanch, Harvey W. **The challenge of enzyme cost in the production of lignocellulosic biofuels**. *Biotechnology and Bioengineering* (2012) ePub Ahead of Print.
 43. Gladden, John M.; Eichorst, Stephanie A.; Hazen, Terry C.; Simmons, Blake A.; Singer, Steven W. **Substrate perturbation alters the glycoside hydrolase activities and community**

- composition of switchgrass-adapted bacterial consortia. *Biotechnology and Bioengineering* (2012) ePub Ahead of Print.**
44. Klein-Marcuschamer, Daniel; Simmons, Blake A.; Blanch, Harvey W. **Techno-economic analysis of a lignocellulosic ethanol biorefinery with ionic liquid pre-treatment.** *Biofuels, Bioproducts & Biorefining* (2011), 5(5), 562-569.
 45. DeAngelis, Kristen M.; D'Haeseleer, Patrik; Chivian, Dylan; Fortney, Julian L.; Khudyakov, Jane; Simmons, Blake; Woo, Hannah; Arkin, Adam P.; Davenport, Karen Walston; Goodwin, Lynne; Chen, Amy; Ivanova, Natalia; Kypides, Nikos C.; Mavromatis, Konstantinos; Woyke, Tanja; Hazen, Terry C. **Complete genome sequence of *Enterobacter lignolyticus* SCF1.** *Standards in Genomic Sciences* (2011), 5:69-85.
 46. Chuck, George S.; Tobias, Christian; Sun, Lan; Kraemer, Florian; Li, Chenlin; Dibble, Dean; Arora, Rohit; Bragg, Jennifer N.; Vogel, John P.; Singh, Seema; Simmons, Blake A.; Pauly, Markus; Hake, Sarah. **Overexpression of the maize *Corngrass1* micro-RNA prevents flowering, improves digestibility, and increases starch content of switchgrass.** *Proceedings of the National Academy of Sciences of the United States of America*, Early Edition (2011), (Dec. 30 2011).
 47. Bokinsky, Gregory; Peralta-Yahya, Pamela P.; George, Anthe; Holmes, Bradley M.; Steen, Eric J.; Dietrich, Jeffrey; Lee, Taek Soon; Tullman-Ercek, Danielle; Voigt, Christopher A.; Simmons, Blake A.; Keasling, Jay D. **Synthesis of three advanced biofuels from ionic liquid-pretreated switchgrass using engineered *Escherichia coli*.** *Proceedings of the National Academy of Sciences of the United States of America* (2011), 108(50), 19949-19954.
 48. Oleskowicz-Popiel, Piotr; Kadar, Zsafia; Heiske, Stefan; Klein-Marcuschamer, Daniel; Simmons, Blake A.; Blanch, Harvey W.; Schmidt, Jens Ejbye. **Co-production of ethanol, biogas, protein fodder and natural fertilizer in organic farming - Evaluation of a concept for a farm-scale biorefinery.** *Bioresource Technology* (2012), 104, 440-446.
 49. George, Anthe; Tran, Kim; Morgan, Trevor J.; Benke, Peter I.; Berruoco, Cesar; Lorente, Esther; Wu, Ben C.; Keasling, Jay D.; Simmons, Blake A.; Holmes, Bradley M. **The effect of ionic liquid cation and anion combinations on the macromolecular structure of lignins.** *Green Chemistry* (2011), 13(12), 3375-3385.
 50. Liu, Hanbin; Sale, Kenneth L.; Simmons, Blake A.; Singh, Seema. **Molecular Dynamics Study of Polysaccharides in Binary Solvent Mixtures of an Ionic Liquid and Water.** *Journal of Physical Chemistry B* (2011), 115(34), 10251-10258.
 51. Gladden, John M.; Allgaier, Martin; Miller, Christopher S.; Hazen, Terry C.; Vander Gheynst, Jean S.; Hugenholtz, Philip; Simmons, Blake A.; Singer, Steven W. **Glycoside hydrolase activities of thermophilic bacterial consortia adapted to switchgrass.** *Applied and Environmental Microbiology* (2011), 77(16), 5804-5812.
 52. Ouellet, M.; Datta, S.; Dibble, D.C.; Tamrakar, P.R.; Benke, P.I.; Li, C.; Singh, S.; Adams, P.D.; Keasling, J.D.; Simmons, B.A.; Holmes, B.M.; Mukhopadhyay, A. **Impact of ionic liquid pretreated plant biomass on *Saccharomyces cerevisiae* growth and biofuel production.** *Green Chemistry*, (2011), 13(10), 2743-2749.
 53. Cheng, Gang; Liu, Zelin; Murton, Jaclyn; Jablin, Michael; Dubey, Manish; Majewski, Jaroslaw; Halbert, Candice; Browning, James; Ankner, John; Akgun, Bulent; Wang, Chao; Esker, Alan; Sale, Ken; Simmons, Blake; Kent, Michael **Neutron Reflectometry and QCM-D Study of the Interaction of Cellulases with Films of Amorphous Cellulose.** *Biomacromolecules* (2011), 12(6), 2216-2224.
 54. Reddy, A.; Allgaier, M.; Singer, S.W.; Hugenholtz, P.; Hazen, T.C.; Simmons, B.A.; VanderGheynst, J. **Bioenergy feedstock-specific enrichment of microbial populations during high-solids thermophilic deconstruction.** *Biotechnology and Bioengineering* (2011), 108(9), 2088-2098.

55. Li, C.; Cheng, G.; Balan, V.; Kent, M.S.; Ong, M.; Chundawat, S.; daCosta Sousa, L.; Melnichenko, Y.B.; Dale, B.E.; Simmons, B.A.; Singh, S. **Influence of Physico-Chemical Changes on Enzymatic Digestibility of Ionic Liquid and AFEX pretreated Corn Stover.** *Bioresource Technology* (2011), 102(13), 6928-6936.
56. Zhang, T.; Datta, S.; Eichler, J.; Ivanova, N.; Axen, S.; Kerfeld, C.; Chen, F.; Kyrpides, N.; Hugenholtz, P.; Cheng, J.-F.; Pennacchio, L.; Simmons, B.A.; Rubin, E.M. **Identification of a haloalkaliphilic and thermostable cellulase with improved ionic liquid tolerance.** *Green Chemistry* (2011), 13(8), 2083-2090.
57. Singer, S. W.; Reddy, A. P.; Gladden, J. M.; Guo, H.; Hazen, T. C.; Simmons, B. A.; Vander Gheynst, J. S. **Enrichment, isolation and characterization of fungi tolerant to 1-ethyl-3-methylimidazolium acetate.** *Journal of Applied Microbiology* (2011), 110(4), 1023-1031.
58. DeAngelis, Kristen M.; Allgaier, Martin; Chavarria, Yaucin; Fortney, Julian L.; Hugenholtz, Phillip; Simmons, Blake; Sublette, Kerry; Silver, Whendee L.; Hazen, Terry C. **Characterization of trapped lignin-degrading microbes in tropical forest soil.** *PLoS One* (2011), 6(4), e19306.
59. Wu, Huawen; Volponi, Joanne V.; Oliver, Ann E.; Parikh, Atul N.; Simmons, Blake A.; Singh, Seema. **In vivo lipidomics using single-cell Raman spectroscopy.** *Proceedings of the National Academy of Sciences of the United States of America* (2011), 108(9), 3809-3814.
60. Park, J.I., Sale, K.L. Simmons, B.A., Sapra, R., **Enzymatic Hydrolysis of Cellulose by the Cellobiohydrolase Domain of CelB from the Hyperthermophilic Bacterium Caldicellulosiruptor saccharolyticus.** *Bioresource Technology* (2011), 102(10), 5988-5994.
61. Cheng, Gang; Varanasi, Patanjali; Li, Chenlin; Liu, Hanbin; Melnichenko, Yuri; Simmons, Blake; Kent, Michael; Singh, Seema, **Transition of Cellulose Crystalline Structure and Surface Morphology of Biomass as a Function of Ionic Liquid Pretreatment and its Relation to Enzymatic Hydrolysis.** *Biomacromolecules* (2011), 12(4), 933-941.
62. Singer, S.W.; Reddy, A.P.; Gladden, J.M.; Guo, H.; Hazen, T.C.; Simmons, B.A.; VanderGheynst, J.S. **Enrichment, Isolation and Characterization of Fungi Tolerant to 1-Ethyl-3-Methylimidazolium Acetate.** *Journal of Applied Microbiology* (2011), 110(4), 1023-1031.
63. Simmons, Blake A. **Opportunities and challenges in advanced biofuel production: the importance of synthetic biology and combustion science.** *Biofuels* (2011), 2(1), 5-7.
64. Achyuthan, Komandoor Elayavalli; Achyuthan, Ann Mary; Adams, Paul David; Dirk, Shawn Matthew; Harper, Jason Carl; Simmons, Blake Alexander; Singh, Anup Kumar. **Supramolecular self-assembled chaos: polyphenolic lignin's barrier to cost-effective lignocellulosic biofuels.** *Molecules* (2010), 15, 8641-8688.
65. Yang, Y., Dec, J., Dronniou, N., Simmons, B.A. **Characteristics of Isopentanol as a Fuel for HCCI engines,** *SAE Int. J. Fuels Lubr.* (2010), 3(2), 725-741.
66. Rajiv Bharadwaj, Zhiwei Chen, Supratim Datta, Bradley M. Holmes, Rajat Sapra, Blake A. Simmons, Paul D. Adams, and Anup K. Singh, **Microfluidic Glycosyl Hydrolase Screening for Biomass-to-Biofuel Conversion.** *Analytical Chemistry* (2010), 82(22), 9513-9520.
67. Bharadwaj, Rajiv; Wong, April; Knierim, Bernhard; Singh, Seema; Holmes, Bradley M.; Auer, Manfred; Simmons, Blake A.; Adams, Paul D.; Singh, Anup K. **High-throughput enzymatic hydrolysis of lignocellulosic biomass via in-situ regeneration.** *Bioresource Technology* (2011), 102(2), 1329-1337.
68. Sun, Lan, Simmons, Blake, Singh, Seema. **Understanding Tissue Specific Compositions of Bioenergy Feedstocks through Hyperspectral Raman Imaging.** *Biotechnology and Bioengineering* (2011) 108 (2), 286-295.
69. Klein-Marcuschamer, Daniel; Oleskowicz-Popiel, Piotr; Simmons, Blake A.; Blanch, Harvey W. **Technoeconomic analysis of biofuels: A wiki-based platform for lignocellulosic biorefineries.** *Biomass and Bioenergy* (2010), 34(12), 1914-1921.

