Keisha B. Walters

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**PROFESSIONAL EXPERIENCE**

Interim Associate Dean for Strategic Initiatives 2013-present

Bagley College of Engineering

Mississippi State University, Mississippi State, MS

Associate Professor of Chemical Engineering 2011-present

Mississippi State University, Mississippi State, MS

Assistant Professor of Chemical Engineering 2005-2011

Mississippi State University, Mississippi State, MS

Research Assistant and Research Associate 2002-2005

Center for Advanced Engineering Fibers and Films

Department of Chemical and Biomolecular Engineering

Clemson University, Clemson, SC

Research Assistant 1998-2001

Department of Chemical Engineering

Clemson University, Clemson, SC

Research Associate 1996-1998

Specialty Chemicals Division

Milliken Chemical, Spartanburg, SC

**EDUCATION**

Ph.D. Chemical Engineering, Clemson University August 2005

 Dissertation: Surface Grafting of pH-Responsive Polymer Layers

M.S. Chemical Engineering, Clemson University August 2001

 Thesis: Surface Segregation of Fluorinated and Hyperbranched Additives in LLDPE Films

B.S. Biological Sciences, Clemson University May 1996

Minor in Environmental Science

**REFEREED JOURNAL PUBLICATIONS [Impact Factor / # Citations]**

1. Mariola J. Edelmann; Leslie B. Shack; Caitlin D Naske; Keisha B. Walters; Bindu Nanduri\*, “Pathway modeling of copper oxide nanoparticle induced cytotoxicity in human lung cells using SILAC proteomics," *PLOS ONE*, Under Review (submitted 11-07-2013) [NA / NA]
2. Mathew D, Rowe, Ersan Eyiler, Keisha B. Walters, “Synthesis and Characterization of Bio-based Polyesters: Poly(trimethylene malonate) and Poly(trimethylene itaconate),” European Polymer Journal, Under Review (submitted 11-02-2013) [3.072/NA]
3. Siyam M. Ansar, Ganganath S. Perera, George Salomon, Erick S. Vasquez, Shengli Zou, Charles U. Pittman, Jr., Keisha B. Walters, and Dongmao Zhang, “Mechanistic Study of Continuous Reactive Aromatic Organothiol Adsorption onto Silver Nanoparticles,” *The Journal of Physical Chemistry C*, Accepted (submitted 09-06-13) [4.814/NA]
4. Mat Rowe, Ersan Eyiler, Keisha Walters, “Effects of hydrolytic degradation on the mechanical properties of renewable bioplastics: Poly(trimethylene malonate) and poly(trimethylene itaconate),” Polymer Degradation and Stability, Under Review (submitted 10-01-2013) [3.291/NA]
5. Ersan Eyiler, I-Wei Chu, Keisha B. Walters, “Toughening of Poly(lactic acid) with Poly(trimethylene malonate),” *Journal of Applied Polymer Science*, Accepted (submitted 09-30-13) [1.395 /NA]
6. Samantha A. Ranaweera, Mathew D. Rowe, Keisha B. Walters, Jose M. Rodriguez, Mark G. White, and William P. Henry, "Support of dinuclear copper triketonate complexes on silica for catalyst preparation" *Polyhedron*, Under Review (submitted 08-30-13) [1.813/NA]
7. Erick S. Vasquez, I-Wei Chu, and Keisha B. Walters, “Stimuli-responsive Biphasic-polymer Janus Magnetic Nanoparticles Prepared via Electrostatic Interactions and Surface-confined ATRP,” *Macromolecules*, Under Review (submitted 05-20-13) [5.167/NA]
8. Ding, Shijie; Shen, Youqing; Walters, Keisha; Chen, Jing; Jin, Yeling; “pH Responsive Behavior of Fe3O4@PDEA-PEGMA Core-Shell Hybrid Magnetic Nanoparticles,” *International Journal of Polymeric Materials*, Under Review (submitted 05-08-13) [1.204/NA]
9. Rowe, M.; Eyiler, E.; Walters, K.B.\* Synthesis and Characterization of the Bio-based Polyester Poly(trimethylenemalonate),” *Journal of Applied Polymer Science*, Under Review. [1.3/NA]
10. Cornell, A.L.; Walters, K.B.\*; Frisch, J. “Chemical Grafting and Optical Characterization of Surface-modified EAA-OBC and EAA-BDMF Polymer Films,” *Journal of Polymer Science Part A: Polymer Chemistry*, Under Review. [3.894/NA]
11. Mat Rowe, Ersan Eyiler, Keisha Walters “Magnetic iron oxide nanoparticles grafted with poly(itaconic acid) and poly(n-isopropylacrylamide),” *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, Accepted. [2.333/NA]
12. Walters, D.K.\*; Walters, K.B. “Summer Instruction in Fluid Mechanics: Increasing High-School Student Interest in and Understanding of Engineering Concepts,” *Journal of Pre-College Engineering Education Research (J-PEER)*, Accepted. [NA/NA]
13. Mohan, V., Naske, C.D., Walters, K.B.\* “FTIR spectroscopic study on the hydroxide-catalyzed cleavage of ester bonds in phosphatidylcholine,” *The Journal of Physical Chemistry B*, Accepted. [3.471/NA]
14. Vangala, K.; Siriwardana, K.; Vasquez, E.S.; Xin, Y.; Pittman, C.U.; Walters, K.B.; Zhang, D.\* “Simultaneous and Sequential Protein and Organothiol Interactions with Gold Nanoparticles,” *The Journal of Physical Chemistry C* (2013) 117(3) 1366-1374, DOI: [10.1021/jp310085u](http://pubs.acs.org/doi/full/10.1021/jp310085u).[4.805/0]
15. Naske, C.D.; Polk, P.; Wynne, Z.; Speed, J.; Holmes, W.E.; Walters, K.B.\* “Postcondensation Filtration of Pine and Cottonwood Pyrolysis Oil and Impacts on Accelerated Aging Reactions” *Energy & Fuels* (2012)26(2), 1284-1297, DOI: [10.1021/ef200541d](http://pubs.acs.org/doi/abs/10.1021/ef200541d). [3.326/1]
16. Trim, M.W.\*; Horstemeyer, M.F.; Rhee H.; Park, S.-J.; El Kadiri H.; Williams, L.; Liao, J.; Walters, K.B.; McKittrick, J. “The effects of water and microstructure on the mechanical properties of bighorn sheep (*Oviscanadensis*) horn keratin,” *Acta Biomaterialia* (2011) 7(3), 1228-1240,DOI: [10.1016/j.actbio.2010.11.024](http://dx.doi.org/10.1016/j.actbio.2010.11.024).[3.975/3]
17. Ding, S.; Floyd, A.; Walters, K.B.\* “Comparison of Surface Confined ATRP and SET-LRP Syntheses for a Series of Amino (Meth)acrylate Polymer Brushes on Silicon Substrates,” *Journal of Polymer Science Part A: Polymer Chemistry* (2009) 47(23), 6522-6560, DOI: [10.1002/pola.23698](http://onlinelibrary.wiley.com/doi/10.1002/pola.23698/abstract). [3.971/12]
18. Martin, H.J.; Schulz, K.H.; Walters, K.B. “Piranha Treated Titanium Compared to Passivated Titanium as Characterized by XPS,” *Surface Science Spectra* (2008) 15(1), 23-30, DOI: [10.1116/11.20070702](http://dx.doi.org/10.1116/11.20070702). [NA/0]
19. Martin,H.J.; Schulz, K.H.; Bumgardner, J.D.; Walters, K.B., “An XPS Study on the use of Triethoxsilylbutyraldehyde to Bond Chitosan to a Titanium Surface,” *Applied Surface Science* (2008) 254(15), 4599-4605. [1.616/13]
20. Walters, K.B.; Hirt, D.E.“Synthesis and Characterization of a Tertiary Amine Polymer Series from Surface-Grafted Poly(tert-Butyl Acrylate) via Diamine Reactions,”*Macromolecules* (2007) 40(14), 4829-4838. [4.539/7]
21. Martin, H.J.; Schulz, K.H.; Bumgardner, J.D.; Walters, K.B. “An XPS Study on the use of 3-Aminopropyltriethoxysilane to Bond Chitosan to a Titanium Surface,” Langmuir(2007) 23(12), 6645-6651. [3.898/38]
22. Walters, K.B., and Hirt, D.E., “Grafting of End-functionalized Poly(tert-butyl acrylate) to Poly(ethylene-co-acrylic acid) Film,” *Polymer* (2006) 47(19), 6567-6574. [3.573/9]
23. Ramirez, M.X.; Walters, K.B.; Hirt, D.E., “The Relationship Between Erucamide Surface Concentration and Coefficient of Friction of LLDPE Film,” *Journal of Vinyl and Additive Technology* (2005) 11(1), 9-12. [0.53/7]
24. Walters, K.B.; Schwark, D.W.; Hirt, D.E., “Surface Characterization of LLDPE Films Modified with Fluorinated Additives,” *Langmuir* (2003) 19(14), 5851-5860. [3.898/30]
25. Sakhalkar, S.S.; Walters, K.B.; Hirt, D.E.; Miranda, N.R.; Roberts, W.P., “Surface Characterization of LLDPE Film Containing Glycerol Monosterate,” *Journal of Plastic Film and Sheeting* (2002) 18(1), 33-43. [0.500/3]

**REFEREED BOOK CHAPTERS**

1. Ding, S.; Walters, K.B. “Comparisons of Surface Confined ATRP and SET Polymerizations,” *invited contribution* for Polymer Brushes: Substrates, Technologies and Properties, (ed) Mittal Vikas, Taylor and Francis, CRC Press (2012), [ISBN: 9781439857946](http://www.crcpress.com/product/isbn/9781439857946).
2. Burgreen, G.; Hester, R.; Soni, B.; Thompson, D.; Walters, D.K.; Walters, K.B. “DigitalLung: Application of High-Performance Computing to Biological System Simulation,” in Advances in Computational Biology, AEMB (Advances in Experimental Medicine and Biology) Springer Series (2010)Vol. 680, 573-584, DOI: [10.1007/978-1-4419-5913-3\_63](http://www.springerlink.com/content/n247556506836036/).
3. Walters, K.B. “Tethered Stimuli-Responsive Polymer Films,” *invited contribution* for Smart Coatings III, American Chemical Society Symposium Series, eds. J. Baghdachi, T. Provder (2010),Vol. 1050, 21–30,DOI: [10.1021/bk-2010-1050.ch002](http://pubs.acs.org/doi/abs/10.1021/bk-2010-1050.ch002).

**PATENTS**

1. I-Wei Chu; Ersan Eyiler; Keisha B. Walters “Use of oxidation and pH-shift to selectively remove solubilized metals,” Provisional Patent Application, Mississippi State University, filed December 20, 2012.
2. “Polymeric Structures with Patterned Reactivity,” Douglas E. Hirt, Scott M. Husson, Keisha B. Walters, and Chun Zhang, U.S. Patent 7,727,300, filed October 24, 2006 (Serial No. 11/585,664), issued June 1, 2010.
3. “Multilayer Polymer Structures,” Keisha B. Walters, Douglas E. Hirt, Scott M. Husson, U.S. Provisional Patent (Serial No. 60/729,620), filed October 24, 2005.