70. Hanbin Liu, Jose Henrique Pereira, Paul D. Adams, Kenneth L. Sale, Rajat Sapra, and Blake A. Simmons. **Molecular Simulations Provide New Insight into Role of Accessory Immunoglobulin-like Domain of Cel9A.** *FEBS Letters* (2010), 584(15), 3431-3435.
71. Pereira, Jose H.; Chen, Zhiwei; McAndrew, Ryan P.; Sapra, Rajat; Chhabra, Swapnil R.; Sale, Kenneth L.; Simmons, Blake A.; Adams, Paul D. **Biochemical characterization and crystal structure of endoglucanase Cel5A from the hyperthermophilic *Thermotoga maritima*.** *Journal of Structural Biology* (2010), 172(3), 372-379.
72. Bharadwaj, Rajiv; Chen, Zhiwei; Datta, Supratim; Holmes, Bradley M.; Sapra, Rajat; Simmons, Blake A.; Adams, Paul D.; Singh, Anup K. **Microfluidic Glycosyl Hydrolase Screening for Biomass-to-Biofuel Conversion.** *Analytical Chemistry* (2010), 82(22), 9513-9520.
73. T.C. Brennan, H.W. Blanch, B.A. Simmons, B.M. Holmes, **Recovery of Sugars from Ionic Liquid Biomass Liquor by Solvent Extraction,** *BioEnergy Research* (2010), 3:123–133.
74. Simmons, Blake A.; Singh, Seema; Holmes, Bradley M.; Blanch, Harvey W. **Ionic liquid pretreatment.** *Chemical Engineering Progress* (2010), 106(3), 50-55.
75. R. Arora, C. Manisseri, C. Li, M. Ong, H.V. Scheller, K. Vogel, B.A. Simmons, S. Singh, **Monitoring and Analyzing Process Streams towards Understanding Ionic Liquid Pretreatment of Switchgrass (*Panicum virgatum*),** *BioEnergy Research* (2010), 3:134–145.
76. B.A. Simmons, D. Loque, J. Ralph. **Advances in modifying lignin for enhanced biofuel production,** *Current Opinion in Plant Biology*, (2010), 13(3), 312-319.
77. DeAngelis, K. M., J. M. Gladden, M. Allgaier, P. D’haeseleer, J. L. Fortney, A. Reddy, P. Hugenholtz, S. W. Singer, J. Vander Gheynst, W. L. Silver, B. Simmons, and T. C. Hazen. **Strategies for Enhancing the Effectiveness of Metagenomic-based Enzyme Discovery in Lignocellulolytic Microbial Communities.** *BioEnergy Research*, 2010, in press
78. Allgaier, Martin; Reddy, Amitha; Park, Joshua I.; Ivanova, Natalia; D’Haeseleer, Patrik; Lowry, Steve; Sapra, Rajat; Hazen, Terry C.; Simmons, Blake A.; Vander Gheynst, Jean S.; Hugenholtz, Philip. **Targeted discovery of glycoside hydrolases from a switchgrass-adapted compost community.** *PLoS One* (2010), 5(1)
79. Wurtzel, Omri; Sapra, Rajat; Chen, Feng; Zhu, Yiwen; Simmons, Blake A.; Sorek, Rotem. **A single-base resolution map of an archaeal transcriptome.** *Genome Research* (2010), 20(1), 133-141.
80. Kent, M. S.; Cheng, G.; Murton, J. K.; Carles, E. L.; Dibble, D. C.; Zendejas, F.; Rodriguez, M. A.; Tran, H.; Holmes, B.; Simmons, B. A.; Knierim, B.; Auer, M.; Banuelos, J. L.; Urquidi, J.; Hjelm, R. P. **Study of Enzymatic Digestion of Cellulose by Small Angle Neutron Scattering.** *Biomacromolecules* (2010), 11(2), 357-368.
81. Supratim Datta, Bradley Holmes, Joshua I. Park, Zhiwei Chen, Dean C. Dibble, Masood Hadi, Harvey W. Blanch, Blake A. Simmons and Rajat Sapra, **Ionic liquid tolerant hyperthermophilic cellulases for biomass pretreatment and hydrolysis,** *Green Chemistry*, (2010), 12(2), 338-345
82. Chenlin Li, Bernhard Knierim, Chithra Manisseri, Rohit Arora, Henrik V. Scheller, Manfred Auer, Kenneth P. Vogel, Blake A. Simmons, Seema Singh. **Comparison of dilute acid and ionic liquid pretreatment of switchgrass: Biomass recalcitrance, delignification and enzymatic saccharification,** *Bioresource Technology*, doi:10.1016/j.biortech.2009.10.066
83. Liu, Hanbin; Sale, Kenneth L.; Holmes, Bradley M.; Simmons, Blake A.; Singh, Seema. **Understanding the Interactions of Cellulose with Ionic Liquids: A Molecular Dynamics Study.** *Journal of Physical Chemistry B* (2010), 114(12), 4293-4301
84. Cetinkol, Ozgul Persil; Dibble, Dean C.; Cheng, Gang; Kent, Michael S.; Knierim, Bernhard; Auer, Manfred; Wemmer, David E.; Pelton, Jeffrey G.; Melnichenko, Yuri B.; Ralph, John; Simmons, Blake A.; Holmes, Bradley M. **Understanding the impact of ionic liquid pretreatment on eucalyptus.** *Biofuels* (2010), 1(1), 33-46.

85. Achyuthan, Komandoor Elayavalli; Adams, Paul David; Simmons, Blake Alexander; Singh, Anup Kumar. **Hitherto unrecognized fluorescence properties of coniferyl alcohol.** *Molecules* (2010), 15, 1645-1667.
86. Achyuthan, Komandoor Elayavalli; Adams, Paul David; Simmons, Blake Alexander; Singh, Anup Kumar - **Spectroscopic Analyses of the Biofuels-Critical Phytochemical Coniferyl Alcohol and Its Enzyme-Catalyzed Oxidation Products,** *Molecules*, (2010) 14(11), 4758-4778.
87. B.A. Simmons, S. Singh, B.M. Holmes, H.W. Blanch, **Ionic Liquid Pretreatment,** *Chemical Engineering Progress*, 2010, 106(3), 50-55
88. Ju Han, Seema Singh, Lan Sun, Blake Simmons, Manfred Auer and Bahram Parvin, **Chemical Profiling of the Plant Cell Wall through Raman Microspectroscopy,** IEEE ISBI 2010
89. Pereira, Jose Henrique; Sapra, Rajat; Volponi, Joanne V.; Kozina, Carol L.; Simmons, Blake; Adams, Paul D. **Structure of endoglucanase Cel9A from the thermoacidophilic Alicyclobacillus acidocaldarius.** *Acta Crystallographica, Section D: Biological Crystallography*, **2009**, D65(8), 744-750.
90. Singh, Seema; Simmons, Blake A.; Vogel, Kenneth P. **Visualization of biomass solubilization and cellulose regeneration during ionic liquid pretreatment of switchgrass.** *Biotechnology and Bioengineering*, **2009**, 104(1), 68-75.
91. Eizadora T. Yu, Frank J. Zendejas, Pamela D. Lane, Sara Gaucher, Blake A. Simmons and Todd W. Lane. **Triacylglycerol accumulation and profiling in the model diatoms *Thalassiosira pseudonana* and *Phaeodactylum tricornutum* (Baccilariophyceae) during starvation,** *Journal of Applied Phycology*, **2009**, 45.
92. Kent, Michael; Murton, Jaelyn; Zendejas, Frank; Tran, Huu; Simmons, Blake; Satija, Sushil; Kuzmenko, Ivan. **Nanosilica Formation At Lipid Membranes Induced by the Parent Sequence of a Silaffin Peptide,** *Langmuir*, **2009**, 25(1), 305-310.
93. Kent, Michael S.; Murton, Jaelyn K.; Dibble, Dean C.; Zendejas, Frank; Tran, Huu M.; Simmons, Blake A.; Banuelos, J. L.; Urquidi, Jacob; Hjelm, Rex P. **SANS study of enzymatic digestion of cellulose.** *PMSE Preprints*, **2009**, 101, 904.
94. Simmons, Blake A.; Loque, Dominique L.; Blanch, Harvey W. **Next-generation biomass feedstocks for biofuel production,** *Genome Biology*, **2008**, 9(12), 242.
95. Volponi, Joanne V.; Miller, M. Elizabeth; Simmons, Blake A. **Efficient attachment of native & deglycosylated glucose oxidase to Amberzyme oxirane polymeric support.** *Industrial Biotechnology*, **2008**, 4(3), 288-293.
96. Sabounchi, Poorya; Morales, Alfredo M.; Ponce, Pierre; Lee, Luke P.; Simmons, Blake A.; Davalos, Rafael V. **Sample concentration and impedance detection on a microfluidic polymer chip.** *Biomedical Microdevices*, **2008**, 10(5), 661-670
97. Blanch, Harvey W.; Adams, Paul D.; Andrews-Cramer, Katherine M.; Frommer, Wolf B.; Simmons, Blake A.; Keasling, Jay D. **Addressing the Need for Alternative Transportation Fuels: The Joint BioEnergy Institute.** *ACS Chemical Biology*, **2008**, 3(1), 17-20.
98. Davalos, Rafael V.; McGraw, Gregory J.; Wallow, Thomas I.; Morales, Alfredo M.; Krafcik, Karen L.; Fintshenko, Yolanda; Cummings, Eric B.; Simmons, Blake A. **Performance impact of dynamic surface coatings on polymeric insulator-based dielectrophoretic particle separators.** *Analytical and Bioanalytical Chemistry*, **2008**, 390(3), 847-855.
99. Bahr, D. F.; Reid, J. A.; Mook, W. M.; Bauer, C. A.; Stumpf, R.; Skulan, A. J.; Moody, N. R.; Simmons, B. A.; Shindel, M. M.; Allendorf, M. D. **Mechanical properties of cubic zinc carboxylate IRMOF-1 metal-organic framework crystals.** *Physical Review B: Condensed Matter and Materials Physics*, **2007**, 76(18), 184106/1-184106/7.

100. Greathouse, Jeffery A.; Cygan, Randall T.; Bradshaw, Robert W.; Majzoub, Eric H.; Simmons, Blake A. **Computational and spectroscopic studies of dichlorofluoroethane hydrate structure and stability.** *Journal of Physical Chemistry C*, **2007**, 111(45), 16787-16795.
101. Wallow, Thomas I.; Morales, Alfredo M.; Simmons, Blake A.; Hunter, Marion C.; Krafcik, Karen Lee; Domeier, Linda A.; Sickafoose, Shane M.; Patel, Kamlesh D.; Gardea, Andy. **Low-distortion, high-strength bonding of thermoplastic microfluidic devices employing case-II diffusion-mediated permeant activation.** *Lab on a Chip*, **2007**, 7(12), 1825-1831.
102. Eliason, M.T.; Charest, J.L.; Simmons, B.A.; Garcia, A.J.; King, W.P. **Nanoimprint fabrication of polymer cell substrates with combined microscale and nanoscale topography,** *Journal of Vacuum Science & Technology, B: Microelectronics and Nanometer Structures--Processing, Measurement, and Phenomena*, **2007**, 25(4), L31-L34.
103. Bauer, C.A., Timofeeva, T.V., Settersten, T.B., Patterson, B.D., Liu, V.H., Simmons, B.A., Allendorf, M.A., **Influence of Connectivity and Porosity on Ligand-Based Luminescence in Zinc Metal-Organic Frameworks,** *Journal of the American Chemical Society*, **2007**, 129(22), 7136-44.
104. Robinson, D.B.; Rognlien, J.L.; Bauer, C.A.; Simmons, B.A., **Dependence of amine-accelerated silicate condensation on amine structure,** *Journal of Materials Chemistry*, **2007**, 17(20), 2113-2119.
105. Bauer, C.A.; Robinson, D.B.; Simmons, B.A., **Silica particle formation in confined environments via bioinspired polyamine catalysis at near-neutral pH,** *Small*, **2007**, 3(1), 58-62.
106. Greathouse, J.A.; Cygan, R.T.; Simmons, B.A. **Vibrational spectra of methane clathrate hydrates from molecular dynamics simulation,** *The Journal of Physical Chemistry B*, **2006**, 110(13), 6428-6431.
107. Dentinger, P.M.; Simmons, B.A.; Cruz, E.; Sprague, M. **DNA-Mediated Delivery of Lipophilic Molecules via Hybridization to DNA-Based Vesicular Aggregates,** *Langmuir*, **2006**, 22(7), 2935-2937.
108. Simmons, B.A.; McGraw, G.J.; Davalos, R.V.; Fiechtner, G.J.; Fintschenko, Y.; Cummings, E.B. **The Development of Polymeric Devices as Dielectrophoretic Separators and Concentrators** *MRS Bulletin*, **2006**, 31(2), 120-124.
109. Lee, E.S.; Robinson, D.R.; Munoz, C.M.; Simmons, B.A.; Ellis, C.R.B.; Davalos, R.V. **Microfluidic electroporation of robust 10-micron vesicles for manipulation of picoliter volumes,** *Bioelectrochemistry*, **2006**, 69, 117-125.
110. Charest, J.L.; Eliason, M.T.; Garcia, A.J.; King, W.P.; Talin, A.A.; Simmons, B.A. **Polymer Cell Culture Substrates with combined Nanotopographical Patterns and Micropatterned Chemical Domains,** *Journal of Vacuum Science and Technology:B*, **2005**, 23, 3011-3014. [Republished online in the *Virtual Journal of Nanoscience & Nanotechnology*, **2005**, 12 (25).]
111. Rucker, V.; Havenstrite, K.L.; Simmons, B.A.; Shediak, R.; Herr, A.E. **Functional Antibody Immobilization on 3-Dimensional Polymeric Surfaces Generated by Reactive Ion Etching,** *Langmuir*, **2005**, 21(17), 7621-7625.
112. Long, T.P.; Simmons, B.A.; Rahimian, K.; Loy, D.A.; Wheeler, D.R.; Kline, S.R.; McElhanon, J.R.; Jamison, G.M. **Removable Surfactant Templates Based on Metathesis Depolymerization,** *Langmuir*, **2005**, 21(20), 9365-9373.
113. McElhanon, J.R.; Zifer, T.; Jamison, G.M., Long, T.P.; Kline, S.R.; Loy, D.A.; Wheeler, D.R.; Simmons, B.A. **Thermally Cleavable Surfactants based on Furan + Maleimide Diels-Alder Adducts,** *Langmuir*, **2005**, 21(8), 3259-3266