**REVIEWED CONFERENCE PROCEEDINGS**

1. E.S. Vasquez, I. Chu, K.B. Walters, “Stimuli-responsive biphasic-polymer Janus magnetic nanoparticles prepared via electrostatic interactions and surface-confined ATRP,” POLY: Division of Polymer 245th ACS National Meeting, New Orleans, Louisiana, April 7-11, 2013, paper ID: 299.
2. K.H. Parsons, K.B. Walters, D.K. Walters, R. Hester, C.L. McCormick, “Gold nanoparticles via polymer micelle molecular templates for pulmonary imaging,” POLY: Division of Polymer Chemistry -245th ACS National Meeting, New Orleans, Louisiana, April 7-11, 2013, paper ID: 287.
3. Ding, S.; Walters, K.B. “Fe3O4-PDEA-PEGMA core-shell pH responsive magnetic nanoparticles,” PMSE: Division of Polymeric Materials Science and Engineering, 245th ACS National Meeting, New Orleans, Louisiana, April 7-11, 2013, paper ID: 317.
4. Toghiani, R.K., Minerick, A.R., Walters, K. B., Hill, P. J., & Henington, C. Engineering Future Chemical Engineers: Incorporation of Process Intensification Concepts into the Undergraduate Curriculum. 2012 ASEE Annual Conference Proceedings, San Antonio, TX, June 10-13, 2012, AC 2012-3670.
5. Rowe, M.D.; Eyiler, E.; Chu, I.; Walters, K.B. “Effects of Hydrolytic Degradation on the Mechanical Properties of Renewable Bioplastics: Poly(trimethylenemalonate) and Poly(trimethyleneitaconate),” Proceedings of ANTEC – Society of Plastics Engineers (SPE), Orlando, FL, April 2-4, 2012.
6. Toghiani, R., Minerick, A.R., Walters, K.B., Hill, P.J., Henington, C. "Engineering Future Chemical Engineers: Incorporation of Process Intensification Concepts into the Undergraduate Curriculum," 2011 ASEE Annual Conference & Exposition, Vancouver, BC, Canada, June 26-29, 2011, AC 2011-1239.
7. Rowe, M.D.; Eyiler, E.; Walters, K.B. “pH and Time Dependent Hydrolytic Degradation of Bioplastics from Renewable Monomers,” Proceedings of ANTEC, Society of Plastics Engineers (SPE), Boston, MA, May 1-5, 2011,69, 306-311.
8. Walters, D.K.; Walters, K.B. “Introducing Talented High School Students to Engineering Via Fluid Mechanics,” 2010 ASEE National Conference, Louisville, KY,June 20-23, 2010, AC 2010-1097.
9. Walters, K.B.; Minerick, A.R.; Srivastava, S.; Hall, J.I.; Parker, A.; Thomas, H.; Leonard, K. “Instructor and Student Perspectives on a Graduate Professional Development Course: Career Issues for Women in Engineering,” 2010 ASEE National Conference, Louisville, KY,June 20-23, 2010, AC 2010-467.
10. Toghiani, R.; Walters, K.B.; Hill, P.H.; Minerick, A.R.; Henington, C. “Engineering Future Chemical Engineers: Incorporation of Process Intensification Concepts in to the Undergraduate Curriculum,” 2010 ASEE National Conference, Louisville, KY, June 20-23, 2010, AC 2010-1882.
11. Schneider, J.; Walters, K.B. “Interdisciplinary and Experiential Approach Towards the Teaching of Materials Science and Engineering,” Southeastern Regional ASEE Conference, April 18-20, 2010, Virginia Polytechnic Institute and State University, Blacksburg, VA. [Best Paper Award]
12. Rowe, M.D.; Walters, K.B. “Synthesis and Characterization of Bioplastics from Polyfunctional Renewable Monomers,” Proceedings of ANTEC – Society of Plastics Engineers (SPE), Chicago, IL, June 22-24, 2009, 67, 508-512.
13. Minerick, A.R.; Walters, K.B., Elmore, B.B; Toghiani, R.; Hill, P.J.; Hernandez, R.; French, T. “Cross-Curricular Topic Inventory: Strategic Topic Placement and Resulting Student Accountability,” ASEE Annual Conference Proceedings, Chemical Engineering Division, Austin, TX (2009) AC 2009-2241.
14. Toghiani, R.; Minerick, A.R.; Walters, K.B., “Making the Connections: Facilitation Student Integration of Chemical Engineering Concepts into a Coherent Framework,” ASEE Annual Conference Proceedings, Chemical Engineering Division, Pittsburgh, PA (2008) AC 2008-2170.
15. Rowe, M.D., Smith, E.M., Walters, K.B., “Development of Renewable Polymers From 1,3-Propane Diol and Malonic Acid,” Proceedings of ANTEC – Society of Plastics Engineers, Cincinnati, OH (2007) 65, 1562-1568.
16. Mohan, V., Hubbard, L.E., Walters, K.B., “Phosphate Ester Cleavage in Phospholipids,” Proceedings of the MS Academy of Sciences 71st Annual Meeting (2007) 52(1), 80-81.
17. Rowe, M.D., Smith, E.M., Walters, K.B., “Development of Renewable Polymers From 1,3-Propane Diol and Malonic Acid,” Proceedings of the MS Academy of Sciences 71st Annual Meeting (2007) 52(1), 81.
18. Aich, S., Walters, K.B., Minerick, A.R., “Nano-Encapsulation of Trace Metal Impurities in Biodiesel,” Proceedings of the MS Academy of Sciences 71st Annual Meeting (2007) 52(1), 77.
19. Walters, K.B., Hirt, D.E., “Tethered Stimuli-Responsive Polymer Films,” Proceedings of the ACS Smart Coatings Symposium, invited paper (2007) 205-212.
20. Walters, K.B., Rugh, A., and Hirt, D.E., “Melt Grafting of End-Functionalized Poly(tert-butyl acrylate) to Silicon Substrates,” Proceedings of ANTEC - Society of Plastics Engineers (2005) 3273-3277.
21. Walters, K.B., Wang, W., Harris, R.P., and Hirt, D.E., “Chemically Tailored Polymeric Layers Grafted To and From a Copolymer Film Surface,” Proceedings of ANTEC – Society of Plastics Engineers (2004) 3859-3864.
22. Walters, K.B. and Hirt, D.E., “Polymer Layers Grown From Gold and Polymer Film Via Surface-Confined ATRP,” Proceedings of ANTEC – Society of Plastics Engineers (2003) 2793-2797.

### Walters, K.B. and Hirt, D.E., “Migration of Fluorinated Additives to HDPE Film Surfaces,” Proceedings of ANTEC – Society of Plastics Engineers (2001) 2644-2648.

### McKibbin, J.P., Sankhe, S.Y., Bishop, K.A., and Hirt, D.E., “Comparison of Techniques to Measure Additive Diffusivity in Polymer Films,” Proceedings of ANTEC – Society of Plastics Engineers (2000) 3497-3501.

**PUBLICATIONS IN PREPARATION**

1. Vasquez, E.S.; Stein, N.; Walters, K.B.; Walters, D.K., “Analysis of Particle Transport and Deposition of Micron-sized Particles in a 90˚ Bend Using Lagrangian and Modified-Eulerian Approaches,”planned submission to *Journal of Aerosol Science*.
2. Walters, K.B.; Ding, S.; Vasquez, E.S. “A Study of the pH and Thermo-responsive Behavior of a Series of Amino (Meth)acrylate Polymer Brushes on Silicon Substrates,” planned submission to *Macromolecules*.
3. Cornell, A.; Lamb, M.; Rowe, M.D.; Walters, K.B. “Physiochemical Properties of Human Lung Tissue and Interactions with Fluid Surrogates,” submission planned to Biomacromolecules.
4. Vasquez, E.S.; Stein, N.; Walters, K.B.; Walters, D.K., “Multiscale Simulations of Particle Transport Comparing Lagrangian and Eulerian Methods,” planned submission to *Journal of Aerosol Science*.
5. Walters, K.B.; Ding, S.; Vasquez, E.S. “Formation and *In Situ* Characterization of Tethered pH-Responsive Amine Polymers,” planned submission to *Macromolecules*.
6. Rowe, M.D.; Smith, E. M.; Terrell, L.B.; Walters, K.B. “Synthesis, Characterization, and Degradability of Renewable Copolymers,” planned submission to *Polymer*.
7. Trim, W.; Gurtowski, C.; Ohno, M.; Park, S.J.; Walters, K.B.; Horstemeyer, M. “Bio-inspired Composites: An Overview of Structures, Properties, and Mimicry in Engineering Design,” for submission in *Composites Science and Technology*.
8. Mohan, V., Walters, K.B. “Ester Cleavage Promoted by Lithium Hydroxide in a Series of Phospholipids,” planned submission in *Biophysical Journal* (Spring 2013).
9. Aich, S.; Walters, K.B.; Minerick, A.R. “Silica Shell Nano-encapsulation of Colloidal Nanoparticles: A Review,” in preparation, planned submission in the *Beilstein Journal of Nanotechnology*.
10. Naske, C.D.; Speed, J.; Rodriquez, J.; Holmes, W.E.; Walters, K.B. “Effects of Methanol Addition on Fractionated and Total Pine Needle Pyrolysis Oil during Accelerated Aging,” planned submission in *Biomass & Bioenergy*.
11. Naske, C.D.; Speed, J.; Walters, K.B. “Evolution of Phase Separation and Resultant Properties of Pine Pyrolysis Oil,” planned submission in *Energy & Fuels.*
12. Cornell, A.; Lamb, M.; Rowe, M.D.; Walters, K.B. “Physiochemical Properties of Human Lung Tissue and Interactions with Fluid Surrogates,” planned submission to *Biophysical Journal*.
13. Chu, I.-W.; Vasquez, E.S.; Eyiler, E.; Dadgarmoghaddam, M.; Walters, K.B. “Synthesis and Characterization of 3-D Amphiphilic Asymmetric Nanoparticles,” planned submission to *Macromolecules*.

**PRESENTATIONS—Technical** (Key: **Presenters**; *Graduate students*; Undergraduate/high school students)

1. *Varadarajan, A.*; Walters, K.B. “Effects of Centrifugal Filtration on the Physicochemical Properties of Pyrolysis oil,” podium presentation, 2013 AIChE Annual Meeting, San Francisco, CA, November 6, 2013.
2. *Zhang, L.; Zhou, P*.; Liu, J.; Yu, F.; Walters, K.B. “Production of Hydrogen via Steam-Reforming Reactions of Bio-Oil over Nickel Based Catalysts,” poster presentation, 2013 AIChE Annual Meeting, San Francisco, CA, Nov 6, 2013.
3. *Vasquez, E.S.*, Walters, K.B., "Electrophoretic Mobility Measurements of Polymer-Magnetic Nanoparticle Systems," podium presentation, 2013 AIChE Annual Meeting, San Francisco, CA, November 7, 2013.
4. *Vasquez, E.S.*, Walters, K.B., Walters, D.K. "Transport Modeling of Micron-Sized Particles in Different Geometries Using a Two-Fluid Eulerian-Eulerian Approach," 2013 AIChE Annual Meeting, San Francisco, CA, November 3-8, 2013 (*upcoming, accepted*).
5. *Varadarajan, A.*, Walters, K.B. "Effects of Post-Condensation Centrifugal Filtration on Pyrolysis Oil," 2013 AIChE Annual Meeting, San Francisco, CA, November 3-8, 2013 (*upcoming, accepted*).
6. *Zhang, L.*, *Zhou, P., Liu, J.,* Yu, F.\*, Walters, K.B\* "Production of Hydrogen Via Steam-Reforming Reactions of Bio-Oil Over Nickel Based Catalysts," 2013 AIChE Annual Meeting, San Francisco, CA, November 3-8, 2013 (*upcoming, accepted*).
7. *Vasquez, E.S.*, Walters, K.B., Walters, D.K. "Transport Modeling of Micron-sized Particles in a 90-degree Bend/PRB Using a Two-fluid Eulerian-Eulerian Approach,” FEDSM2013 (25-2 Numerical Methods for Multiphase Flows II), Incline Village, NV, July 9, 2013 [Invited Presentation].
8. Ersan Eyiler, Mathew D. Rowe, I-Wei Chu, and Keisha B. Walters, “Mechanical Properties of Poly(lactic acid) and Poly(trimethylene malonate) Blends,” Seeing at the Nanoscale 2013, Evanston, Illinois, April 17, 2013.
9. Ding, S.; Walters, K.B. “Fe3O4-PDEA-PEGMA core-shell pH responsive magnetic nanoparticles,” PMSE: Division of Polymeric Materials Science and Engineering, 245th ACS National Meeting, New Orleans, Louisiana, April 9, 2013.
10. *E.S. Vasquez*, I. Chu, K.B. Walters, “Stimuli-responsive biphasic-polymer Janus magnetic nanoparticles prepared via electrostatic interactions and surface-confined ATRP,” POLY: Division of Polymer 245th ACS National Meeting, New Orleans, Louisiana, April 9, 2013.
11. *K.H. Parsons*, K.B. Walters, D.K. Walters, R. Hester, C.L. McCormick, “Gold nanoparticles via polymer micelle molecular templates for pulmonary imaging,” POLY: Division of Polymer Chemistry -245th ACS National Meeting, New Orleans, Louisiana, April 9, 2013.
12. Ding, S.; Walters, K.B. “Fe3O4-PDEA-PEGMA core-shell pH responsive magnetic nanoparticles,” PMSE-POLY Sci-Mix, 245th ACS National Meeting, New Orleans, Louisiana, April 8, 2013.
13. *Eyiler, E.;* Rowe, M.D.; Chu, I.-W.; Walters, K.B. “Thermal and Mechanical Properties of Poly(lactic acid) and Poly(trimethylene malonate) Blends,” 11th Annual Graduate Student Research Symposium, Mississippi State University, March 23, 2013.
14. *Maryam Dadgarmoghaddam*, I-Wei Chu, Mehdi Hajianmaleki, D. Keith Walters, Keisha B. Walters, “Thickness, Morphology, and Hydrolytic Stability of Aminosilane Layers on Silicon Substrate,” poster presented at ASME 2012 International Mechanical Engineering Congress & Exposition, November 9-15, 2012, Houston, Texas, IMECE2012-93820.
15. Walters, K.B. “BioSim: Digital Lung,” NSF MS EPSCoR Fall Forum Presentation, Mississippi State University, MS State, MS, September 28, 2012.
16. Toghiani, R.K., Minerick, A.R., Walters, K. B., Hill, P. J., & Henington, C. Engineering Future Chemical Engineers: Incorporation of Process Intensification Concepts into the Undergraduate Curriculum. 2012 ASEE Annual Conference Proceedings, San Antonio, TX, June 11, 2012.
17. *Vasquez, E.S.*; Ding, S.; Walters, K.B. “A Study of the pH and Thermo-responsive Behavior of a Series of Amino (Meth)acrylate Polymer Brushes on Silicon Substrates by In-situ Ellipsometry and AFM Measurements,” poster presentation at the 10th National Graduate Research Polymer Conference, Case Western Reserve University, Cleveland, OH, May 22-24, 2012.
18. *Eyiler, E.; Rowe, M.D.;* Walters, K.B. “Effects of Comonomer and Catalyst:Monomer Ratios on Polycondensation Reactions to Synthesize Renewable Bioplastics,” MSU Graduate Research Symposium, Mississippi State, MS, April 14, 2012.
19. Walters, K.B. “BIOSIM RESEARCH COMPONENT,” NSF MS EPSCOR Statewide Meeting, University of Mississippi, Oxford, MS, April 11, 2012.
20. Walters, K.B. “Report to the Advisory Board, BioSim Focus Area,” NSF MS EPSCOR Statewide Meeting, University of Mississippi, Oxford, MS, April 11, 2012.
21. Gresham, M.D.; *Vasquez, E.S.;*Walters, K.B. “Impact of Impurities and Substrate Crystal Structure on the Formation of 11-Mercapto-1-undecanol Self Assembled Monolayers on Gold and Subsequent Grafting of PNIPAM Polymer Brushes,” 44thAnnual Southeast Regional American Chemical SocietyUndergraduate Research Conference (SURC), Mississippi State University, Mississippi State, MS, April 12-13, 2012.
22. Walters, K.B. “Overview of EPSCoR Year 3 BioSim Research Components,” NSF MS EPSCoR Annual Meeting, University of Mississippi, Oxford, MS, April 11, 2012.
23. Walters, K.B. “EPSCoR Year 3: Update on Walters’ Group Research,” NSF MS EPSCoR Annual Meeting, University of Mississippi, Oxford, MS, April 11, 2012.
24. *Cornell, A.L.; Smith, E.A.;* Walters, K.B. “Modeling Diffusion of Aerosol Drugs Through Pulmonary Mucus,” NSF MS EPSCoR Annual Meeting, University of Mississippi, Oxford, MS, April 10, 2012.
25. *Vasquez, E.S.;* Stein, N.; Walters, K.B.; Walters, D.K. “Eulerian-Eulerian Particle Transport and Deposition of Micron-sized Particles in a 90° Bend and a Human Lung Geometry,” NSF MS EPSCoR Annual Meeting, University of Mississippi, Oxford, MS, April 10, 2012.
26. *Eyiler, E.; Rowe, M.D.;*Chu, I.; Walters, K.B. “Effects of Hydrolytic Degradation on the Mechanical Properties of Renewable Bioplastics: Poly(trimethylenemalonate) and Poly(trimethyleneitaconate),” podium presentation at ANTEC – Society of Plastics Engineers (SPE), Orlando, FL, April 2-4, 2012.
27. *Eyiler, E.; Rowe, M.D.;* Chu, I.; Walters, K.B. “Mechanical Properties of Poly(lactic acid) and Poly(trimethylenemalonate) Blends,” poster presentation at ANTEC – Society of Plastics Engineers (SPE), Orlando, FL, April 2-4, 2012.
28. Lemus, M.; *Vasquez, E.S.;* Ding, S.; Walters, K.B. "Exploring the Temperature and pH Response of Amino (Meth)acrylate Polymer Brushes Using In-situ Spectroscopic Ellipsometry Measurements," poster presented at the 2011 Society of Hispanic Professional Engineers (SHPE) Annual meeting, Anaheim, California, October 27, 2011.
29. *Vasquez, E.S.;* Stein, N.; Walters, K.B.; Walters, D.K. “Deposition and Transport of Micron-sized Particles in the Human Tracheobronchial Tree,” poster presented at the 2011 National NSF EPSCoR Conference, Couer D'Alene, Idaho, October 25, 2011.
30. *Wynne, P.Z.; Naske, C.D.;* Polk, P.; Waters, K.B. “Preliminary Investigations of Pyrolysis Oil Filtration Methods,” poster presented at the 2011 BioFuels Conference, Mississippi State University, October 6, 2011.
31. Chu, I.-W.; *Vasquez, E.S.; Eyiler, E.; Dadgarmoghaddam, M.;* Walters, K.B. “The Synthesis and Characterization of Novel 3-D Asymmetric Nanoparticles,” poster presentation at the 9thAnnual Seeing at the Nanoscale Conference, University of California, Santa Barbara, CA, July 19-22, 2011.
32. *Vasquez, E.S.;* Nicholson, B.; Walters, K.B. “Surface Modification of Iron Oxide (Fe3O4) Micro- and Nano-particles with Stimuli Responsive Polymers,” 2011 Nanotech Conference and Exposition, Boston, MA, June 13-16, 2011.
33. *Rowe, M.D.; Eyiler, E.;* Walters, K.B. “pH and Time Dependent Hydrolytic Degradation ofBioplastics from Renewable Monomers,” Annual Technical Conference (ANTEC) of the Society of Plastics Engineers (SPE), Boston, MA, May 1-5, 2011.
34. Walters, K.B. "Material design . . . from molecule to function," Department of Chemical Engineering, University of Utah, April 25th, 2011 [Invited Seminar].
35. Lemus, M.; *Vasquez, E.S.;* Ding, S.; Walters, K.B. "Exploring the Temperature and pH Response of Amino (Meth)acrylate Polymer Brushes Using *In-situ* Spectroscopic Ellipsometry Measurements," Mississippi State University Undergraduate Research Symposium, April 21, 2011.
36. *Rowe, M.D.; Eyiler, E.;* Walters, K.B. “pH and Time Dependent Hydrolytic Degradation of Bioplastics,” 9th Annual Graduate Student Research Symposium, Mississippi State University, April 16, 2011.
37. *Vasquez, E.S.;*Stein, N.; Walters, K.B. and Walters D.K., "Transport Modeling of Micron-sized Particles in a Human Lung Geometry," 9th Annual Graduate Student Research Symposium, Mississippi State University, April 16, 2011.[Outstanding Research Award]
38. *Cornell, A.L.;* Walters, K.B. “Diffusion Studies in Artificial Saliva and Mucus to Predict Lung Aerosol and Particulate Transport,” poster presentation at the 2011 NSF MS EPSCoR Annual Meeting, Mississippi State University, Starkville, MS, April 14-15, 2011.
39. *Williams, A.M.;* Walters D.K.; Walters, K.B. “Modeling the Fate of Inhaled Particulate Matter,” poster presentation at the 2011 NSF MS EPSCoR Annual Meeting, Mississippi State University, Starkville, MS, April 14-15, 2011.
40. *Vasquez, E.S.;* Stein, N.; Walters, K.B.; Walters, D.K. “Computational Modeling of Particle Inhalation in the Human Lung,” poster presentation at the 2011 NSF MS EPSCoR Annual Meeting, Mississippi State University, Starkville, MS, April 14-15, 2011. [1st Place Poster Award, BioSim Focus Group]
41. Walters, K.B.“Development of Polymer-based Materials: From Nano-scale Drug Delivery to Degradable Cutlery,” Mechanical Engineering Seminar Series, Mississippi State University, April 11, 2011.
42. Walters, K.B. “Material design. . . from molecule to function,” Chemistry Seminar Series, Mississippi State University, April 1, 2011.
43. *Vasquez, E.S.;* Stein, N.; Walters, K.B.; Walters, D.K. “Computational Modeling of Particle Inhalation in the Human Lung,” poster presented at the 2011 NSF MS EPSCoR Capitol Day, Jackson, MS, March 16, 2011.
44. Walters, K.B. “Vertical Integration of Fluids Instruction in the Chemical Engineering Curriculum through a Process Intensification Framework,” poster presented at the 2010 Frontiers of Engineering Education Symposium, Sponsored by the National Academy of Engineering and the O’Donnell Foundation, Irvine, California, December 13-16, 2010.
45. *Ranaweera, S.A.;* Henry, W.P.; *Rowe, M.D.;* Walters, K.B.; White, M.G.; Rodriguez, J.M. “Preparation, Characterization and Catalytic Activity of Supported Binuclear Cobalt Complexes on Cab-O-Sil,” poster presented at the 2010 ACS SWRM/SERMACS Meeting, New Orleans, LA, November 30-December 4, 2010.
46. *Vasquez, E.S.;*Walters, K.B.;Walters, D.K. “Transport Modeling of Micro- and Nanometer-Sized Particles in a Human Lung Geometry,” 2010 AIChE Annual Meeting, Salt Lake City, UT, November 11, 2010.
47. *Rowe, M.D.; Eyiler, E.;* Walters, K.B. “pH-Dependent Hydrolytic Degradation of Poly(trimethylenemalonate) and Poly(trimethyleneitaconate),” poster presented at the 2010 AIChE Annual Meeting, Salt Lake City, UT, November 8, 2010.
48. *Vasquez, E.S.,*Young, M.J., Walters, K.B. “Temperature and pH Response of a Series of Amino Methacrylate Polymer Brushes Grafted by in-Situ Spectroscopic Ellipsometry Measurements,” 2010 AIChE Annual Meeting, Salt Lake City, UT, November 8, 2010.
49. *Vasquez, E.S.,*Jones, M.Y., Walters, K.B. “Synthesis, Characterization, and Swelling/Contraction Behavior of PNIPAm and PMAA Polymer Brushes Grafted On Gold Substrates,” poster presented at the 2010 AIChE Annual Meeting, Salt Lake City, UT, November 8, 2010.
50. *Naske, C.D.,* Walters, K.B. “Liquid Phase Serial Filtration of Pine and Cottonwood Pyrolysis Oils and Observed Effects On Aging,” poster presented at the 2010 AIChE Annual Meeting, Salt Lake City, UT, November 9, 2010.
51. *Ranaweera, S.A.,* Henry, W.P., *Rowe, M.D.,* Walters, K.B., White, M.G., Rodriguez, J.M. “Preparation and Characterization of Supported Binuclear Copper Complexes on Cab-O-Sil and their Catalytic Activity,” poster presented at the ACS National Meeting, Boston, MA, August 22–26, 2010.
52. *Naske, C.D.,* Polk, P., Speed, J., Holmes, W.E., Walters, K.B., “Evolution of Phase Separation During Aging in Pine Pyrolysis Oil,” poster presented at the Summer 2010 Undergraduate Research Symposium, Mississippi State University, July 29, 2010.
53. *Naske, C.D.,* Onwubiko, A., Walters, K.B.“Monitoring Molecular Weight and Polydispersity Changes During the Aging of Pine and Cottonwood Pyrolysis Oil,” poster presented at the Summer 2010 Undergraduate Research Symposium, Mississippi State University, July 29, 2010.
54. *Cornell, A.,* Miller, J., Walters, K.B. “Physiochemical Analyses of Drug-doped Artificial Saliva Solutions for Improved Aerosol Drug Delivery,” poster presented at the Summer 2010 Undergraduate Research Symposium, Mississippi State University, July 29, 2010.
55. *Vasquez, E.S.,* **Young, M.J.**, Walters, K.B. “Temperature and pH Response of Poly(2-(diethylamino)ethyl methacrylate) Polymer Brushes Grafted on Silicon Substrates by *In-situ* Spectroscopic Ellipsometry Measurements,” poster presented at the Mississippi State University Undergraduate Research Symposium, April 22, 2010. [**1st place award, Life Sciences Division, MSU Undergraduate Research Symposium, 2010**]
56. *Naske, C.D.,* **Speed, J.**, Wynne, P.Z., Walters, K.B. “Effects of Methanol Addition on the Aging of Bio-oil Produced from Pine Needles,” poster presented at the Mississippi State University Undergraduate Research Symposium, April 22, 2010.
57. ***Vasquez, E.S.****,* Walters, K.B. "A Mathematical Model for the Transport of Micron and Nanometer-sized Particles in the Human Lung," poster presented at the MS EPSCoR Annual Meeting, Jackson, MS, April 15, 2010. [**1st place award, Computational Biological Simulation Division, 2010 MS EPSCoR Meeting**]
58. ***Naske, C.D.****;* Crosby, S.E.; McMaster, A.; Walters, K.B. “Preliminary Studies of pH and Char Particle Content on Bio-oil Aging,” presented at the AIChE 2009 Annual Meeting, Nashville, TN, November 11, 2009.
59. *Naske, C.D.,* **Speed, J.**, Wynne, P.Z., Crosby, S.E., Walters, K.B., “Effects of Char Particles On the Aging of Bio-Oil Produced From Timber Biomass Pyrolysis,” poster presented at the AIChE 2009 Annual Student Conference, Nashville, TN, November 9, 2009.
60. ***Naske, C.D.****;* Crosby, S.E.; Speed, J.; Wynne, P.Z.; Walters, K.B. “Examination of Char Particle Effects on Bio-oil Aging Reactions,” presented at the Mississippi State University 8th Annual Graduate Research Symposium, November 6, 2009.
61. ***Rowe, M.D.****,* Walters, K.B. “Green Bioplastic -- Synthesis, Characterization, and Kinetic Modeling,” presented at the Mississippi State University 8th Annual Graduate Research Symposium, November 6, 2009.
62. ***Vasquez, E.S.****,* Walters, K.B. "Magnetic Nanoparticle Transport Through Liquid-Liquid Interfaces," presented the Mississippi State University 8th Annual Graduate Research Symposium, November 6, 2009.
63. *Rowe, M.D.;* **Walters, K.B.** “Synthesis and Characterization of Bioplastics from Polyfunctional Renewable Monomers,” Annual Technical Conference (ANTEC) of the Society of Plastics Engineers (SPE), Chicago, IL, June 22-24, 2009.