114. Mela, P.; van den Berg, A.; Fintschenko, Y.; Cummings, E.B.; Simmons, B.A.; Kirby, B.J. **The zeta potential of cyclo-olefin polymer microchannels and its effects on insulative (electrodeless) dielectrophoresis particle trapping devices**, *Electrophoresis*, **2005**, 26(9), 1792-1799.
115. Lapizco-Encinas, B.H.; Davalos, R.V.; Simmons, B.A.; Cummings, E.B.; Fintschenko, Y. **An Insulator-Based (Electrodeless) Dielectrophoretic Concentrator for Microbes in Water**, *Journal of Microbiological Methods*, **2005**, 62(3), 317-326.
116. Pathak, Srikant; Simmons, Blake A.; Chhabra, Swapnil R.; McElhanon, James R.; Dentinger, Paul M. **Surface Patterning of Gram Positive and Gram Negative Bacterial Cells Using a Small Hydrophobic Molecule**, *Sensor Letters*, **2005**, 3(2), 157-160.
117. Lapizco-Encinas, B.H.; Simmons, B.A.; Cummings, E.B.; Fintschenko, Y. **Dielectrophoretic Concentration and Separation of Live and Dead Bacteria**, *Analytical Chemistry*, **2004**, 76(6), 1571-1579.
118. Lapizco-Encinas, B.H.; Simmons, B.A.; Cummings, E.B.; Fintschenko, Y. **Insulator-Based Dielectrophoresis for the Selective Concentration and Separation of Live Bacteria in Water**, *Electrophoresis*, **2004**, 25(10-11), 1695-1704.
119. Simmons, B.; Agarwal, V.; Bose, A.; McPherson, G.; John, V. **Phase transition dynamics and microstructure evolution in a crystalline surfactant mesophase using time-dependent small angle neutron scattering**, *Langmuir*, **2003**, 19(15), 6329-6332.
120. John, V.; Simmons, B.; McPherson, G.; Bose, A. **Recent developments in materials synthesis in surfactant systems**, *Current Opinion in Colloid & Interface Science*, **2002**, 7(5, 6), 288-295.
121. Simmons, B.; Agarwal, V.; Bose, A.; McPherson, G.; John, V. **Small-angle neutron scattering study of mixed AOT and lecithin reverse micelles**, *Langmuir*, **2002**, 18, 8345-8349.
122. Simmons, B.; Taylor, C.; Li, S.; Liu, L.; McPherson, G.; Schwartz, D.; John, V. **Spatial compartmentalization of nanoparticles into strands of a self-assembled organogel**, *Nano Letters*, **2002**, 2(10), 1037-1042.
123. Liu, L.; Li, S.; Simmons, B.; Singh, M.; John, V.; McPherson, G.; Vivek, A.; Johnson, P.; Bose, A.; Balsara, N. **Nanostructured materials synthesis in a mixed surfactant mesophase**, *J. of Dispersion Science and Technology*, **2002**, 23(1-3), 441-452.
124. Simmons, B.; Li, S.; John, V.; McPherson, G.; Bose, A.; Zhou, W.; He, J. **Morphology of CdS nanocrystals synthesized in a mixed surfactant system**, *Nano Letters*, **2002**, 2(4), 263-268.
125. Simmons, B.; Irvin, G.; Agarwal, V.; Bose, A.; John, V.; McPherson, G.; Balsara, N. **Small-angle neutron scattering study of microstructural transitions in a surfactant-based gel mesophase**, *Langmuir*, **2002**, 18(3), 624-632.
126. Simmons, B.; Taylor, C.; Landis, F.; John, V.; McPherson, G.; Schwartz, D.; Moore, R. **Microstructure determination of AOT + phenol organogels utilizing small-angle x-ray scattering and atomic force microscopy**, *J. Am. Chem. Soc.*, **2001**, 123(10), 2414-2421.
127. Li, S.; Irvin, G.; Simmons, B.; Rachakonda, S.; Banerjee, S.; Premachandran, R.; John, V.; McPherson, G. **Structured materials syntheses in a self-assembled surfactant mesophase**, *Colloid and Surfaces, A: Physicochemical and Engineering Aspects*, **2000**, 174 (1-2), 275 - 281

128. Li, S.; John, V.; Irvin, G.; Simmons, B.; McPherson, G.; Zhou, W. **The use of organic templates to develop biomimetic chain structures of magnetic nanoparticles** *J. of Appl. Phys.*, **2000**, 87(9), 6211-6213.

BOOKS

Simmons, Blake; Editor. **Chemical and Biochemical Catalysis for Next Generation Biofuels**. [In: RSC Energy Environ. Ser., 2011; 4]. (2011), 194 pp.

BOOK CHAPTERS

1. Seema Singh and Blake Simmons, **Ionic Liquid Pretreatment: Mechanism, Performance, and Challenges**, *Aqueous Pretreatment of Plant Biomass for Biological and Chemical Conversion to Fuels and Chemicals*, Wiley Blackwell, ed. Charles Wyman, in press October 2012
2. Klein-Marcuschamer D.; Holmes B.; Simmons B.A.; and Blanch, H.W. **Biofuel System Economics**. In *Plant Biomass Conversion*. Eds. Elizabeth Hood, Randall Powell, Peter Nelson. NY: John Wiley & Sons. In press, 2010.
3. McGraw, Gregory J.; Kanouff, Michael; Ceremuga, Joseph T.; Davalos, Rafael V.; Lapizco-Encinas, Blanca H.; Mela, Petra; Shediach, Renee; Brazzle, John D.; Hachman, John T.; Fiechtner, Gregory J.; Cummings, Eric B.; Fintschenko, Yolanda; Simmons, Blake A.. **A comparison of insulator-based dielectrophoretic devices for the monitoring and separation of waterborne pathogens as a function of microfabrication technique**. ACS Symposium Series (2007), 980(Antiterrorism and Homeland Defense), 133-157.
4. Simmons, B.; Liu, L.; John, V.; Taylor, C.; Schwartz, D.; McPherson, G.; Bose, A.; Agarwal, V. **Templating nanostructure through the self-assembly of surfactants**, *Synthesis, Functionalization and Surface Treatment of Nanoparticles*, **2003**, 51-65, Editor: M.I. Baraton, Publisher: American Scientific Publishers
5. Li, S.; Liu, L.; Simmons, B.; Irvin, G.; Ford, C.; John, V.; McPherson, G.; Bose, A.; Johnson, P.; Zhou, W.; O'Connor, C. **Amphiphilic templates in the synthesis of nanostructure composites – from particles to extended structures**, *NATO Science Series II – Functional Gradient Materials and Surface Layers Prepared by Fine Particles Technology*, **2001**, 16, 61-67.
6. Irvin, G.; Banerjee, S.; Premachandran, R.; Simmons, B.; Li, S.; John, V.; McPherson, G.; Akkara, J.; Kaplan, D.; Zhou, W. **The use of surfactant self-assembly in the enzymatic synthesis of novel polymers**, *Surfactant Science Series*, **2001**, 100, 515-524.
7. Irvin, G.; Li, S.; Simmons, B.; John, V.; McPherson, G. **Crystal growth restriction through clathrate hydrate formation**, *Advances in Crystal Growth Inhibition Technologies*, **2001**, 255-265.
8. Irvin, G.; Li, S.; Simmons, B.; John, V.; McPherson, G.; Max, M.; Pellenburg, R. **Control of gas hydrate formation using surfactant systems – underlying concepts and new applications**, *Annals of the New York Academy of Sciences*, **2000**, 912, 515-526.

PATENTS

1. Bauer, Christina A.; Allendorf, Mark D.; Doty, F. Patrick; Simmons, Blake A. **Hybrid metal organic scintillator materials system and particle detector**. From U.S. (2011), US 7985868 B1 20110726.

2. Simmons, Blake A.; Talin, Albert Alec. **Surface engineered nanoparticles for improved surface enhanced Raman scattering applications and method for preparing same.** U.S. (2009), 11pp. CODEN: USXXAM US 7608461
3. Simmons, Blake A.; Bradshaw, Robert W.; Dedrick, Daniel E.; Anderson, David W. **Complex admixtures of clathrate hydrates in a water desalination method.** U.S. (2009), 11pp. CODEN: USXXAM US 7560028
4. Jamison, Gregory M.; Wheeler, David R.; Loy, Douglas A.; Simmons, Blake A.; Long, Timothy M.; McElhanon, James R.; Rahimian, Kamyar; Staiger, Chad L. **Metathesis depolymerizable surfactants.** U.S. (2008), 13pp., Cont.-in-part of U.S. Ser. No. 866,474 CODEN: USXXAM US 7358221
5. Wallow, Thomas I.; Hunter, Marion C.; Krafcik, Karen Lee; Morales, Alfredo M.; Simmons, Blake A.; Domeier, Linda A. **Method for joining patterned thermoplastic parts into layered structures.** U.S. (2008), 20pp. CODEN: USXXAM US 7390377
6. McElhanon, James R.; Jamison, Gregory M.; Long, Timothy M.; Loy, Douglas A.; Rahimian, Kamyar; Simmons, Blake A.; Staiger, Chad L.; Wheeler, David R.; Zifer, Thomas. **Preparation of thermally cleavable surfactants without deprotonation.** U.S. (2008), 12pp., Cont.-in-part of U.S. Ser. No. 866,475.
7. Simmons, Blake A.; Volponi, Joanne V.; Ingersoll, David; Walker, Andrew. **Conversion of sucrose to β -D-glucose using three-stage immobilized enzyme process.** U.S. (2007), 7264962
8. McElhanon, James R.; Simmons, Blake A.; Zifer, Thomas; Jamison, Gregory M.; Loy, Douglas A.; Rahimian, Kamyar; Long, Timothy M.; Wheeler, David R.; Staiger, Chad L. **Thermally cleavable surfactants based on furan-maleimide Diels-Alder adducts, scheme for Gemini surfactant, and surfactant manufacture.** U.S. (2006), 7022861
9. Cummings, E.B.; Even, W.R.; Dentinger, P.M.; Simmons, B.A. **Tamper-Indicating Barcode and Method** U.S. (2005), 6869015

PATENT APPLICATIONS

1. Zhang, Tao; Datta, Supratim; **Simmons, Blake A.**; Rubin, Edward M. **Useful halophilic, thermostable and ionic liquids tolerant cellulases from *Halorhabdus utahensis*.** From U.S. Pat. Appl. Publ. (2013), US 20130023015 A1 20130124.
2. By George, Anthe; Holmes, Bradley M.; Simmons, Blake. **Use of pressure to enhance ionic liquid pretreatment of biomass.** From PCT Int. Appl. (2012), WO 2012174459 A2 20121220.
3. Brennan, Timothy Charles R.; Holmes, Bradley M.; Simmons, Blake A.; Blanch, Harvey W. **Acid hydrolysis of biomass and the recovery of sugars by solvent extraction.** From U.S. Pat. Appl. Publ. (2012), US 20120301948 A1 20121129.
4. Brennan, Timothy T. C.; Holmes, Bradley M.; Simmons, Blake A.; Blanch, Harvey W. **Recovery of sugars from ionic liquid biomass liquor by solvent extraction with formation of sugar-boronic acid complex.** PCT Int. Appl. (2011), 38pp. CODEN: PIXXD2 WO 2011041455.
5. Chen, Zhiwei; Friedland, Gregory D.; Chhabra, Swapnil R.; Chivian, Dylan C.; Simmons, Blake A. **Glycoside hydrolases having multiple hydrolase activities derived from Cel5A endoglucanase of *Thermotoga maritima*.** From PCT Int. Appl. (2012), WO 2012151214 A1 20121108.