64. ***Naske, C.D.****;* Crosby, S.E.; McMaster, A.; Walters, K.B. “Investigation of pH and Char Particles on Bio-oil Aging Reactions,” poster presented at the 8th Annual Southern Bioproducts and Renewable Energy Conference, Jackson, MS, May 20-21, 2009.
65. ***Rowe, M.D.****,* Smith, E.M., Walters, K.B. “Synthesis and Characterization of Bioplastics from 1,3-Propanediol, Malonic Acid, and Itaconic Acid,” poster presented at the 8th Annual Southern Bioproducts and Renewable Energy Conference, Jackson, MS, May 20-21, 2009.
66. **Wynne, P.Z.**; *Rowe, M.D.;* Walters, K.B. “A Preliminary Study of Thiol and Silane Self Assembled Monolayer Formation on Copper Substrates,” poster presented at the Undergraduate Research Symposium, Mississippi State University, April 21, 2009.
67. *Naske, C.D.;* **Crosby, S.E.**; Walters, K.B.; “Pine and Cottonwood Bio-oil Ageing,” poster presented at the Mississippi State University Undergraduate Research Symposium, April 21, 2009.
68. **Lamb, M.**; *Rowe, M.D.;* Walters, K.B. “Development of a Drug Deposition Model Incorporating the Physiochemical Surface Properties of Lung Tissue,” poster presented at the Undergraduate Research Symposium, Mississippi State University, April 21, 2009.
69. **Lamb, M.**; *Rowe, M.D.;* Walters, K.B. “Development of a Drug Deposition Model Incorporating the Physiochemical Surface Properties of Lung Tissue,” poster presented at the 2009 MS EPSCoR Meeting, Mississippi State University, April 16, 2009.
70. ***Naske, C.D.****;*Crosby, S.E.; McMaster, A.; Walters, K.B. “Preliminary Chemical and Physical Characterizations of Bio-oil Aging,” poster presented at the Mississippi State University 2nd Energy Workshop, April 15, 2009.
71. ***Rowe, M.D.****,* Smith, E.M., Wall, M.C., Walters, K.B. "Chemical Structure and Molecular Weight Dependence on Reaction Time and Temperature for Bioplastics Synthesized From 1,3-Propanediol, Malonic Acid, and Itaconic Acid," 7th Annual Graduate Student Association Research Symposium, Mississippi State University, April 3rd, 2009.
72. **Wynne, P.Z.**; *Rowe, M.D.;* Walters, K.B. “A Preliminary Study of Thiol and Silane Self Assembled Monolayer Formation on Copper Substrates,” AIChE Southern Regional Conference, University of Alabama, Tuscaloosa, AL, April 3-5, 2009.
73. *Naske, C.D.;* **Crosby, S.E.**; Walters, K.B. “Initial Aging Studies of Pyrolysis Bio-oil Produced from Pine and Cottonwood,” AIChE Southern Regional Conference, University of Alabama, Tuscaloosa, AL, April 3-5, 2009.
74. ***Rowe, M.D.****,* Smith, E.M., Wall, M.C., Walters, K.B., "Synthesis and Chemical Characterization of Renewable Copolymers from 1,3-Propane Diol, Malonic Acid, and Itaconic Acid," poster presented at the Society of Plastic Engineers Mississippi Chapter Meeting, Mississippi State University, March 10, 2009.
75. *Rowe, M.D.,* Crosby, S.E., **Jamison, P.**, Walters, K.B., "Degradation of Renewable Resource Copolymers," poster presented at Society of Plastic Engineers Mississippi Chapter Meeting, Mississippi State University, March 10, 2009.
76. **Walters, K.B.** “Advanced Polymer Systems – Building Function By Design,” Louisiana State University, Baton Rouge, LA, March 6, 2009 [**Invited Seminar**].
77. ***Rowe, M.D.,*** Crosby, S.E., Walters, K.B., "Degradation of Renewable Resource Copolymers," poster presented at 2008 American Institute of Chemical Engineers Annual Meeting, Philadelphia, PA, November 16th - 21st, 2008.
78. *Rowe, M.D.;* **Crosby, S.**; Walters, K.B. “Dependence of the Hydrolytic Degradation of Poly(ester-anhydride) Copolymers on pH, Temperature, and Time,” poster presented at the 2008 American Institute of Chemical Engineers Annual Meeting, Philadelphia, PA, November 17, 2008.
79. **Lamb, M.**; *Rowe, M.D.,* Walters, K.B. “Physiochemical Surface Properties of Lung Tissues for Modeling Drug Deposition,” poster presented at the 2008 American Institute of Chemical Engineers Annual Meeting, Philadelphia, PA, November 17, 2008.
80. ***Rowe, M.D.****;* Walters, K.B. “Development and Characterization of Copolymers from Renewable Resource Monomers,” poster presented at the 2008 American Institute of Chemical Engineers Annual Meeting, Philadelphia, PA, November 20, 2008.
81. ***Rowe, M.D.****;* Walters, K.B. “Hydrolytic Degradation Studies of Renewable Copolymers,” 2008 American Institute of Chemical Engineers Annual Meeting, Philadelphia, PA, November 19, 2008.
82. ***Ranaweera, S.A.****;* Henry, W.P.; *Rowe, M.D.;* Walters, K.B.; White, M.G.; Rodriguez, J.M. “Preparation and characterization of supported Cu2(daa)2 complex on Cab-O-Sil as a catalyst precursor,” poster presented at the 60th Southeastern Regional Meeting (SERMACS) of the American Chemical Society (ACS), Nashville, TN, November 12–15, 2008.
83. ***Rowe, M.D.****;* Walters, K.B.; “Synthesis, characterization and degradation of Bioplastics,” poster presented at the 60th Southeastern Regional Meeting of the American Chemical Society (SERMACS)of the American Chemical Society (ACS), Nashville, TN, November 12–15, 2008.
84. **Terry, A.**; Minerick, A.; Thibaudeau, G.; Walters, K.B., “Structurally Responsive Materials Inspired by Nature,” 2008 Bioinspired Design Conference, Mississippi State University, August 21, 2008.
85. ***Rowe, M.D.****;* Smith, E.M.; Walters, K.B., “Synthesis and Characterization of Renewable Polymers from By-Products of Bio-Refineries,” poster presented at the MS State Biofuels Conference, Mississippi State, MS, August 14-15, 2008.
86. *Rowe, M.D.,* Smith, E.M., Walters, K.B., “Synthesis and Characterization of Renewable Copolymers from By-Products of Bio-Refineries,” poster presented at the 7th Annual SPE Student Research Poster Session, Mississippi Chapter of the Society of Plastics Engineers (SPE), Starkville, MS, April 8, 2008.
87. *Rowe, M.D.,*Walters, K.B., “Development and Characterization of Renewable Copolymers,” AIChE Spring National Meeting and 235th National Meeting of the American Chemical Society (ACS), New Orleans, LA, April 6-10, 2008.
88. Lamb, M.,Álvarez Lugo, E.L., *Rowe, M.D.,*Walters, K.B., “Physiochemical Surface Properties of Lung Tissues for Modeling Drug Deposition,” poster presented at the AIChE2008 Southern Regional Conference, Auburn, AL, April 4-6, 2008.
89. Ding, S., Walters, K.B., “Surface-Confined Living Radical Polymerization of pH-Responsive Amino (Meth)Acrylate Brushes,” 2007 American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
90. *Rowe, M.D.,* Walters, K.B., “Synthesis, Characterization, and Degradability of Renewable Copolymers,” 2007 American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
91. *Mohan, V.,* Walters, K.B., “Selective Ester Cleavage in Phospholipids – Towards the Development of Phosphate Functionalized Polymers,” American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
92. Aich, S., Schulz, F.; Walters, K.B., Minerick, A.R., “Synthesis and Characterization of Cu-SiO2 Core-Shell Nanoparticles,” 2007 American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
93. Martin, H.J., Schulz, K.H., Walters, K.B., Bumgardner, J.D., “Surface Science Studies on the Effects of Triethoxsilylbutyraldehydeand Two Metal Treatments to Bond Chitosan,” 2007 American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
94. *Rowe, M.D.,*Terrell, L.B., Smith, E.M., Walters, K.B., “Synthesis, Characterization, and Degradation of Renewable Copolymers,” poster presented at the 2007 American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
95. *Rowe, M.D. ,*Smith, E.M., Terrell, L.B., Walters, K.B., “Synthesis and Characterization of Renewable Copolymers: Poly(Glycerol-Fumarate) And Poly(Trimethylene-Malonate),” poster presented the 2007 American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
96. **Walters, K.B.** “Tethered Stimuli-Responsive Polymer Layers,” Department of Chemical and Biological Engineering, University of Alabama, September 27, 2007 [**Invited Seminar**].
97. **Schulz, F.**; Aich, S.; Walters, K.B.; Minerick, A.R. “Synthesis and Characterization of Cu-SiO2 Core-Shell Nanoparticles,” poster presented at the 2007 MSU Chemistry:Chemical Engineering – The Bonds Between Us REU Poster Symposium, July 27, 2007.
98. **Álvarez Lugo, E.L.**; *Rowe, M.D.;* Walters, K.B. “Physio-Chemical Properties of Lung Tissue,” poster presented at the 2007 MSU Chemistry:Chemical Engineering – The Bonds Between Us REU Poster Symposium, July 27, 2007.
99. **Adler, K.L.**; *Rowe, M.D.;* Walters, K.B. “Surface Characterization of Tethered Responsive Polyamine Films for Biomedical Applications,” poster presented at the 2007 MSU Chemistry:Chemical Engineering – The Bonds Between Us REU Poster Symposium, July 27, 2007.
100. ***Mohan, V.****,*Hubbard, L.E.; Crosby, S.E.; Walters, K.B. “Selective Ester Cleavage in Phospholipids -- Towards the Development of Phosphate Polymers,” presented National Polymer Graduate Research Conference sponsored by the American Chemical Society (ACS) Division of Polymer Chemistry, Oak Ridge National Lab, Oak Ridge TN, June 2007.
101. ***Rowe, M.D.****;* Walters, K.B. “Synthesis and Characterization of Renewable Copolymers: Poly(glycerol-fumarate) and Poly(trimethylene-malonate),” presented National Polymer Graduate Research Conference sponsored by the American Chemical Society (ACS) Division of Polymer Chemistry, Oak Ridge National Lab, Oak Ridge TN, June 2007.
102. ***Rowe, M.D.****,* Smith, E.M., Walters, K.B., “Development of Renewable Polymers From 1,3-Propane Diol and Malonic Acid,” ANTEC - Society of Plastics Engineers - Cincinnati, OH, May 6-11, 2007.
103. ***Rowe, M.D.****,* Walters, K.B., “Synthesis and Characterization of Bioplastics,” ANTEC - Society of Plastics Engineers - Cincinnati, OH, May 6-11, 2007.
104. **Aich, S.**; Walters, K.B.; Minerick, A., “An Electron Microscopy Study of Cu/SiO2 Core-Shell Nanoparticles,” 2007 Southeastern Microscopy Annual Meeting, Decatur, GA, April 11-13, 2007.
105. **Aich, S.**; Walters, K.B.; Minerick, A. “Rendering Trace Metal Particulates Inert Via Nanoencapsulation in Biological Processes,” Institute of Biological Engineering, 12th Annual Meeting, St. Louis, MO, March 29-April 1, 2007.
106. ***Mohan, V.****;* Hubbard, L.; Walters, K. B., "Selective Phosphate Ester Cleavage in Phospholipids," GSA Research Symposium, Mississippi State University, March 30, 2007.
107. ***Rowe, M.D.****;* Smith, E.M.; Walters, K.B., “Development of Renewable Polymers from 1,3-Propane Diol and Malonic Acid,” GSA Research Symposium, Mississippi State University, March 30, 2007.
108. *Rowe, M.D.;* Smith, E.M.; **McMaster, A.**; Walters, K.B. “Development of Renewable Polymers from 1,3-Propane Diol and Malonic Acid,” poster presented at the 2007 AIChE Southern Regional Conference, March 10-12, 2007.
109. *Rowe, M.D.;* Smith, E.M.; **Terrell, L.B.**; Walters, K.B. “Development of Renewable Polymers from 1,3-Propane Diol and Malonic Acid,” poster presented at the 2007 SPE Mississippi Chapter Meeting, Mississippi State University, March 6, 2007.
110. **Aich, S.**; Walters, K.B.; Minerick, A. “Nano-Encapsulation of Trace Metal Impurities in Biodiesel,” poster presented at the 2007 SPE Mississippi Chapter Meeting, Mississippi State University, March 6, 2007.
111. ***Mohan, V.****;* Hubbard, L.E.; Walters, K.B. “Selective Phosphate Ester Cleavage in Phospholipids,” ESCAPE Conference, Mississippi State University March 2-4, 2007.
112. **Ding, S.**; Walters, K.B. “Fe3O4-PDEA-PEGMA Core-Shell pH Responsive Magnetic Nanoparticles,” ESCAPE Conference, Mississippi State University, March 2-4, 2007.
113. *Rowe, M.D.;* Smith, E.M.; Walters, K.B. “Renewable Polymer Development Using 1,3-Propane Diol, Glycolic Acid, and Malonic Acid,” ESCAPE Conference, Mississippi State University, March 2-4, 2007.
114. ***Mohan, V.****;* Hubbard, L.E.; Walters, K.B. “Phosphate Ester Cleavage in Phospholipids,” MS Academy of Sciences, 71st Annual Meeting, February 21-23, 2007.
115. ***Rowe, M.D.****;* Smith, E.M.; Walters, K. B. “Development of Renewable Polymers From 1,3-Propane Diol and Malonic Acid,” MS Academy of Sciences, 71st Annual Meeting, February 21-23, 2007.
116. **Aich, S.**; Walters, K.B.; Minerick, A. “Nano-Encapsulation of Trace Metal Impurities in Biodiesel,” MS Academy of Sciences, 71st Annual Meeting, February 21-23, 2007.
117. **Ding, S.**; Walters, K.B. “Synthesis and Characterization of pH Responsive Polymer Brushes,” poster presentation at the MS Academy of Sciences 71st Annual Meeting, February 21-23, 2007.
118. **Walters, K.B.**; Hirt, D.E. “Tethered Stimuli-Responsive Polymer Films,” Smart Coatings Symposium, February 21-23, 2007 [**Invited Presentation**].
119. ***Martin****,* ***H.J.****;* Walters, K.B.; Schulz, K.H.; Bumgardner, J.D.; Schneider, J.A. "The Effects of Different Silanes and Metal Surface Treatments on the Binding of Chitosan as Investigated by Mechanical and Biological Testing," AIChE Annual Meeting, San Francisco, CA, November 13-17, 2006.
120. ***Martin****,* ***H.J.****;* Walters, K.B.; Schulz, K.H.; Bumgardner, J.D. "Surface Science Studies on the Effects of Different Silanes and Metal Surface Treatments on the Binding of Chitosan, a Biopolymer," AIChE Annual Meeting, San Francisco, CA, November 13-17, 2006.
121. Walters, K.B. “Tethered pH-Responsive Polymer Layers,” AIChE Annual Meeting – San Francisco, CA, November 13-17, 2006.
122. Walters, K.B. “pH-Responsive Tethered Layers on Copolymer and Silicon Substrates,” AIChE Annual Meeting – Cincinnati, OH, November 1-5, 2005.
123. Walters, K.B.“Surface Modification Via Grafting: Stimuli Responsive Polymer Surfaces,” MSU SPE Student Chapter, September 8, 2005.
124. Walters, K.B.; Rugh, A.; Hirt, D.E. “Melt Grafting of End-Functionalized Poly(tert-butyl acrylate) to Silicon Substrates,” ANTEC - Society of Plastics Engineers – Boston, MA, May 1-5, 2005.
125. Walters, K.B. “Surface-Grafted pH-Responsive Polymers for Functional Devices, Department of Chemical and Petroleum Engineering, University of Wyoming, February 28, 2005 [Invited Seminar].
126. Walters, K.B. “Surface-Grafted pH-Responsive Polymers for Functional Devices,” Department of Chemical and Biomedical Engineering, Florida A&M University - Florida State University, February 10, 2005[Invited Seminar].
127. Walters, K.B. “Surface-Grafted pH-Responsive Polymers for Functional Devices,” Department of Chemical and Biochemical Engineering, University of Maryland – Baltimore County, February 7, 2005[Invited Seminar].
128. Walters, K.B. “Surface-Grafted pH-Responsive Polymers for Functional Devices,” Hunter Henry Lecture Series, Dave C. Swalm School of Chemical Engineering, Mississippi State University, February 3, 2005[Invited Seminar].
129. Walters, K.B. “Surface-Grafted pH-Responsive Polymers for Functional Devices,” Department of Chemical Engineering, Northeastern University, January 28, 2005[Invited Seminar].
130. Walters, K.B.; Hirt,D.E. “Chemically Tailored Polymeric Layers Grafted to Copolymer Film and Silicon Surfaces,” AIChE Annual Meeting - Austin, TX, November 7-12, 2004.
131. Walters, K.B.; Wang, W.; Harris, R.P.; Hirt, D.E. “Chemically Tailored Polymeric Layers Grafted To and From a Copolymer Film Surface,” ANTEC - Society of Plastics Engineers - Chicago, IL, May 17-19, 2004.
132. Walters, K.B. “Technical Research for Surface Modification Topic,” Clemson University, Center for Advanced Engineering Fibers and Films, NSF Site Visit, 2004.
133. **Walters, K.B.**; Hirt, D.E. “Surface-Confined ATRP From Ethylene-Based Copolymer Substrates,” AIChE Annual Meeting - San Francisco, CA, November 16-21, 2003.
134. **Walters, K.B.**; Hirt, D.E. “Functional Polymer Layers Grafted From Copolymer Substrates Using Surface-Confined ATRP,” 226th ACS National Meeting - New York, NY, September 7-11, 2003.

### Walters, K.B.; Hirt, D.E. “Polymer Layers Grown From Gold and Polymer Film Via Surface-Confined ATRP,” ANTEC - Society of Plastics Engineers - Nashville, TN, May 4-8, 2003.

1. Walters, K.B. “Technical Presentation on Surface Modification Research,” Clemson University, Center for Advanced Engineering Fibers and Films, NSF Site Visit, 2002.
2. **Walters, K.B.;** Hirt, D.E. “Surface Characterization of LLDPE Films Containing Fluorinated Additives,” AIChE Annual Meeting - Reno, NV, November 4-9, 2001.

### Walters, K.B.;Hirt, D.E. “Migration of Fluorinated Additives to HDPE Film Surfaces,” ANTEC - Society of Plastics Engineers - Dallas, May 6-10, 2001.

**PRESENTATIONS—Educational** (Key: **Presenters**; *Graduate students*; Undergraduate/high school students)

1. **Walters, K.B.** “Undergraduate Research: Skill Building Process and Career Impacts,” ASEE Annual Conference, San Antonio, TX, June 11, 2012 [**Invited Presentation**].
2. Toghiani, R.; Minerick, A.R.; Walters, K.B.; Hill, P.J.; Henington, C. "Engineering Future Chemical Engineers: Incorporation of Process Intensification Concepts into the Undergraduate Curriculum," 2011 ASEE Annual Conference & Exposition, Vancouver, BC, Canada, June 26-29, 2011.
3. Walters, K.B.; Minerick, A.R.; *Srivastava, S.; Hall, J.I.; Parker, A.; Thomas, H.; Leonard, K.* “Instructor and Student Perspectives on a Graduate Professional Development Course: Career Issues for Women in Engineering,” 2010 ASEE National Conference, Louisville, KY, June 23, 2010.
4. Toghiani, R.; Walters, K.B.; Hill, P.H.; Minerick, A.R.; Henington, C. “Engineering Future Chemical Engineers: Incorporation of Process Intensification Concepts in to the Undergraduate Curriculum,” 2010 ASEE National Conference, Louisville, KY, June 21, 2010.
5. **Walters, D.K.**; Walters, K.B. “Introducing Talented High School Students to Engineering Via Fluid Mechanics,” 2010 ASEE National Conference, Louisville, KY, June 21, 2010.
6. **Schneider, J.**, Walters, K.B. “Interdisciplinary and Experiential Approach Towards the Teaching of Materials Science and Engineering,” presented at the Southeastern Regional ASEE Conference, April 18-20, 2010, Blacksburg, VA [**Best Paper Award**].
7. **Minerick, A.R.**; Walters, K.B., Elmore, B.B; Toghiani, R.; Hill, P.J.; Hernandez, R.; French, T. “Cross-Curricular Topic Inventory: Strategic Topic Placement and Resulting Student Accountability,” ASEE Annual Conference, Austin, TX, June 15, 2009.
8. Toghiani, R.; **Minerick, A.R.**; Walters, K.B., “Making the Connections: Facilitating Student Integration of Chemical Engineering Concepts into a Coherent Framework,” ASEE Annual Conference, Pittsburgh, PA, June 24, 2008.