6. Sapra, Rajat; Park, Joshua I.; Datta, Supratim; Simmons, Blake A. **Novel thermophilic cellobiohydrolase from *Caldicellulosiruptor saccharolyticus***. From U.S. Pat. Appl. Publ. (2011), US 20110207182 A1 20110825.
7. Sapra, Rajat; Datta, Supratim; Chen, Zhiwei; Holmes, Bradley M.; Simmons, Blake A.; Blanche, Harvey W. **Thermostable cellulases, and mutants thereof, capable of hydrolyzing cellulose in ionic liquid**. PCT Int. Appl. (2010), 49pp. CODEN: PIXXD2 WO 2010124266
8. Davalos, Rafael V.; Simmons, Blake A.; Crocker, Robert W.; Cummings, Eric B. **Insulator-based dielectrophoresis microfluidic device with impedance measurements for analyte detection**. U.S. Pat. Appl. Publ. (2008), 20 pp. CODEN: USXXCO US 2008105565
9. Simmons, Blake A.; McGraw, Gregory J.; Salmi, Allen; Fiechtner, Gregory J.; Cummings, Eric B.; Fintschenko, Yolanda. **Methods and devices for high-throughput dielectrophoretic concentration**. U.S. Pat. Appl. Publ. (2006), 22pp. CODEN: USXXCO US 2006201868 .
10. Simmons, Blake A.; Hill, Vincent R.; Fintschenko, Yolanda; Cummings, Eric B. **Concentration and separation of biological organisms by ultrafiltration and dielectrophoresis**. From U.S. (2010), US 7811439 B1 20101012.
11. Chirica, Gabriela S.; Renzi, Ronald F.; Simmons, Blake A.. **Microliter scale solid phase extraction devices**. U.S. Pat. Appl. Publ. (2006), 25 pp. CODEN: USXXCO US 2006163143
12. Pathak, Srikant; Simmons, Blake; Dentinger, Paul M. **Lithographic method for attaching biological cells to a solid substrate using a small molecule linker**. U.S. Pat. Appl. Publ. (2005), 12 pp. CODEN: USXXCO US 2005136538
13. Simmons, Blake A.; Crocker, Robert; Dentinger, Paul Michael; Hunter, Marion Catherine; Patel, Kamlesh; Sala, Jonathan. **Polymerization welding and application to microfluidic devices**. U.S. Pat. Appl. Publ. (2005), 16 pp. CODEN: USXXCO US 2005100712
14. Rucker, Victor C.; Shediak, Renee; Simmons, Blake A.; Havenstrite, Karen L. **Reactive ion etched substrates with immobilized specific binding agents and methods of making and using them**. U.S. Pat. Appl. Publ. (2006), 21 pp. CODEN: USXXCO US 2006141484
15. Cummings, Eric B.; Fintschenko, Yolanda; Simmons, Blake. **Dielectrophoresis device and method having non-uniform arrays for manipulating particles**. U.S. Pat. Appl. Publ. (2004), 10 pp., Cont.-in-part of U.S. Ser. No. 176,322.
16. Simmons, Blake; Domeier, Linda; Woo, Noble; Shepodd, Timothy; Renzi, Ronald F. **Microfluidic structures and methods for integrating a functional component into a microfluidic device**. PCT Int. Appl. (2005), 17 pp. CODEN: PIXXD2 WO 2005069797

SELECTED CONFERENCE PROCEEDINGS

1. Kent, M. S.; Murton, J. K.; Satija, S.; Kuzmenko, I.; Simmons, B. A. **Nanosilica formation at lipid membranes induced by silaffin peptides**. Materials Research Society Symposium Proceedings, 2009, 1187 (Structure-Property Relationships in Biomineralized and Biomimetic Composites), No pp. given, Paper #: 1187-KK05-16.
2. Xie, He; Zendejas, Frank; Tran, Huu M.; Simmons, Blake A.; Debusschere, Bert J.; Hickner, Michael A. **Chemical modification and transport properties of nanoporous membranes**. Polymer Preprints (American Chemical Society, Division of Polymer Chemistry), 2008, 49(2), 513-514.

3. Kent, M.S., et al. **Effect of Agitation/Flow on the Enzymatic Digestion of Cellulose: a Structural Study by SANS.** Polymer Preprints, ACS-PMSE symposium on Small Angle Neutron Scattering from Polymers and Complex Fluids, 238th ACS National Meeting, 2009, Washington DC, Aug 16-20, 2009.
4. Doty, F. P.; Bauer, C. A.; Grant, P. G.; Simmons, B. A.; Skulan, A. J.; Allendorf, M. D. **Radioluminescence and radiation effects in metal organic framework materials.** Proceedings of SPIE-The International Society for Optical Engineering, 2007, 6707(Penetrating Radiation Systems and Applications VIII), 67070F/1-67070F/8.
5. Wilson, Tiffany M. S.; Doty, F. P.; Chinn, Douglas A.; King, Michael J.; Simmons, Blake A.. **Order and charge collection correlations in organic materials for neutron detection.** Proceedings of SPIE-The International Society for Optical Engineering, 2007, 6707(Penetrating Radiation Systems and Applications VIII), 670710/1-670710/8.
6. Bradshaw, Robert W.; Simmons, Blake A.; Majzoub, Eric H.; Clift, W. Miles; Dedrick, Daniel E. **Clathrate Hydrates for Production of Potable Water.** Materials Research Society Symposium Proceedings (2006), 930E(Materials Science of Water Purification), No pp. given, Paper #: 0930-JJ01-06.
7. Morales, Alfredo M.; Brazzle, John D.; Crocker, Robert W.; Domeier, Linda A.; Goods, Eric B.; Hachman, John T., Jr.; Harnett, Cindy K.; Hunter, Marion C.; Mani, Seethambal S.; Mosier, Bruce P.; Simmons, Blake A.. **Fabrication and characterization of polymer microfluidic devices for bio-agent detection.** Proceedings of SPIE-The International Society for Optical Engineering, 2005, 5716(Reliability, Packaging, Testing, and Characterization of MEMS/MOEMS IV), 89-94.
8. Greg J. McGraw, Rafael V. Davalos, John D. Brazzle, John T. Hachman, Marion C. Hunter, Jeffery M. Chames, Gregory J. Fiechtner, Eric B. Cummings, Yolanda Fintschenko, Blake A. Simmons **Polymeric microfluidic devices for the monitoring and separation of water-borne pathogens utilizing insulative dielectrophoresis,** Proceedings of SPIE-The International Society for Optical Engineering, 2005, 5715, 59-68.
9. Simmons, B.A.; Lapizco-Encinas, B.H.; Shediach, R.; Hachman, J.; Chames, J.; Fiechtner, G.; Cummings, E.; Fintschenko, Y. **Polymeric insulating post electrodeless dielectrophoresis (EDEP) for the monitoring of water-borne pathogens.** Polymer Preprints (American Chemical Society, Division of Polymer Chemistry), 2004, 45(1), 527-528.
10. Fiechtner, Gregory J.; Skulan, Andrew J.; Barrett, Louise M.; Singh, Anup K.; Cummings, Eric B.; Simmons, Blake A.. **Continuous particle filtration and concentration by multigradient dielectrophoresis.** FED (American Society of Mechanical Engineers), 2004, 260(Proceedings of the ASME Fluids Engineering Division--2004), 133-138.
11. Simmons, Blake; Lapizco-Encinas, Blanca; Shediach, Renee; Hachman, Johnathan; Chames, Jeffrey; Brazzle, John; Ceremuga, Joseph; Fiechtner, Gregory; Cummings, Eric; Fintschenko, Yolanda. **Polymeric insulator-based (electrodeless) dielectrophoresis (iDEP) for the monitoring of water-borne pathogens.** Special Publication - Royal Society of Chemistry, 2004, 297(Micro Total Analysis Systems 2004, Volume 2), 171-173.
12. Simmons, Blake A.; Lapizco-Encinas, Blanca H.; Shediach, Renee; Hachman, Johnathan; Chantes, Jeffrey; Fiechtner, Gregory; Cummings, Eric; Fintschenko, Yolanda. **Polymeric insulating post electrodeless dielectrophoresis (EDEP) for the monitoring of water-borne pathogens.** Polymer Preprints (American Chemical Society, Division of Polymer Chemistry), 2004, 45(1), 527-528.

13. Lee, E.S.; Munoz, C.M.; Simmons, B.A.; Ellis, C.R.B.; Davalos, R.V. **Feasibility study on the use of temperature-dependent liposomes for variable concentration profiles in drug delivery applications**, Proceedings of IMECE04, 2004 ASME International Mechanical Engineering Congress, Nov. 2004
14. Liu, L.; Ford, C.; Singh, M.; Simmons, B.; Li, S.; John, V. T.; McPherson, G. L.; Bose, A.; Sennett, M. **Surfactant mesophases and the templated synthesis of polymer-ceramic nanocomposites**. *Proceedings of the American Society for Composites*, Technical Conference, **2001**, 16th, 549-555.
15. Cummings, E.B.; Fiechtner, G.J.; Singh, A.K.; Simmons, B.A.; Fintschenko, Y.; Lapizco-Encinas, B.H. **Continuous Streaming Dielectrophoretic Filter/Concentrators**, *MicroTAS 2003*, **2003**, 41-44.
16. Fintschenko, Y.; Simmons, B.A.; Lapizco-Encinas, B.H.; Cummings, E.B. **Insulating Post Dielectrophoresis for the Selective Concentration of Bacteria**, *MicroTAS 2003*, **2003**, 65-68.
17. Lapizco-Encinas, B.H.; Simmons, B.A.; Cummings, E.B.; Fintschenko, Y. **High-Throughput Electrodeless Dielectrophoresis of Viruses in Polymeric Microdevices**, *MicroTAS 2003*, **2003**, 607-610.

SELECTED PRESENTATIONS/CONFERENCES (> 300)

1. Blake Simmons (invited) **Replacing the Whole Barrel of Oil with Plants and Microbes**, Science at the Theater, Berkeley, CA, May 13, 2013.
2. Blake Simmons (invited) **Development of Advanced Biomass Conversion Pathways at JBEI**, 6th Annual Berkeley Bioeconomy Conference, Berkeley, CA, March 27–28, 2013.
3. Blake Simmons (invited plenary) **Ionic liquid pretreatment: Are we there yet?** 5th Annual Congress on Ionic Liquids, Algarve, Portugal, April 21-25, 2013.
4. Blake A. Simmons, **Introduction to JBEI**, Bay Area Council Board Meeting, January 25, 2013.
5. Blake A. Simmons, **The Intersection of Ionic Liquids and Biology**, QAAFI Lecture, University of Queensland, Brisbane, Australia, February 5, 2013.
6. Jian Shi, Sonny Zhang, Taylor Cu, Vicki S. Thompson, Neal A. Yancey, Vitalie Stavila, Blake A. Simmons, and Seema Singh. **Impact of Mixed Feedstocks and Feedstock Densification on Ionic Liquid Pretreatment Efficiency**, DOE-GSP 2013 Annual Meeting, Washington, DC, February 25-27, 2013.
7. Steven W. Singer, Shara D. McClendon, Tanveer Baath, Christopher J. Petzold, Kerrie W. Berry, Igor V. Grigoriev, Paul D. Adams, and Blake A. Simmons. ***Thermoascus aurantiacus* is a promising thermophilic fungal platform for enzymatic biomass deconstruction**, DOE-GSP 2013 Annual Meeting, Washington, DC, February 25-27, 2013.
8. Thomas Rüegg, Eun-Mi Kim, Jay Keasling, Steve Singer, Blake Simmons, Taek Soon Lee and Michael Thelen. **Engineering Bacterial Tolerance to an Ionic Liquid Used in Biofuel Production**, DOE-GSP 2013 Annual Meeting, Washington, DC, February 25-27, 2013.
9. Kai Deng, Xiaoliang Cheng, Richard Heins, Jian Shi, Taichi Takasuka, Lai F. Bergeman, Ken L. Sale, Samuel Deutsch, Eddy Rubin, Matthew Greving, Brian G. Fox, Anup K. Singh, Blake A. Simmons, Paul D. Adams, and Trent R. Northen. **Large-Scale Characterization of Glycoside**

Hydrolase Enzymes for Biofuel Development, DOE-GSP 2013 Annual Meeting, Washington, DC, February 25-27, 2013.