**PRESENTATIONS—Outreach/Service** (Key: **Presenters**; *Graduate students*; Undergraduate/high school students)

1. Walters, K.B. “Decisions, Decisions…What do I want to be when I ‘grow up’?
A Discussion on Career Choices and Careers in STEM: Science, Technology, Engineering, and Mathematics,” Starkville Public High School, Starkville, MS, May 2013 [Invited Lecture].
2. Walters, K.B. “Decisions, Decisions…What do I want to be when I ‘grow up’?
A Discussion on Career Choices and Careers in STEM: Science, Technology, Engineering, and Mathematics,” 2013 Women in Science and Technology (WIST) Conference, East MS Community College—Golden Triangle Campus, February 22nd, 2013 [Invited Seminar—Keynote Lecture].
3. Walters, K.B. “Graduate School: Why? Why Me? How? Where?,” ChE 3331—Professional Development Seminar, Mississippi State University, February 5th, 2013.
4. **Walters, K.B.** “You Don’t Know What You Don’t Know Until You Know It,” NSF TIME: Technology Initiative in Manufacturing and Engineering Workshop, East Mississippi Community College (EMCC), Mayhew, MS October 18th, 2012.
5. **Walters, K.B.**; “What Do I Want To Be When I Grow Up? A Discussion on Career Choices and Careers in STEM (Science, Technology, Engineering, and Mathematics),” East Mississippi Community College (EMCC), Mayhew, MS September 18th, 2012.
6. **Walters, K.B.**, “Navigating Your Career Path,” Graduate Women in Science and Engineering (G-WISE), Mississippi State University, MS State, MS, January 30, 2012.
7. **Walters, K.B.; *Parker, A.*** “Graduate School: Why? Why Me? How?” AIChE Student Chapter, Mississippi State University, October 21, 2010.
8. Walters, K.B. “What is Chemical Engineering?” Hands On Engineering Workshop, July 21, 2010.
9. Walters, K.B. “Nanotechnology and Nanomedicine,” Mississippi NSF EPSCoR Teacher’s Workshop, Mississippi State University, June 24, 2010.
10. **Walters, K.B.** “Graduate School. Why? Why Me? How? Why MSU?,” American Institute of Chemical Engineers (AIChE) Student Group, Louisiana State University, Baton Rouge, LA, March 5, 2009[**Invited Seminar**].
11. **Walters, K.B.** “Career Paths, Research, Professional/Personal Balance, and You,” SWE Student Chapter, Mississippi State University, September 16, 2008 [**Invited Seminar**].
12. **Walters, K.B.** “Engineering Careers,” ASME, Northeast Mississippi Section, February 23, 2006 [**Invited Seminar**].

### HONORS / AWARDS

Raymond W. Fahien Award, American Society of Engineering Education (ASEE) (2012)

Outstanding Woman Faculty, Mississippi State University (2012)

Selected Participant, David Carlisle Hull Faculty Leadership Program, Mississippi State University (2011-2012)

Selected Participant, National Academy of Engineering, Frontiers of Engineering Education (FOEE) Symposium (2010)

StatePride Faculty Award, Mississippi State University (2010, 2011)

Best Paper Award, ASEE-SE Conference, Co-author: Judy Schneider (2010)

Bagley College of Engineering Academy of Distinguished Teachers, Mississippi State University (2010)

Thomas Evans Instructional Paper Award, ASEE SE, Co-authors: R. Toghiani and A. Minerick (2009)

Best Educational Paper Award with Co-Authors R. Toghiani and A. Minerick, Swalm School of Chemical Engineering, MS State University (2008)

Best Technical Paper Award, Swalm School of Chemical Engineering, MS State University (2006, 2007)

Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities (2006)

MSU IMAGE/NSBE Appreciation Award, Bagley Diversity Programs, MS State University (2006)

Outstanding Woman Graduate Student, President's Commission on the Status of Women, Clemson Univ. (2004)

GAANN (Graduate Assistance in Areas of National Need) Fellowship, Clemson University (2002-04)

Harshman Scholarship, Clemson University (1998-99)

**MEMBERSHIPS**

American Institute of Chemical Engineers (AIChE)

Society of Plastics Engineers (SPE)

American Society for Engineering Education (ASEE)

American Chemical Society (ACS)

Society for Biological Engineers (SBE)

Sigma Xi

**TEACHING AND SUPERVISORY EXPERIENCE**

Course Instructor

CHE 3203: Fluid Flow; Mississippi State University [Fall 2009, Fall 2010, Fall 2012]

CHE 3213: Heat Transfer; Mississippi State University [Fall 2005, Spring 2006, Fall 2006, Fall 2007, Spring 2013]

CHE 4000: Directed Individual Study, Evaluation of Non-Aggressive Grafting Chemistries, Lasheena Culberson; Mississippi State University [Spring 2006]

CHE 4000: Directed Individual Study, Copper Surface Chemistries, Zach Wynne; Mississippi State University [Summer 2007]

CHE 4000: Directed Individual Study, Demos, Experiments, and Activities for Polymer Concepts, Collin Gurtowski; Mississippi State University [Spring 2009]

CHE 4000: Directed Individual Study, Smart Polymers, Marquita Jones; Mississippi State University [Spring 2010]

CHE 4000: Directed Individual Study, Nanoparticle Materials and Transport, Brandon Abbott; Mississippi State University [Fall 2011]

CHE 4313/6313: Transport Phenomena; Mississippi State University [Spring 2007, Spring 2010\*, Spring 2011]

\* As Directed Individual Study, CHE 4000, Melissa Cooke

CHE 4990/6990: Advanced Polymeric and Multicomponent Materials; Mississippi State Univ. [Fall 2008, Spring 2012]

CHE 7000: Directed Individual Study, Professional Development for Women in Engineering, Amy Parker, Jacqueline Hood, Soumya Srivastava, Heather Thomas, and Kaela Leonard; Mississippi State University [Spring 2009]

CHE 7000: Directed Individual Study, Technical Writing for Publication, Mathew Rowe; Mississippi State University [Spring 2009]

CHE 8123: Chemical Kinetics and Dynamics; Mississippi State University [Spring 2010\*]

\* As Directed Individual Study, CHE 7000, Ashley Cornell, Ersan Eyiler, Caitlin Naske

CHE 8523: Advanced Transport Phenomena; Mississippi State University [Spring 2007, Spring 2010, Spring 2011]

Course Co-Instructor

CHE 211: Intro. to Chemical Engineering (Mass and Energy Balance); Clemson Univ. [Spring 2003]

ABE/ChE/ME 4624/6624: Experimental Methods in Materials Research; Mississippi State University [Fall 2005, Fall 2007, Fall 2009, Fall 2011]

CHE 4313/6313: Transport Phenomena; Mississippi State University [Fall 2012]

Postdoctoral and Research Associate Advisor

Shijie Ding [primary], postdoctoral researcher, July 16, 2006-July 15, 2007

Shampa Aich [co-advised, secondary], postdoctoral researcher, August 1, 2006-July 31, 2007

Shetian Liu [co-advised, secondary], postdoctoral researcher, July 1, 2008-November 30, 2008

Caitlin Naske [primary], post-baccalaureate researcher, October 16, 2008-May 14,2009

P. Zach Wynne [primary], post-baccalaureate researcher, August 16,2009-May 1, 2010

I-Wei Chu [primary], postdoctoral researcher, October 1, 2010-January 4, 2013

Erick Vasquez [co-advised, primary], postdoctoral researcher, August 16, 2013-August 15, 2014

Graduate Research Advisor

Current:

P. Zach Wynne – M.S. Student, Chemical Engineering; August 2010-present; Thesis: “Reactor Design and Post-Filtration Methods to Reduce Chemical and Physical Aging in Pyrolysis Oils (*tentative*)”

Anandi Varadarajan– M.S. Student, Chemical Engineering; January 2013-present; Thesis: “The Role of Centrifugal Filtration in the Stability and Upgrading of Pyrolysis Oils (*tentative*)”

LaiBao Zhang– M.S. Student, Chemical Engineering; January 2013-present; Dissertation: “TBD”

Bo Portillo – Ph.D. Student, Chemical Engineering; June 2013-present; Dissertation: “TBD”

Former:

Ersan Eyiler – Ph.D. in Chemical Engineering; Graduated August 2013 (August 2009-August 2013); Dissertation: “Development of degradable renewable polymers and stimuli-responsive nanocomposites” [The Republic of Turkey Ministry of National Education Ph.D. Fellowship, 2009-2013; MSU Graduate Travel Award, 2010; SPE ANTEC Travel Award, 2011 and 2012]

Erick Vasquez – Ph.D. in Chemical Engineering; Graduated August 2013 (June 2009-August 2013); Dissertation: “Surface Modification and Transport Properties of Nano- and Micro-particles” [Finalist for the Study Mississippi International Student of the Year Award, 2012; Bagley College of Engineering Ph.D. Fellowship, 2009-2010, 2010-2011; Selected Participant in the 12th National School on Neutron and X-ray Scattering, 2010; 1st place poster award, BioSim Focus Area, MS NSF EPSCoR Meetings, 2010 and 2011; Outstanding Researcher Award, MSU Graduate Student Symposium, Spring 2011; Selected as a MS student representative at the National EPSCoR Conference, Oct. 24-27, 2011, Coeur d'Alene, Idaho]

Maryam Dadgarmoghaddam – M.S., Chemical Engineering; January 2011-May 2013 [2012 inductee, Phi Kappa Phi; Bagley College of Engineering Ph.D. Fellowship, 2012-2014]

MD Shamim Howlader [co-advised: Santanu Kundu (ChE), primary] – M.S. Student, Chemical Engineering; February 2013-April 2013

Clay Adkison [co-advised: Santanu Kundu (ChE), primary] – M.S. Student, Chemical Engineering; October 2012-February 2013

Ashley Williams [co-advised: D. Keith Walters (ME), primary] – Ph.D. Student, Mechanical Engineering; August 2010-Summer 2012

Ashley Cornell – M.S. in Chemical Engineering; Graduated May 2012; Thesis: “Studies in Applied Materials Science: Drug-biofluid Interactions and Light-emitting Polymer Films”

Emilia Smith – M.S. Student, Chemical Engineering; June 2011-February 2012

Caitlin Naske– M.S. in Chemical Engineering; Graduated Dec. 2010; Thesis: “Determination of Chemical and Physical Property Changes in Aged Pyrolysis Oils”

Mathew Rowe – Ph.D. in Chemical Engineering; Graduated May 2010;Dissertation: “Synthesis and Characterization of Bioplastics from Renewable Resources” [BCoE Bagley Ph.D. Fellowship, 2006-2009; SPE Scholarship, 2009]

Vijitha Mohan – M.S. in Chemical Engineering; Graduated August 2008; Thesis: “Selective Phosphate Ester Cleavage” [1st place presentation award, 2007 MSU GSA Research Symposium]

Aaron Graham – M.S. Student, Chemical Engineering, Fall 2007–Spring 2008

Undergraduate/High School Research Advisor -- Primary

Current:

1. Gavin Barnett – Spring 2012-present
2. Jack Stogner – Spring 2012, Fall 2012-present
3. Jasmine Young – Summer 2011, Spring 2013
4. Annie (Caitie) O’Horo – Spring 2013, Fall 2013
5. Glynn Freeman – Fall 2013

Former:

1. John Tomlinson – Spring 2013 [student from East MS Community College]
2. Kiefer Slaton – Summer 2012-Summer 2013
3. Gerald Nail – Spring 2013
4. Michael Harper – Spring 2012, Fall 2012
5. Bo Portillo – Spring 2012, Fall 2012
6. Matthew Gresham – Summer 2011-Fall 2012 (co-op Spring 2013)
7. Ken Newton – Spring 2012-Fall 2012
8. Dani Sanchez – Fall 2012
9. Philip Polk – Summer 2010-Spring 2012
10. Seth Roberts – Spring 2012
11. Mariana Lemus Lopez – Summer 2010-Fall 2011
12. Brandon Abbott – Summer 2008, Fall 2011
13. Breyounga Jackson – Summer 2011
14. Kate Bush – Fall 2010-Spring 2011
15. Liza Nalley – Fall 2010
16. Marquita Jones – Fall 2009-Spring 2011
17. William (Brad) Nicholson – Fall 2010-Spring 2011
18. Kayla Chandler (HS, MSMS) – Spring 2011
19. Jennifer Miller – Summer 2010-Fall 2010
20. John Johnson – Fall 2010
21. Ayesha Hicks – Fall 2009, Summer 2010-Fall 2010
22. Amarachi Onwubiko – Summer 2008, Spring 2009-Summer 2009, Summer 2010
23. Matthew Young – Fall 2009-Summer 2010 [1st place award, Life Sciences Division, MSU Undergraduate Research Symposium, 2010]
24. Jason Speed – Summer 2009-Summer 2010
25. Julian Smith – Fall 2009
26. Dylan Wallace – Fall 2009
27. Louise Stewart (NSF REU, Columbia University in the City of New York) – Summer 2009
28. Zachary Wynne – Summer 2007, Summer 2008-Summer 2009
29. Phillip Jamison (Fall ‘06-Spring ’08: co-advised with Dr. Todd French, ChE) – Fall 2006-Summer 2009
30. Michael Lamb – Summer 2007-Summer 2009 [MSU EPSCoR Scholarship, 2007-2009]
31. Kamal Upadhyaya – Spring 2009
32. Jessica Balle – Spring 2009
33. Sarah Crosby – Spring 2007-Spring 2008, Fall 2008-Spring 2009 [1st place poster, Engineering, MSU Undergraduate Research Symposium, 2009]
34. Andrew McMaster – Spring 2007-Spring 2008, Spring 2009
35. Meagan Tidwell – Fall 2008
36. Shelby Steelhammer (HS, MSMS) – Fall 2008
37. Adeola Adebiyi – Summer 2008
38. Erin Smith – Fall 2006-Spring 2008 [3rd place in UG poster competition at 2007 AIChE National Meeting; 2007 AIChE Women's Initiative Committee Travel Grants Award]
39. Lekeith Terrell – Fall 2006-Spring 2008 [MSU BCoE Student Hall of Fame, 2008; ACS Scholars Program, 2006]
40. Jeremy Gandy – Summer 2007-Spring 2008
41. Mitch Wall – Summer 2007-Fall 2007
42. Katie Adler (NSF REU, University of Michigan) – Summer 2007
43. Eivy Lugo-Alvarez (NSF REU, University of Puerto Rico-Mayaguez) – Summer 2007
44. Parisa Toghiani – Summer 2007
45. Laura Hubbard – Fall 2006
46. Ja’Terrica Robinson (HS, QUEST) – Summer 2006
47. Lasheena Culberson – Spring 2006
48. Robert McComas – Fall 2005-Spring 2006
49. Will Sumerford – Fall 2005-Spring 2006

Undergraduate/High School Research Advisor -- Secondary

Former:

Alyssa Terry (co-advised with Dr. Giselle Thibaudeau, MSU EMC/BioSci) – Summer 2008

Florian Schulz (co-advised with Dr. Adrienne Minerick, NSF REU, University of Hamburg, Germany) – Summer 2007

Sarah Proulx (Clemson Univ) – Fall 2004-Spring 2005

Wenjin Wang (Clemson Univ) – Spring 2003-Summer 2004

Ryan Harris (Clemson Univ) – Fall 2003-Spring 2004

Curran Chandler (Clemson Univ, NSF REU) – Summer 2003

Aaron Ruhe (Clemson Univ) – Spring 2004-Spring 2005

Chris Shuler (Clemson Univ) – Fall 2002-Spring 2003

Chris Gentry (Clemson Univ) – Spring 2002-Fall 2002

Brian Norowski (Clemson Univ) – Fall 2001-Spring 2002

Annie Daley (Clemson Univ) – Fall 2000-Spring 2001

Kristina Krysanowski (Clemson Univ) – Summer 2000

John McKibbin (Clemson Univ) – Fall 1998-Spring 2000

Kara Andregetti (Clemson Univ) – Fall 1998-Spring 2000

Dissertation/Thesis Committee Member

In Progress:

Bo Portillo, Ph.D. Student, Chemical Engineering

Anandi Varadarajan, M.S. Student, Chemical Engineering

LaiBao Zhang,M.S. Student, Chemical Engineering

MD Shamim Howlader, M.S. Student, Chemical Engineering

Maryam Dadgarmoghaddam, Ph.D. Student, Chemical Engineering

P. Zach Wynne, M.S. Student, Chemical Engineering

Aubrey Rainer, M.S. Student, Chemical Engineering

Chinni Yalamanchili, Ph.D. Candidate, Chemistry

Heather Thomas, M.S. Candidate, Chemical Engineering

Matt Thomas, Ph.D. Candidate, Chemical Engineering

Robert McComas, M.S. Candidate, Chemical Engineering

Amy Parker, Ph.D. Candidate, Chemical Engineering

Former:

Ersan Eyiler, Ph.D. Candidate, Chemical Engineering

Erick Vasquez, Ph.D. Candidate, Chemical Engineering

Ashley Cornell, M.S. Graduate, Chemical Engineering, Spring 2012

Clay Adkison, M.S. Student, Chemical Engineering

Jacqueline Hall, Ph.D. Graduate, Chemical Engineering, May 2012

Ashley Williams, Ph.D. Student, Mechanical Engineering

Emilia A. Smith, M.S. Student, Chemical Engineering

Devkant Gandhi, Ph.D. Graduate, Chemical Engineering, Summer 2011

Sheena Reeves, Ph.D. Graduate, Chemical Engineering, Spring 2011

Caitlin Naske, M.S. Graduate, Chemical Engineering, Fall 2010

Andro Mondala, Ph.D. Graduate, Chemical Engineering, Fall 2010

Soumya S. Keshavamurthy, Ph.D. Graduate, Chemical Engineering, Fall 2010

Mathew Rowe, Ph.D. Graduate, Chemical Engineering, Spring 2010

Aaron Graham, M.S. Student, Chemical Engineering

Vijitha Mohan, M.S. Graduate, Chemical Engineering, Fall 2008

Matt Thomas, M.S. Graduate, Chemical Engineering, Fall 2006

Holly J. Martin, Ph.D. Graduate, Fall 2006, Chemical Engineering

Kaiweng Liang, Ph.D. Graduate, Fall 2005, Chemical Engineering

**PROFESSIONAL SERVICE**

### Manuscript Reviewer

### Journal of the American Chemical Society (JACS) Macromolecules

Polymer Polymer Bulletin

Physical Chemistry Chemical Physics (PCCP) Chemical Society Reviews

Soft Matter Applied Surface Science

Colloids and Surfaces B: Biointerfaces Biotechnology and Bioengineering

Environmental Science & Technology Frontiers in Education (FIE)

International Journal of Engineering Education Journal of Pre-College Eng. Educ. Research (J-PEER)

Energy & Fuels Journal of Materials Chemistry

Propellants, Explosives, Pyrotechnics Society For Biomaterials

American Society for Engineering Education (ASEE): New Engineering Educators (NEE), Women in Engineering (WIE), and Educational Research and Methods (ERM) Divisions

Society of Plastics Engineers (SPE): BioPlastics Special Interest Group (SIG)

Proposal Reviewer

National Science Foundation

National Aeronautics and Space Administration

Oak Ridge National Laboratory

Louisiana EPSCoR

Louisiana Board of Regents’ Research Competitiveness Subprogram

Book Reviewer

Reviewer, Book Proposal, "Polymer Surface Modification” by A.P. Kharitonov, Wiley-Blackwell, John Wiley & Sons, Inc., August 2009

Reviewer, Book, “Analysis of Transport Phenomena” by William Deen, 2nd Edition, Oxford University Press, Summer 2010.

Member, Textbook Advisory Panel, Elsevier Academic Press, Ashby et al., Materials: engineering, science, processing and design, 3rd edition, 2013-present.

Member, Textbook Advisory Panel, Elsevier Academic Press, Ashby et al., Materials: engineering, science, processing and design, 2nd edition, 2008-2009.

University, College, and Departmental Committees

*University*

Office of Research & Economic Development, Strategic Process Planning Committee, Mississippi State University, 2007-2008

Faculty Representative, President’s Commission on the Status of Women (PCSW), Mississippi State University, 2012-2013

Graduate Council, Mississippi State University, 2013-present

*College*

Academy of Distinguished Teachers Selection Committee, Bagley College of Engineering, 2011

Simrall Award Committee, Bagley College of Engineering, 2010

Course and Curriculum Committee, Bagley College of Engineering, 2010-2012

P&T Committee, Bagley College of Engineering, 2012-2014

Faculty Grievance Panel, Bagley College of Engineering, 2012-present

*Department*

Director Search Committee, Chemical Engineering, 2008-2010, 2010-2011

Faculty Search Committee, Chemical Engineering, 2010-2012

Undergraduate Affairs Committee, Chemical Engineering, 2008-2011

Undergraduate Curriculum Concept Inventory Committee (Ad hoc), Chemical Engineering, 2008-2009

Graduate Affairs Committee, Chemical Engineering, 2006-2008, 2009-present

Graduate Coordinator, Chemical Engineering, 2012-present

ChE Engineering Studio Space Plan (Ad hoc), July 2012.

College Working Groups

Materials, 2005-present

Biotechnology, 2005-present; Co-chair, 2011-2012

Energy, 2005-present

Organization Service

Member, Chemical Engineering Ray Fahien Award Selection Committee, American Society of Engineering Education (ASEE),2013-present.

Director, Bioplastics Special Interest Group (BioSIG), Society of Plastics Engineers (SPE), 2011-present [*elected*].

Reviewer, Society For Biomaterials (SFB), Session: Surface Modification of Three Dimensional Scaffolds for Tissue Engineering Applications, 2010 Annual Meeting and Exposition, April 21-24, 2010, Seattle, WA.

Member, Program Committee-- Applications of Engineering Education Research (AEER), International Journal of Engineering Education (IJEE), 2009.

Session Chair, “Polymeric Biomaterials,” Materials Engineering and Sciences Division, AIChEAnnual Meeting, Nashville, TN, Nov. 8-13, 2009.

Session Chair, “Stimuli Responsive Polymers,” Materials Engineering and Sciences Division, AIChE Annual Meeting, Philadelphia, PA, Nov. 21, 2008.

Session Co-chair, “Naturally-derived Biomaterials,” Materials Engineering and Sciences Division, AIChE Annual Meeting, Salt Lake City, UT, Nov. 7-12, 2010.

Session Co-chair, “Structure and Properties of Polymers III: Networks and Gels,” Materials Engineering and Sciences Division, AIChE Annual Meeting, Nashville, TN, Nov. 8-13, 2009.

Session Co-chair, “Polymer Reaction Engineering, Kinetics and Catalysis II,” Catalysis and Reaction Engineering Division, AIChE Annual Meeting, Philadelphia, PA, Nov. 19, 2008.

Session Co-chair, “Polymer Thin Films and Interfaces IV,” Engineering Sciences and Fundamentals Division, AIChE Annual Meeting, Philadelphia, PA, Nov. 20, 2008.

Member, ASEE Women in Engineering Division Best Paper Review Committee, 2008.

Session Chair, “Polymers for Energy Applications,” Topical 7, AIChE Annual Meeting – Salt Lake City, UT, Nov. 8, 2007.

Member, Steering Committee, Bioplastics Special Interest Group (BioSIG), Society of Plastics Engineers (SPE), 2007-2010.

Session Chair, “Stimuli Responsive Polymers,” Materials Engineering and Sciences Division, AIChE Annual Meeting, San Francisco, CA, Nov. 13, 2006.

Member, Organizing Committee, Topical Conference: Polymer Characterization and Analysis, Engineering and Properties Division (EPSDIV),Society of Plastics Engineers (SPE), 2007-2008.

Additional Service

*Administrative*

Focus Area Leader, Biological Systems Simulation (BioSim), NSF MS EPSCoR, Mississippi State University, 2012-present.

Member, NSF MS EPSCoR Steering Committee, Mississippi State University, 2012-2013.

Thrust Leader, Specialty Chemicals, DOE Sustainable Energy Research Center (SERC), Mississippi State University, 2008.