10. Richard Heins, Xiaoliang Cheng, Sangeeta Nath, Kai Deng, Ben Bowen, Paul Adams, Eddy Rubin, Dylan Chivian, Patrik D'Haeseleer, Trent Northen, Samuel Deutsch, Blake Simmons, and Ken Sale. **Discovery of [C2mim][OAc] tolerant enzymes using a multiplexed high-throughput screening pipeline**, DOE-GSP 2013 Annual Meeting, Washington, DC, February 25-27, 2013.
11. Kai Deng, Taichi Takasuka, Samuel Deutsch, Xiaoliang Cheng, Richard Heins, Jian Shi, Lai F. Bergeman, Seema Singh, Ken L. Sale, Eddy Rubin, Blake A. Simmons, Paul D. Adams, Anup K. Singh, Brian G. Fox, Trent R. Northen. **Studies of Biomass Enzymatic Hydrolysis by Tagged Glycans**, DOE-GSP 2013 Annual Meeting, Washington, DC, February 25-27, 2013.
12. Blake Simmons (invited) **Advanced Biofuels Research at JBEI**. UC-Berkeley International Master's Program Seminar, March 9, 2013.
13. Shi, Jian; Deng, Kai; Tran, Huu; Thompson, Vicki S.; Yancey, Neal A.; Stavila, Vitalie; Northen, Trent R.; Simmons, Blake A.; Singh, Seema. **Ionic liquid and dilute acid pretreatment of pelletized mixed feedstocks and enzyme optimization using a high throughput screening platform**. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013.
14. Cruz, Alejandro G.; Varanasi, Patanjali; Scullin, Chessa; Mu, Chen; Cheng, Gang; Stavila, Vitalie; Mentel, Jeff; Chuang, Yi-De; Simmons, Blake A.; Singh, Seema. **Impact of high biomass loading on ionic liquid pretreatment**. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013.
15. Wu, Dong; Singh, Seema; Sudar, Damir; Simmons, Blake. **Application of advanced integrated imaging methods in the field of biomass degradation for biofuel production**. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013.
16. Kent, Michael S.; Simmons, Blake A. **Advanced Biofuels at JBEI: Summary of Progress** NM Chapter of American Society of Microbiology, Albuquerque, NM, April 11, 2013.
17. N. Sun, N. Sathitsuksanoh, K. Tran, V. Stavila, A. George, K. L. Sale, S. Singh, B. A. Simmons, B. Holmes **Acid Catalyzed Hydrolysis of Biomass in Ionic Liquid and Separation of Sugars Using Liquid-Liquid Extraction**. 2013 MRS Spring, San Francisco, CA, April 1-5, 2013.
18. Vimalier Reyes-Ortiz, Richard A. Heins, Gang Cheng, Edward Y. Kim, Briana C. Vernon, Paul Adams, Ken L. Sale, Massod Z. Hadi, Blake Simmons, Michael S. Kent and Danielle Tullman-Ercek **Addition of a carbohydrate-binding module enhances cellulase penetration into cellulose substrates**. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 29-May 2, 2013.
19. Jian Shi, Kai Deng, Huu Tran, Vicki S. Thompson, Neal A. Yancey, Vitalie Stavila, Trent Northen, Blake A. Simmons and Seema Singh **Pretreatment of pelletized mixed feedstocks and enzyme optimization using a high throughput screening platform**. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 29-May 2, 2013.
20. Christopher W. Simmons, Amitha P. Reddy, Patrik D'haeseleer, Jane I. Khudyakov, Helcio Burd, Masood Z. Hadi, Blake A. Simmons, Steven W. Singer, Michael P. Thelen and Jean S. VanderGheynst **Targeted discovery of thermophilic microbial communities and enzymes that deconstruct lignocellulose in a high-solids environment via metagenomic analysis**. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 29-May 2, 2013.

21. Ning Sun, Aaron Socha, Noppadon Sathitsuksanoh, Jian Shi, Sonny Zhang, Anthe George, Blake Simmons and Seema Singh **Determining the Impact of Cations and Anions of Ionic Liquids on Biomass Pretreatment Efficiency**. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 29-May 2, 2013.
22. Jian Shi, John M. Gladden, Pavan Kambam, Lucas Sandavol, Sonny Zhang, Steve W. Singer, Blake A. Simmons and Seema Singh **Consolidated “One-pot” Ionic Liquid (IL) Pretreatment and Saccharification of Switchgrass using a Thermostable, IL tolerant Enzyme Cocktail**. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 29-May 2, 2013.
23. Jose A. Perez-Pimienta, Ma. Teresa Ponce-Noyola, Monica G. Lopez-Ortega, Patanjali Varanasi, Vitalie Stavila, Gang Cheng, Seema Singh and Blake A. Simmons **Comparison of the impact of ionic liquid pretreatment on recalcitrance of agave bagasse and switchgrass**. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 29-May 2, 2013.
24. Deepti Tanjore, Chenlin Li, Wei He, Jessica Wong, James Gardner, Ken Sale, Seema Singh and Blake Simmons **Resolving Process Scale-Up Issues of Ionic Liquid Pretreatment and Saccharification of Biomass to Monomeric Sugars**. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 29-May 2, 2013.
25. Jose A. Perez-Pimienta, Ma. Teresa Ponce-Noyola, Jose A. Chavez-Carvayar, Vitalie Stavila, Gang Cheng, Seema Singh and Blake Simmons **Effect of calcium oxalate in agave bagasse using ionic liquid and oxidative delignification pretreatment**. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 29-May 2, 2013.
26. Michael Kent, Dong Wu, Heins Richard, Briana Vernon, Kenneth Sale, Seema Singh and Blake Simmons **Separating the effects of enzymes and mediators in lignin depolymerization**. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR, April 29-May 2, 2013.
27. Blake Simmons (Invited) **Recent Developments in Advanced Biofuels at JBEI**, LLNL Retiree Forum, Livermore, CA, May 14, 2013.
28. He, Wei; Gardner, James L.; Wong, Jessica; Tanjore, Deepti; Li, Chenlin; Banka, Rakesh; Singh, Seema; Simmons, Blake. **Calorimetry study of the process energy flow in ionic liquid pretreatment of lignocellulosic biomass**. 244th ACS National Meeting & Exposition, Philadelphia, PA, United States, August 19-23, 2012.
29. Steven W. Singer, John M. Gladden, Stephanie A. Eichorst, Patrik D'haeseleer and Blake A. Simmons. **Bacterial community dynamics and glycoside hydrolase activities during thermophilic biomass deconstruction**. 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
30. Richard A. Heins, Xiaoliang Cheng, Kai Deng, Suzan Yilmaz, Anup Singh, Paul Adams, Blake Simmons, Kenneth L. Sale and Trent Northen. **A multiplexed, high-throughput screening pipeline for lignocellulosic enzyme discovery and evolution**. 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
31. Anthe George, Zhiwei Chen, Ning Sun, Vitalie Stavila, Kim Tran, Seema Singh, Kenneth Sale, Niall Mac Dowell, Blake Simmons, Tom Welton, Brad M. Holmes and Jason P. Hallett. **Novel ionic liquid and water mixtures for biomass dissolution**. 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
32. Blake Simmons, Henrik Scheller, Paul Adams, Harvey Blanch, and Jay Keasling. **Beyond Ethanol: Advanced Biofuels Research at the Joint BioEnergy Institute**. 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.

33. Alejandro G. Cruz, Patanjali Varanasi, Chessa Scullin, Chen Mu, Jeff Mentel, Blake A. Simmons, and Seema Singh. **Impact of Biomass Loading on Rheological Properties during Pretreatment.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
34. Patanjali Varanasi, Manfred Auer, Paul Adams, Blake A. Simmons and Seema Singh. **Estimation of biomass composition and saccharification kinetics using Fourier transform infrared spectroscopy.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
35. Ning Sun, Kim Tran, Anthe George, Blake A. Simmons and Bradley M. Holmes. **Acid catalyzed hydrolysis of switchgrass in ionic liquid and separation of sugars using liquid-liquid extraction.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
36. Anthe George, Niall Mac Dowell, Nilay Shah, Blake A. Simmons, Tom Welton, Jason P. Hallett, Ning Sun and Brad M. Holmes. **Modelling of task-specific ionic liquids for biomass deconstruction with the soft-SAFT equation of state.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
37. Lan Sun, Chenlin Li, Zhengjun Xue, Blake A. Simmons and Seema Singh. **Unveiling tissue specific pretreatment dynamics of corn stover by ionic liquid at the cell level.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
38. Zhiwei Chen, Greg D. Friedland, Dylan Chivian, Swapnil R. Chhabra, Adam P. Akin, Blake A. Simmons and Kenneth L. Sale. **Tracing the determinants of substrate specificity in a diverse subfamily of glycoside hydrolase family 5.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
39. Shara D. McClendon, Blake A. Simmons and Steven W. Singer. **Development and characterization of thermophilic fungal enzyme cocktails for biomass saccharification.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
40. Chessa Scullin, Anita Skarstad, Børre Tore Børresen, Hans Kristian Kotlar, Blake Simmons and Seema Singh. **Optimization of sugar production from brown algae.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
41. Noppadon Sathitsuksanoh, Ning Sun, Y-H. Percival Zhang, Blake A. Simmons and Anthe George. **Cellulose solvent-based lignocellulose pretreatment enables efficient pretreatment of mixed feedstocks: Miscanthus and poplar.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
42. Christopher W. Simmons, Amitha P. Reddy, Lauren K. Jabusch, Joshua T. Claypool, Steven W. Singer, Blake A. Simmons and Jean S. VanderGheynst. **Thermophilic enrichment of microbial communities in the presence of 1-ethyl, 3-methylimidazolium acetate.** 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, LA, April 30 - May 3, 2012.
43. Blake Simmons (Invited) **Ionic Liquid Pretreatment**, EBI Pretreatment Workshop, Berkeley, CA, April 4, 2012.
44. Seema Singh, Kevin George, Rohit Arora, Chenlin Li, Ian Mathews, Jay Keasling, Taek Soon Lee and Blake A. Simmons **Feedstock Agnostic Pretreatment Technology**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.

45. Daniel Klein-Marcuschamer, Piotr Oleskowicz-Popiel, Blake A. Simmons, and Harvey W. Blanch. **The Challenge of Enzyme Cost in the Production of Lignocellulosic Biofuels**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
46. Gang Cheng. **Understanding the Effect of Ionic Liquid Treatment on the Structures of Lignins in Solutions by Small Angle Neutron Scattering**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
47. Aymerick Eudes, Jin Sun Kim, Anthe George, Purba Mukerjee, Brigitte Pollet, Peter I. Benke, Fan Yang, Prajakta Mitra, Lan Sun, Ozgul Persil-Cetinkol, Salem Chabout, Grégory Mouille, Ludivine Soubigou-Taconnat, Sandrine Balzergue, Seema Singh, Bradley M. Holmes, Aindrila Mukhopadhyay, Jay D. Keasling, Blake A. Simmons, Catherine Lapierre, John Ralph, and Dominique Loque. **Biosynthesis and Incorporation of Side-Chain Truncated Lignin Monomers to Reduce Lignin Polymerization and Enhance Saccharification**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
48. Seema Singh, Kevin George, Rohit Arora, Chenlin Li, Ian Mathews, Jay Keasling, Taek Soon Lee, and Blake Simmons. **Feedstock Agnostic Pretreatment Technology**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
49. Hanbin Liu, Gang Cheng, Mike Kent, Vitalie Stavila, Kenneth L. Sale, Blake A. Simmons, and Seema Singh. **Understanding the Interactions of Cellulose with Ionic Liquids and Ionic Liquid/Water Binary Mixture: A Molecular Dynamics Study**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
50. Lan Sun, Jacob Katsnelson, Patanjali Varanasi, Rita Sharma, Manoj Sharma, Miguel Vega-Sanchez, Marcin Zemla, David Larson, Pamela Ronald, Blake Simmons, Paul Adams, Seema Singh, and Manfred Auer. **A Systematic Pipeline for Biomass Characterization Using Aligned Mechanical Stress Analysis, Polarized Raman Microspectroscopy and Scanning Electron Microscopy**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
51. Gang Cheng, Supratim Datta, Chao Wang, Zelin Liu, Jaclyn K. Murton, Page Brown, Michael Jablin, Manish Dubey, Jaroslaw Majewski, Candice Halbert, James Browning, Alan Esker, Brian J. Watson, Haito Zhang, Steven W. Hutcheson, Dale Huber, Blake A. Simmons, and Michael S. Kent. **Interaction of Endoglucanases with Amorphous Cellulose Revealed by Quartz Crystal Microbalance and Neutron Reflectivity**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
52. Xiaoliang Cheng, Wolfgang Reindl, Kai Deng, Benjamin Bowen, Bergeman Lai, John M. Gladden, Steven W. Singer, April Wong, Terry C. Hazen, Brian Fox, Kenneth Sale, Blake A. Simmons, Anup K. Singh, Jay Keasling, Paul D. Adams, and Trent R. Northen. **Nanostructure-Initiator Mass Spectrometry (NIMS): High Throughput Enzyme Activity Assays for Biofuel Development**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
53. Richard Heins, Vimalier Reyes-Ortiz, Huu Tran, Edward Kim, Nathan Hillson, Rajat Sapra, Kenneth Sale, Blake Simmons, Danielle Tullman-Ercek, and Masood Hadi. **Tuning Cellulase Activity Using Carbohydrate Binding Modules**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
54. G.D. Friedland, Z. Chen, J. Pereira, S.A. Reveco, R. Chan, J.I. Park, M.P. Thelen, P.D. Adams, A.P. Arkin, J.D. Keasling, H.W. Blanch, B.A. Simmons, K.L. Sale, D. Chivian, and S. Chhabra. **Tracing the Determinants of Dual-Substrate Specificity in a Diverse Subfamily of Family 5 Glycoside Hydrolases**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.

55. Patrik D'haeseleer, John Gladden, Joshua Park, Alyssa Redding, Chris Petzold, Martin Allgaier, Dylan Chivian, Steve Singer, Terry Hazen, and Blake Simmons. **Metagenomics, Metabolic Reconstruction, and High-Resolution Proteomics of Biomass Degradation in a Thermophilic Bacterial Community**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
56. Thomas Rüegg, Patrik D'haeseleer, Sharon Borglin, Kristen DeAngelis, Hannah Woo, Erika Lindquist, Jane Khudyakov, Blake Simmons, and Michael P. Thelen. **Transferring Ionic Liquid Tolerance from the Rain Forest to E. coli**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
57. Greg Bokinski, Pamela Peralta-Yahya, Anthe George, Bradley M. Holmes, Eric Steen, Jeffrey Dietrich, Taek Soon Lee, Danielle Tullman-Ercek, Christopher Voigt, Blake A. Simmons, and Jay Keasling. **Engineering E. coli to Convert Plant Biomass Into Fuels**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
58. Trey K. Sato, Jason Shao, Dana J. Wohlbach, Li Hinchman, James McCurdy, Enhai Xie, Adam Halstead, Wendy Schackwitz, Christa Pennacchio, Bruce E. Dale, Blake A. Simmons, David B. Hodge, Venkatesh Balan, Kyria Boundy-Mills, Yury Bukhman, and Audrey P. Gasch. **Phenotypic and Genomic Characterization of Natural Isolates of Saccharomyces cerevisiae for Growth Tolerance in Lignocellulosic Hydrolysates**, Genomic Science Awardee Meeting, Bethesda, MD, February 26-29, 2012.
59. Simmons, Blake. **Advanced Biofuels Research at JBEI**, Combustion Research Facility Research Highlight Symposium, February 2, 2012
60. Hanbin Liu, Supratim Datta, Blake A. Simmons and Kenneth Sale. **Molecular Dynamics Studies of the Structure and Dynamics of An Endoglucanase Cel9A In Ionic Liquid Solutions**. AIChE National Meeting, October 16-21, 2011, Minneapolis, MN.
61. Alejandro G. Cruz, Jeff Mentel, Seema Singh and Blake Simmons, Invited. **Rheological Properties of Biomass Deconstruction Process Using Ionic Liquid**. AIChE National Meeting, October 16-21, 2011, Minneapolis, MN.
62. Gang Cheng, Vimalier Reyes-Ortiz, Supratim Datta, Zelin Liu, Chao Wang, Jaclyn K. Murton, Page Brown, Michael Jablin, Manish Dubey, Jaroslaw Majewski, Candice Halbert, James Browning, Alan Esker, Brian J. Watson, Haitao Zhang, Steven W. Hutcheson, Kenneth L. Sale, Blake A. Simmons, Danielle Tullman-Ercek, Michael S. Kent. **Interactions of Endoglucanases with Amorphous Cellulose Films Resolved by Neutron Reflectometry and Quartz Crystal Microbalance with Dissipation Monitoring**. American Vacuum Society 58th International Symposium and Exhibition, Nashville, TN, Oct 30 – Nov 4, 2011.
63. Torr, Kirk M.; Love, Karen T.; Nanayakkara, Bernadette; Donaldson, Lloyd A.; Holmes, Bradley M.; Simmons, Blake A.; MacRae, Elspeth A. **Improving cellulose saccharification in Pinus radiata compression wood by ionic liquid pretreatment**. 241st ACS National Meeting & Exposition, Anaheim, CA, United States, March 27-31, 2011.
64. Kent, Michael S.; Cheng, Gang; Liu, Zelin; Datta, Supratim; Murton, Jaclyn; Jablin, Michael; Majewski, Jaroslaw; Halbert, Candice; Browning, James; Ankner, John; Akgun, Bulent; Esker, Alan; Reyes-Ortiz, Vimalier; Tullman-Ercek, Danielle; Simmons, Blake. **Neutron reflectometry and QCM-D study of the interaction of cellulase enzymes with films of amorphous cellulose**. 241st ACS National Meeting & Exposition, Anaheim, CA, United States, March 27-31, 2011.
65. Chen, Zhiwei; Tran, Huu M.; Hadi, Masood Z.; Simmons, Blake A.; Sale, Kenneth L. **Directed evolution of a thermophilic cellulase for biomass hydrolysis**. 241st ACS National Meeting & Exposition, Anaheim, CA, United States, March 27-31, 2011.

66. Simmons, B.A. et al (Invited) **Overcoming the Commercialization Challenges of Starches, Polysaccharides, and Oils from Biomass**. 2nd Annual Summit on Biobased Materials and Products, San Diego, February 15, 2011.
67. Simmons, B.A. et al (Invited) **From Concept to Reality - Ionic Liquid Pretreatment**. 2nd Annual Summit on Biobased Materials and Products, San Diego, February 17, 2011.
68. Simmons, B.A. et al (invited) **Advanced Biofuels and Combustion Science**. University of Michigan US-China Clean Energy Workshop, Ann Arbor, MI, December 8, 2010.
69. Singh, S.; Li, C.; Liu, H.; Varanasi, P.; Sun, L.; Cruz, A.; Cheng, G.; Kent, M.; Arora, R.; Ong, M.; Chen, J.; Dibble, D.; Auer, M.; Scheller, H.; Benke, P.; Adams, P.; Balan, V.; Vogel, K.; Dale, B.; Simmons, B. **Understanding and overcoming biomass recalcitrance**. Pacificchem 2010, International Chemical Congress of Pacific Basin Societies, Honolulu, HI, United States, December 15-20, 2010.
70. Klein-Marcuschamer, D, Simmons, BA, Blanch, HW. **Technoeconomic analysis at JBEI**. BRC Seminar, December 12, 2010.
71. Daniel Klein-Marcuschamer, Blake Simmons, and Harvey W Blanch, **A Wiki-Based Platform for Technoeconomic Analysis of Lignocellulosic Ethanol Biorefineries**, AIChE 2010 Annual Meeting, Salt Lake City, Utah, November 7th-12th 2010.
72. Simmons, B.A. et al (Invited) **Breaking the Pretreatment and Biofuels Barriers: R&D at JBEI**. UC-Davis Biotechnology Seminar Series, UC-Davis, Davis, CA, November 19, 2010.
73. Gladden, J. M., A. M. Reddy, J. S. VanderGheynst, T. C. Hazen, B. A. Simmons, P. Hugenholtz, and S. W. Singer. Invited. **Targeted enzyme discovery in feedstock-adapted microbial communities**. February 2010, Washington, DC. Genomics:GTL Contractor-Grantee Workshop VIII, USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2010.
74. DeAngelis, K. M., M. Allgaier, W. L. Silver, Y. Chavarria, J. Fortney. P. Hugenholtz, B. Simmons, K. Sublette, and T. C. Hazen. Invited. **Trapping lignin degrading microbes in tropical forest soil**. February 2010, Washington, DC. Genomics:GTL Contractor-Grantee Workshop VIII, USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2010.
75. Liu, H., Sale, K., Pereira J.H., Adams, P.D. Simmons, B.A., and Sapra,R. **Probing the Function of N-Terminal Ig Domain in the Crystal Structure of Endoglucanase Cel9A from the Thermoacidophilic Alicyclobacillus acidocaldarius Using Computational Modeling**, The 2010 Berkeley Mini Statistical Mechanics Meeting, Berkeley, CA, January 8- 10, 2010.
76. J.D. Keasling*, H.W. Blanch, P.D. Adams, P.C. Ronald, and B.A. Simmons, **The Joint BioEnergy Institute: Addressing the Challenges of Converting Biomass to Fuels**, GTL Contractors Meeting, February 2010
77. D. Klein-Marcuschamer, P. Oleskoqicz-Popiel, B.A. Simmons, H.W. Blanch, **Techno-Economic Modeling of Cellulosic Biorefineries**, GTL Contractors Meeting, February 2010
78. B. Knierim, L. Prak, M. Zemla, D. Jorgens, P. Varanasi, C. Li, O. Cetinkol, L. Sun, K. Tran, Y. Verhertbruggen, H.V. Scheller, D.C. Dibble, B.M. Holmes, B.A. Simmons, P.D. Adams, S. Singh and M. Auer, **High-Resolution Electron Microscopy Imaging of Plants and Pretreated Biomass**, GTL Contractors Meeting, February 2010

79. A. George, P. Benke, A. Jen K. Tran, B. Simmons, B. Holmes, **Ionic liquid ion influence on the Polydispersity of Isolated Lignins in Biofuel Production**, GTL Contractors Meeting, February 2010
80. L. Sun, B. Simmons, S. Singh, **Understanding IL Pretreatment of Lignocellulosic Biomass by Hyperspectral Raman Imaging**, GTL Contractors Meeting, February 2010
81. J. Park, M. Kent, S. Datta, B. Holmes, D. Dibble, Z. Huang, B. Simmons, R. Sapra, **Characterization of a hyperthermophilic cellobiohydrolase from *C. saccharolyticus*: Enzymatic hydrolysis of cellulose mediated by substrate binding**, GTL Contractors Meeting, February 2010
82. P. Varanasi, M. Auer, B. Simmons, S. Singh, **IL Pretreatment of Biomass: Dynamic studies with light scattering, GC-MS and FTIR**, GTL Contractors Meeting, February 2010
83. A. Chandrasekaran, R. Bharadwaj, J. Park, M. Hadi, R. Sapra, B. Simmons, P. Adams, and A. Singh, **A microscale platform for integrated cell-free expression and screening of cellulase activity**, GTL Contractors Meeting, February 2010
84. R. Bharadwaj, A. Chandrasekaran, A. Wong, B. Simmons, P. Adams, A. Singh, **Microfluidic Technology for Biofuels Applications**, GTL Contractors Meeting, February 2010.
85. M Vega-Sanchez, M. Chern, W. Sze-To, L. Bartley, A. Smith, B. Holmes, R. Bharadwaj, B. Simmons, P. Ronald, **Forward genetic screen to identify rice mutants with changes in cell wall composition and saccharification efficiency**, GTL Contractors Meeting, February 2010.
86. M. Le Gros, G. McDermott, M. Uchida, C. Knoechel, D. Parkinson, S. Singh, B. Simmons, C. Larabell, **New imaging tools for bioenergy research: correlated soft x-ray tomography and visible light cryo-microscopy**, GTL Contractors Meeting, February 2010.
87. B. Simmons (invited) **Biofuels and beyond: advancing renewable energy**, Cleantech to Market, February 20, 2010.
88. B. Simmons (invited) **Advanced biofuels: Research at the Joint BioEnergy Institute**, SCERC Forum, March 9, 2010.
89. B. Simmons (invited) **Ionic liquids: next-generation biomass pretreatment**, iBiOK 2010 Conference, Kobe, Japan, January 19, 2010.
90. B. Simmons (invited) **Beyond ethanol: Advanced biofuels research at JBEI**, US-NZ Joint Scientific Commission, Rotorua, New Zealand, January 21, 2010.
91. Dibble, D. C. George, A. Cheng, A. Li, C. Sun, L. Singh, S. Simmons, B. A. **Fractionation and Recovery of Lignin, Carbohydrates, and Aliphatic Components of Biomass in an Ionic Liquid Pretreatment Process**. ACS Spring Meeting, San Francisco March 25th 2010.
92. Li, Chenlin; Hu, Hongqiang; Liu, Hong; Vogel, Kenneth P.; Simmons, Blake; Singh, Seema. **Ionic liquid pretreatment of lignocellulosic materials for enhanced sustainable biogas and electricity generation**. Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
93. George, Anthe; Benke, Peter I.; Tran, Kim; Simmons, Blake A.; Holmes, Bradley M. **Influence of the ionic liquid cation on the dissolution of isolated lignins and biomass for biofuel production**. Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010

94. Li, Chenlin; Sun, Lan; Cheng, Gang; Kent, Michael S.; Balan, Venkatesh; Dale, Bruce; Simmons, Blake; Singh, Seema. **Comparison of ammonia fiber expansion and ionic liquid pretreatment on corn stover: Cell-wall matrix, recalcitrance and digestibility.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
95. Persil Cetinkol, Ozgul; Dibble, Dean C.; Gang, Cheng; Kent, Michael S.; Knierim, Bernhard; Auer, Manfred; Wemmer, David E.; Pelton, Jeffrey G.; Melnichenko, Yuri B.; Ralph, John; Simmons, Blake A.; Holmes, Bradley M. **Harnessing the effect of ionic liquid pretreatment on Eucalyptus.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
96. Liu, Hanbin; Simmons, Blake; Singh, Seema. **Fundamental interactions between polysaccharides and binary room-temperature ionic liquid/water mixtures.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
97. Varanasi, Patanjali; Auer, Manfred; Singh, Seema; Simmons, Blake. **Ionic liquid pretreatment of lignin: Dynamic studies with light scattering, GC/MS and FTIR.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
98. Sun, Lan; Li, Chenlin; Chuck, George; Dibble, Dean C.; Simmons, Blake A.; Singh, Seema. **Genetic enhancement of bioenergy feedstocks for efficient biofuel production.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
99. George, Anthe; Benke, Peter I.; Tran, Kim; Holmes, Bradley D.; Simmons, Blake A.. **Ionic liquid dissolution mechanisms of lignins for lignocellulosic biofuel production.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
100. Persil Cetinkol, Ozgul; George, Anthe; Brennan, Timothy C.; Tran, Kim; Wemmer, David E.; Pelton, Jeffrey G.; Ralph, John; Henry, Robert J.; Simmons, Blake A.; Holmes, Bradley M. **Structural characterization of Eucalyptus species.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
101. Park, Joshua I.; Datta, Supratim; Holmes, Bradley M.; Dibble, Dean C.; Simmons, Blake A.; Sapra, Rajat. **Cloning, expression, purification, and biochemical characterization of a hyper-thermophilic cellobiohydrolase from Caldicellulosiruptor saccharolyticus.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
102. Datta, Supratim; Tran, Kim; Holmes, Bradley M.; Sale, Kenneth L.; Sapra, Rajat; Blanch, Harvey W.; Simmons, Blake A.. **Towards the identification of ionic liquids that stabilize cellulases for saccharification of cellulosic biomass.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
103. Reddy, A. P.; Allgaier, M.; Gladden, J. M.; Singer, S.; Hugenholtz, P.; Simmons, B.; Hazen, T. C.; VanderGheynst, J. S. **Enrichment of highly efficient thermophilic microbial communities active on switchgrass and corn stover in a high-solids environment.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
104. Chen, Zhiwei; Tran, Huu; Chu, Hou Cheng; Hadi, Masood; Adams, Paul; Simmons, Blake; Sapra, Rajat; Sale, Kenneth. **Directed evolution of a thermophilic cellulase for biomass hydrolysis.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
105. Klein-Marcuschamer, Daniel; Simmons, Blake; Blanch, Harvey. **Techno-economic analysis of lignocellulosic ethanol production based on experimental data.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010

106. Cruz Gonzalez, Alejandro G.; Singh, Seema; Simmons, Blake A.; Li, Chenlin; Chen, Joanna; Sun, Lan. **Biomass dynamic studies using synchrotron infrared light.** Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010
107. Simmons, B.A., et al. Invited. **Overcoming Biomass Recalcitrance with Ionic Liquids.** DOE GTL Contractor's Meeting, Washington D.C., February 2009
108. Simmons, B.A., et al. Invited. **Progress towards second-generation biofuels.** CleanTech Bay Area Council Summit, Shanghai, China, October 2008
109. Simmons, B.A. Invited. **Energy Innovation at the Joint BioEnergy Institute.** INPA, January 2009
110. Simmons, B.A. **Overcoming Biomass Recalcitrance,** BioScience Forum, January 2009
111. Simmons, B.A., et al., Invited. **History and future of biofuels.** ISPE Annual Meeting. San Francisco, CA. April 2009
112. Simmons, B.A., et al., Invited. **Next-generation Biofuels from Lignocellulosic Biomass.** World Biofuels Congress. Brussels, Belgium. March 2009
113. Simmons, B.A., et al., Invited. **Advancing Next-generation Biofuels: The Joint BioEnergy Institute.** INRA National Annual Meeting, Paris, France. March 2009
114. Simmons, B.A., et al., Invited. **Development of Advanced Imaging Techniques for the Analysis of Biomass during Pretreatment.** PittCon, Chicago, IL, March 2009
115. Simmons, B.A., et al., Invited. **Bioenergy: From Field to the Tank: A JBEI Perspective.** MIT Energy Conference, March 2009
116. Simmons, B.A., et al. Invited. **Overcoming Biomass Recalcitrance with Ionic Liquids.** DOE GTL Contractor's Meeting, Washington D.C., February 2009
117. Simmons, B.A. Invited. **Energy Innovation at the Joint BioEnergy Institute.** INPA, January 2009
118. Simmons, B.A. **Overcoming Biomass Recalcitrance,** BioScience Forum, January 2009
119. Singh, S. Understanding **Ionic Liquid Pretreatment of Lignocellulosic Biomasses** SIM 31st Symposium on Biotechnology for Fuels and Chemicals: Oral Session, Biomass Pretreatment and Fractionation, May 6 2009. San Francisco, CA.
120. Manisseri, C., R. Arora, C. Li, A.M. Smith, L. Sun, M. Ong, P. Benke, H.V. Scheller, K.P. Vogel, B.A. Simmons, and S. Singh. Contributed. **Compositional Analysis of Lignin in Bioenergy Crops and De-Polymerization via Pretreatment** SIM 31st Symposium on Biotechnology for Fuels and Chemicals: Poster Session, Biomass Pretreatment and Fractionation, May 4 2009. San Francisco, CA.
121. Singh, S., and B. Simmons. **In-Situ Examination of Biomass Dissolution and Cellulose Regeneration Enabling Cellular level Insight of Ionic Liquid Pretreatment Process** SIM 31st Symposium on Biotechnology for Fuels and Chemicals: Poster Session, Biomass Pretreatment and Fractionation, May 3 2009. San Francisco, CA.
122. Kent, M. S., Murton, J. K., Akgun, B., Halbert, C., Blrowning, J., Ankner, J., Simmons, B.A. Contributed. **Enzymatic Hydrolysis of Cellulose Films by Neutron Reflectivity.** International Conference on Neutron Scattering: Poster Session, May 6 2009. Knoxville, TN.

123. Kent, M. S., Murton, J. K., Cheng, G., Zendejas, F., Dibble, D., Hjelm, R., Banuelos, J. L., Urquidi, J., Simmons, B.A. Contributed. **Structural Studies of Enzymatic Hydrolysis of Cellulose by Neutron Scattering. International Conference on Neutron Scattering:** Poster Session, May 6 2009. Knoxville, TN.
124. Kent, M. S., Murton, J. K., Cheng, G., Zendejas, F., Dibble, D., Hjelm, R., Banuelos, J. L., Urquidi, J., Simmons, B.A. Contributed. **Structural Studies of Enzymatic Hydrolysis of Cellulose by Neutron Scattering.** SIM 31st Symposium on Biotechnology for Fuels and Chemicals: Poster Session, Biomass Pretreatment and Fractionation, May 3 2009. San Francisco, CA.
125. Chen, Z., Tran, H.M., Chu, H.C., Park, J.I., Datta, S., Liu, H., Tullman-Ercek, D., Bharadwaj, R., Achyuthan, K.E., Holmes, B., Chhabra, S., Singh, A., Hadi, M., Simmons B.A. and Sapra, R. Contributed. **Directed Evolution of Hyperthermophilic Endoglucanase, Cel5A, from "Thermotoga maritima"** MSB8. SIM 31st Symposium on Biotechnology for Fuels and Chemicals: Poster Session, Enzyme Science and Technology, May 4 2009. San Francisco, CA.
126. Persil Cetinkol, O., Dibble, D. C., Pelton, J. G., Wemmer, D. E., Simmons, B. A., Holmes, B. M. and Ralph, J. **2-D NMR Investigation of Ionic Liquid Pretreatment on Eucalyptus.** SIM 31st Symposium on Biotechnology for Fuels and Chemicals: Poster Session, Biomass Pretreatment and Fractionation, May 4 2009. San Francisco, CA.
127. Li, C., Arora, R., Manisseri, C., Knierim, B., Smith, A.M., Scheller, H.V., Vogel K., Simmons, B., and Singh, S. **A Comparative Study of Dilute Acid and Ionic Liquid Pretreatment of Lignocellulosic Biomass.** SIM 31st Symposium on Biotechnology for Fuels and Chemicals: Poster Session, Biomass Recalcitrance, May 4 2009. San Francisco, CA.
128. Arora, R., Li, C., Manisseri, C., Ong, M., Scheller, H.V., Vogel K., Simmons, B., and Singh, S. **Monitoring Process Streams towards understanding of Ionic Liquid Pretreatment of Lignocellulosic Biomasses.** SIM 31st Symposium on Biotechnology for Fuels and Chemicals: Poster Session, Biomass Pretreatment and Fractionation, May 4 2009. San Francisco, CA.
129. Liu, H., Sale, K., Pereira J.H., Adams, P.D. Simmons, B.A., and Sapra, R. **Probing the Function of N-Terminal Ig Domain in the Crystal Structure of Endoglucanase Cel9A from the Thermoacidophilic Alicyclobacillus acidocaldarius Using Computational Modeling.** SIM 31st Symposium on Biotechnology for Fuels and Chemicals: Poster Session, Enzyme Science and Technology, May 4 2009. San Francisco, CA.
130. Singer, S.W., Gladden, J.F., Reddy, A.P., Vandergheynst, J.S., Simmons, B.A. **Aspergillus fumigatus JF1: An ionic liquid tolerant fungus isolated from compost.** 31st Symposium on Biotechnology for Fuels and Chemicals: Poster Session, Enzyme Science and Technology, May 4 2009. San Francisco, CA.
131. Allgaier, M., A. Reddy, J. VanderGheynst, A. Copeland, V. Kunin, P. D'haeseleer, K. DeAngelis, J. Fortney, D. Chivian, P. S. Dehal, B. Simmons, T. C. Hazen, and P. Hugenholtz. Invited. **Metagenomic Characterization of Compost and Rain Forest Soil Microbial Communities.** 4th Annual DOE JGI User Meeting 2009 "Genomics of Energy and Environment"; Walnut Creek, CA, USA, March 2009.
132. Allgaier, M., P. D'haeseleer, A. Reddy, J. VanderGheynst, A. Copeland, K. DeAngelis, J. Fortney, B. Simmons, T.C. Hazen, and P. Hugenholtz (2009). **Metagenomic exploration of lignocellulolytic environments.** Gordon Research Conference: "Cellulosomes, Cellulases & Other Carbohydrate Modifying Enzymes"; Proctor Academy, Andover, NH, USA, July 26-31, 2009.

133. Bauer, Christina A.; Kinnibrugh, Tiffany L.; Timofeeva, Tatiana V.; Doty, F. P.; Simmons, Blake A.; Allendorf, Mark D. **Tuning linker-based luminescence in metal-organic frameworks.** Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008 (2008), INOR-894.
134. Bauer, Christina A.; Simmons, Blake A.. **Bioinspired fluorescent and metal nanoparticle-doped silica particles.** Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008 (2008), INOR-340.
135. Robinson, David B.; Chae, Weon-Sik; Braun, Paul V.; Simmons, Blake A.. **Electrochemical fabrication and characterization of hierarchically porous supercapacitors.** Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008 (2008), COLL-487.
136. Robinson, David; Simmons, Blake A.; Zuckermann, Ronald N. **Toward artificial diatoms: Structure-function studies of oligoamine-induced silica condensation.** Abstracts of Papers, 234th ACS National Meeting, Boston, MA, United States, August 19-23, 2007
137. (Invited) Simmons, Blake A.; McElhanon, James R.; Jamison, Gregory M.; Cruz, Evelyn; Rahimian, Kamyar; Zifer, Thomas; Yun, Steven; Wheeler, David R.; Loy, Douglas A. **Utilization of thermally cleavable surfactants based on furan and maleimide Diels-Alder adducts as removable templates.** Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006
138. Schroeder, Felicitas; Hermes, Stephan; Bauer, Christina A.; Skulan, Andrew J.; Simmons, Blake A.; Allendorf, Mark D.; Woell, Christof; Fischer, Roland A. **Thin films of metal organic framework compounds: Design and characterization of new functional surfaces.** Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006
139. Bauer, Christina A.; Schroeder, Felicitas; Skulan, Andrew J.; Hermes, Stephan; Talin, Albert A.; Anderson, Richard J.; Fischer, Roland A.; Simmons, Blake A.; Allendorf, Mark D. **Electronic and luminescent properties of metal-organic frameworks: Toward gas sensors.** Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006
140. (Invited) Simmons, Blake A. **Design, fabrication, and testing of polymer-based microfluidic devices for pathogen monitoring.** 25th Golden Gate Polymer Forum, October 24, 2005
141. (Invited) Simmons, Blake A.; Fintschenko, Yolanda; Cummings, Eric B.; Davalos, Rafael; Fiechtner, Gregory J.; McGraw, Gregory. **Polymeric substrates for high-throughput separation and concentration of biological agents.** 230th ACS National Meeting, Washington, DC, United States, Aug. 28-Sept. 1, 2005
142. (Invited) Simmons, Blake **Summary of Nano-Bio Activities and Applications in Homeland Security at Sandia National Laboratories,** The Technology Cooperation Program of NATO Workshop on Counter-Terrorism, Southampton, United Kingdom, July 12, 2005
143. (Invited) Simmons, Blake; Lapizco-Encinas, B.H.; Cummings, E.; Fiechtner, G.; Shediach, R.; Chames, J.; Hachman, J.; Fintschenko, Y. **Development and testing of polymer-based microfluidic devices for the selective concentration of water-borne pathogens,** University of Illinois, March 2005.
144. (Invited) Simmons, Blake; Lapizco-Encinas, B.H.; Cummings, E.; Fiechtner, G.; Shediach, R.; Chames, J.; Hachman, J.; Fintschenko, Y. **Development and testing of polymer-based microfluidic devices for the selective concentration of water-borne pathogens,** Georgia Institute of Technology, April 2005.

145. Simmons, Blake; Lapizco-Encinas, B.H.; Cummings, E.; Fiechtner, G.; Shediach, R.; Chames, J.; Hachman, J.; Fintschenko, Y. **Polymer-based microfluidic devices for the selective concentration of water-borne pathogens**, Micro-TAS 2004, September 30, 2004, Malmö, Sweden.
146. Boyle, Timothy J.; Bunge, Scott D.; Simmons, Blake A.; Clem, Paul; Headley, Thomas J. **Synthesis of metal core ceramic shell nanoparticle**. Abstracts of Papers, 227th ACS National Meeting, Anaheim, CA, United States, March 28-April 1, 2004.
147. Simmons, Blake; Lapizco-Encinas, B.H.; Cummings, E.; Fiechtner, G.; Shediach, R.; Chames, J.; Hachman, J.; Fintschenko, Y. **Polymeric insulative dielectrophoresis of water-borne pathogens**, ACS Spring 2004, Anaheim, CA.
148. Simmons, Blake; McElhanon, James; Zifer, Tom; Jamison, Greg; Long, Timothy **Cleavable surfactants based on furan-maleimide Diels-Alder adducts**, ACS Spring 2004 (invited), Anaheim, CA.
149. (Invited) Simmons, Blake; Domeier, Linda; Morales, Alf; Sala, Jonathan **Polymeric microfluidics replicated through injection molding and hot embossing**, Iprime Workshop, University of Minnesota, January 7, 2004
150. Long, Timothy M.; Simmons, Blake A.; McElhanon, James R.; Wheeler, David R.; Loy, Douglas A.; Jamison, Gregory M. **Metathesis depolymerization for removable surfactant templates**. Abstracts of Papers, 226th ACS National Meeting, New York, NY, United States, September 7-11, 2003
151. Singh, M.; Liu, L.; Simmons, B.; DeKee, D.; John, Vijay; Bose, Arijit. **Use of lipid self-assembly to direct flow-induced polymer synthesis for pharmaceutical applications**. Abstracts of Papers, 222nd ACS National Meeting, Chicago, IL, United States, August 26-30, 2001.
152. Simmons, B.; Irvin, G.; Agarwal, V.; Bose, A.; John, V.; McPherson, G.; Balsara, N **Microstructure Determination of a Surfactant-Based Rigid Mesophase**, Poster, Gordon Research Conference on Supramolecular Self-Assembly, Connecticut College, July 2001.
153. Simmons, B.; Liu, L.; Li, S.; Agarwal, V.; John, V.; Bose, A.; McPherson, G. **Synthesis of Novel Materials in Surfactant Based Systems**, Poster, Gordon Research Conference on Supramolecular Self-Assembly, Connecticut College, July 2001
154. Simmons, B.; Taylor, C.; Landis, F.; John, V.; McPherson, G.; Schwartz, D.; Moore, R. **Microstructure Determination of a Novel Phenol + AOT Organogel**, Presentation, Abstracts of Papers, 75th ACS Colloids and Surface Science Division Conference, Pittsburgh, PA, June 2001.
155. Liu, L.; Li, S.; Simmons, B.; John, V.; McPherson, G.; Bose, A.; Zhou, W. **Templated Materials Synthesis in a Rigid Surfactant Based Mesophase**, Presentation, Abstracts of Papers, 75th ACS Colloids and Surface Science Division Conference, Pittsburgh, PA, June 2001.
156. Simmons, B.; Irvin, G.; Agarwal, V.; Bose, A.; John, V.; McPherson, G.; Balsara, N **SANS Investigation of a Rigid Surfactant Based Bicontinuous Mesophase**, Presentation, Abstracts of Papers, 75th ACS Colloids and Surface Science Division Conference, Pittsburgh, PA, June 2001.
157. Simmons, Blake; John, Vijay; Balsara, Nitash; Bose, Arijit; Landis, Forrest; Moore, Robert. **Transformations from microemulsions to organogels and organohydrogels: Fundamental characterization and applications to templated materials synthesis**. Abstr. Pap. - Am. Chem. Soc. (2000), 219th COLL-053 Poster Division - Winner.

158. Li, Sichu; Irvin, G.; Simmons, Blake; John, Vijay T.; McPherson, Gary; O'Connor, Charles J.; Zhou, Weilie. **Organogel formed by bridging reverse micelles through hydrogen bonding: Characterization and applications to magneto-responsive materials.** Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000 Poster Division.
159. John, Vijay; Li, Sichu; Irvin, Glen; Simmons, Blake; McPherson, Gary; Akkara, Joseph; O'Connor, Charles. **Transformations from inverse micelles to rigid gels in surfactant systems: Fundamental characterization and applications to nanostructured materials synthesis.** Book of Abstracts, 218th ACS National Meeting, New Orleans, Aug. 22-26 (1999), COLL-148 Poster Division – Winner.

MENTORING

Staff scientists: Seema Singh, Anthe George, John Gladden, David Robinson, Markus Ong, Brad Holmes, Dean Dibble, Peter McInerney, Masood Hadi, Rajat Sapra, Tim Ham, Ken Sale

Post-docs: Hanbin Liu, Anthe George, Chenlin Li, John Gladden, Supratim Datta, Joshua Park, Zhiwei Chen, Lan Sun, Ozgul Cetinkol, Danielle Tullman-Ercek, Greg Friedland, Ron Houk (mentor), Frank Zendejas (mentor), Christina Bauer (mentor), Swapnil Chhabra (co-mentor), David Robinson (LTE; co-mentor)

Student Interns: Alison Harris, Cindy Juarez, Kaycie Butler, Trenton Lynch (CU), Hunter Moore (Ga. Tech.), David Safranski (Ga. Tech.), Yusef Syed (Cornell), Kevin Luongo (USF), Jonathan Sala (UCB), Noble Woo (Cornell), Andrew Larsen (Tulane), Eric Goods (UCSD), Aaron Lee (UCB), Matthew Sprague (Cal. Tech.), Thomas Cauley (UCB), Gregory McGraw (Cornell), Joseph Charest (Ga. Tech.), Marcus Eliason (Ga. Tech.), Jessica Lam (MIT), Julia Crawford-Dibble (UCSD), Elizabeth Costa (UCSD), Jessica Leung (UCB), Brita Mittal (MIT), Paul Dossa (MIT)

REFERENCES

1. Prof. Harvey W. Blanch, Department of Chemical Engineering, University of California-Berkeley
2. Prof. Jay D. Keasling, Lawrence Berkeley National Laboratory
3. Prof. Rafael Davalos, Department of Biomedical Engineering, Virginia Tech University
4. Dr. Malin Young, Director Biological and Materials Science Center, Sandia National Laboratories
5. Prof. Bruce Dale, Department of Chemical Engineering, Michigan State University