*Student (Group) Advising*

Advisor, MSU Computer Science, Engineering and Mathematics Scholarship (CSEMS) S-STEM program, 2007-present.

Faculty Advisor, Graduate Women in Science & Engineering (G-WISE), Mississippi State University, Spring 2011-present.

*Outreach—Industrial/National Lab*

Technical Advising: Severstal (2010-present), Columbus Roll Corporation (2012-present)

Organizer, Recruitment and Informational AIChE Meeting, Juan C. Boulton, Manager of Technical Engineering -- Spinning/Poly/Recovery, Toray Carbon Fibers America, February 15, 2012.

Organizer, Collaboration with Cryovac, Division of Sealed Air, polymer resin provided for experiments in ChE 4990/6990, “Advanced Polymeric and Multicomponent Materials,” Fall 2008.

Organizer, Collaboration with Sandhill Plastics, recycled polyethylene sheeting provided for experiments in ME/ChE 4624/6624, “Experimental Methods in Materials Research,” Fall 2009.

Member, SNS and HFIR User Group (SHUG) at Oak Ridge National Laboratory (ORNL), 2007-present.

*Outreach—K-16*

Outreach, “Welcome to the Wonderful World of Polymers,” Nancy Sistrunk’s 5th grade class, Ward-Stewart Elementary School, Starkville, MS, February 8, 2010, [www.cdispatch.com/news/article.asp?aid=4778](http://www.cdispatch.com/news/article.asp?aid=4778), [www.msstate.edu/web/media/detail.php?id=4804](http://www.msstate.edu/web/media/detail.php?id=4804).

Outreach, “Nanotechnology and Nanomedicine,” presentation and demonstrations at the MS NSF EPSCoR Teacher’s Workshop, MSU, June 24, 2010.

Outreach, “What Is Chemical Engineering?” Hands On Engineering, High School Student Workshop, MSU, July 21, 2010.

Outreach, Designed, prepared, and distributed ferrofluid kits to K-16 teachers, MS NSF EPSCoR Program, Summer 2010.

Poster Judge, Mississippi State University, ChE1101 – Freshman Seminar, December 2005.

Poster Judge, AIChE Annual Meeting, San Francisco, CA, November 2006.

Poster Judge, Mississippi State University, ChE4134 – Process Design, November 2006.

Co-instructor, “Introduction to Fluid Mechanics and Aerodynamics,” Mississippi Governor’s Summer School, Summer 2008.

Speaker, “Engineering Careers,” ASME -- Northeast Mississippi Section, February 23, 2006.

Speaker, “Graduate School. Why? Why Me? How?” AIChE Student Chapter, Mississippi State University, October21, 2010.

Speaker, “Graduate School. Why? Why Me? How? Why MSU?,” AIChE Student Chapter, Louisiana State University, March 5, 2009.

Speaker, “What is Chemical Engineering?” Hands-On Engineering outreach program for high school students, MSU, July 21, 2010.

Testing Partner, NSF Phase 2 Course, Curriculum, and Laboratory Improvement (CCLI) Program, Michael Prince, Bucknell University, 2007-present.

Guest Lecturer, “Polymers: Introduction, Chemical and Physical Characterization, and Mechanical Testing,” ABE/CHE/ME 4624/6624: Experimental Methods in Materials Research, MSU, Fall 2005, Fall 2007, Fall 2009, Fall 2011.

Guest Lecturer, “Stimuli Responsive Polymers,” ME 4990/6990: Smart Materials, MSU, Spring 2010.

Lesson Developer, Day One Project, [www.dayone.msstate.edu/leading/](http://www.dayone.msstate.edu/leading/), Facilitating MSU Freshman outreach to Grade 4-6 students in MS counties: Choctaw, Clay, Oktibbeha, Webster, Winston, Lowndes, and Noxubee, 2010-2011.

*Outreach—Post-Graduate*

Panel Member, Preparing Future Faculty Program, Mississippi State University, May 13, 2011.

Review Panelist, National Defense Science and Engineering Graduate (NDSEG) Fellowship Program, 2007.

Seminar Co-organizer, “Interested in Characterizing Biological or Material Interfaces?,” Mark A. Poggi, Q-Sense Inc., September 12, 2007.

Seminar Organizer, “Infrared Analysis Techniques for Biofuels Research& Development,” Forrest Weesner and Steven McQueen, ThermoFisher Scientific, May 2, 2007.

Seminar Organizer, “Advances in the Modification of Poly(Lactic Acid),” Douglas Hirt, Clemson University, June 26th, 2008.

Committee Member, Ph.D. Qualifying Examinations, Swalm School of Chemical Engineering, MSU, Summer 2010.

Organizer, Recruitment Sessions for Biomedical Materials Science Graduate Program at the University of Mississippi Medical Center, January 7, 2008.

Seminar Organizer, “Effective Time Management Workshop,” Douglas Hirt, Clemson University, June 26th, 2008.

Seminar Organizer, “Detection of Molecular Gas Phases and Their Transport Properties in Two and Three Dimensions by Atomic Force Microscopy,” Srinivas Manne -- Department of Physics, University of Arizona, December 5, 2008.

Seminar Co-organizer, “AFM Basics and the Veeco Bioscope II,” Dake Laken, Veeco, Inc., January 7, 2009.

Speaker, “Career Paths, Research, Professional/Personal Balance, and You,” – MSU SWE Student Chapter, September 16, 2008.

Speaker, “Surface Modification Via Grafting: Stimuli Responsive Polymer Surfaces,” MSU SPE Student Chapter, September 8, 2005.

*Outreach—Public*

Outreach, Interview with MS Public Broadcasting on Bioplastics Research, <http://mpbonline.org/News/article/engineering_biodegradable_plastics_out_of_biomass_crops_and_timber_harvest>, February 22, 2011.

**PROFESSIONAL DEVELOPMENT**

Education Conferences:

Frontiers of Engineering Education (FOEE) Symposium, National Academy of Engineering, Irvine, CA, December 13-16, 2010.

ASEE Annual Conference – Louisville, KY; June 20-23, 2010.

ASEE Summer School for Chemical Engineering Faculty – Boulder, CO; July 27-August 1, 2002.

Share the Future Conference sponsored by the SUCCEED Coalition – Gainesville, FL; March 4-5, 2002.

ASEE Annual Conference – Montreal, Canada; June 17-18, 2002.

Training:

Japanese Culture and Etiquette Training Session, BancorpSouth, July 25, 2013

Hazardous Waste Training, MSU Office of Regulatory Compliance (ORC), Fall 2005-present

Protection of Human Subjects, MSU ORC Institutional Review Board, May 29, 2008

Workshops and Courses:

Making the Transition to Active Learning: Selecting and Implementing Appropriate Active Learning Techniques in Engineering Courses, ASEE-SE Conference, Mississippi State University, April 1, 2012.

David Carlisle Hull Faculty Leadership Program, Mississippi State University, 2011-2012

Get Students to Focus on Learning Instead of Grades– Mississippi State University, January 20, 2012.

ACS Leadership Workshop, New Orleans, LA, November 30, 2010.

Frontiers of Engineering Education (FOEE) Symposium, National Academy of Engineering, Irvine, CA, December 13-16, 2010.

Women LEAD – Leadership, Exploration And Development, Bagley College of Engineering and College of Business, Mississippi State University, August 25, September, 22, October 27, and November 17, 2009.

THINGS THAT WORK! Seminar on Teaching Strategies and Tactics – Mississippi State University, September 17, 2009.

Grant Writing Institute, Council on Undergraduate Research – Mississippi State University, May 26-29, 2009.

Ethical Conduct of Research – Mississippi State University, October 15, 2008.

Bagley College of Engineering New Faculty Development Workshops –Mississippi State University, Fall 2005.

Career Planning for Prospective Faculty – AIChE Annual Meeting Workshop, November 7, 2004.

Pre-Instructional Strategies – Clemson University, April 23, 2004.

Women in the Professorate – Clemson University, April 21, 2004.

Five Decisions Students Make About You – Clemson University, February 13, 2004.

How to Write a Winning Grant Proposal – Clemson University, February 9, 2004.

The Vitae and Resume: All You Ever Wanted to Know and More – Clemson University Michelin Career Center, January 22, 2004.

Future Directions in Surface Modification Research – NSF Center for Advanced Engineering Fibers and Films, Clemson University, January 6, 2004.

Brain Research and Its Implications on Learning – Clemson University, December 15, 2003.

Effective Time Management – NSF Center for Advanced Engineering Fibers and Films, Clemson University, August 8, 2003.

Writing a Teaching Philosophy – Clemson University, July 17, 2003.

Taking Command of Your Classroom with Kindness – Clemson University, June 27, 2003.

What a Picture is Worth: Teaching Higher-Order Thinking to Visual Learners – Clemson University, April 11, 2003.

How to Get Your Students to Do the Readings – Clemson University, August 14, 2002.

Effective Teaching for Engineering Professors (Teaching Institute) – ASEE Chemical Engineering Division Summer School, University of Colorado, July 27, 2002.

Bioengineering – ASEE Chemical Engineering Division Summer School, University of Colorado, July 30-31, 2002.

Enhancing and Advancing Student Learning – ASEE Chemical Engineering Division Summer School, University of Colorado, July 30-31, 2002.

Career Development – ASEE Chemical Engineering Division Summer School, University of Colorado, July 28, 2002.

Research Ethics – Robert J. Rutland Center for Ethics, Clemson University, March 7, 2002.

Concept Inventories for Engineering Sciences – University of Florida, March 4, 2002.

A Unified Approach to Engineering Science – University of Florida, March 4, 2002.

Changing the Campus Culture: Realistic Mission or Impossible Dream – University of Florida, March 4, 2002.

**FUNDED PROPOSALS**

Title: Synthesis and Characterization of pH-Responsive Polyamine Grafted Layers

Sponsor: Mississippi State University Office of Research

Investigator(s): Keisha B. Walters (PI)

Period of Performance:01/01/06-01/01/07

Amount: $9,979

Title: Using Atomic Force Microscopy to Understand pH-Responsive Polymer Conformations

Sponsor: Mississippi State University Office of the Vice President for Research

Investigator(s): Keisha B. Walters (PI)

Period of Performance: 10/31/05-10/31/06

Amount: $1,000

Title: Innovations Through Computational Sciences

Sponsor: National Science Foundation

Investigator(s): MSU PIs: Colin Scanes, Sandra Harpole, David Marcum, Greg Burgreen, David Thompson, Keith Walters, and Keisha Walters

Period of Performance: 05/01/06-04/30/09

Amount: $2,250,000 ($449,999 MSU; $39,960 KBW)

Title: *In Situ* Neutron Reflectivity Studies of Tethered pH-Responsive Polymer Layers

Sponsor: Oak Ridge Associated Universities (ORAU)

Investigator(s): Keisha B. Walters (PI)

Period of Performance: 04/06-11/07

Amount: $10,000

Title: MRI: Acquisition of a Multi-User, High Resolution, Research Grade X-ray Diffractometer (XRD)

Sponsor: National Science Foundation

Investigator(s): Judy Schneider (PI); Co-PIs: Charles Pittman, Francis Lynch, Yaroslav Koshka, Alicia Beatty; Major Users: Ron Palmer, Rand German, Jim Newman, Jr., Keisha Walters

Period of Performance: 09/01/06-08/31/09

Amount: $403,185

Title: Development of Bioplastics from Biomass

Sponsor: US Department of Energy

Investigator(s): Keisha B. Walters (PI)

Period of Performance: 06/06-12/08

Amount: $137,023

Title: Separation of Specialty Chemicals from Bioenergy Processes

Sponsor: US Department of Energy

Investigator(s): Co-PIs: Keisha B. Walters, Adrienne Minerick, and Priscilla Hill

Period of Performance: 06/06-12/08

Amount: $431,636 ($137,055 KBW)

Title: Encapsulation of Trace Impurities in Biodiesel through Nanotechnology

Sponsor: US Department of Energy

Investigator(s): Co-PIs: Adrienne Minerick and Keisha B. Walters

Period of Performance: 06/06-12/08

Amount: $84,984 ($42,448 KBW)

Title: Characterization of Metal-Silica Core-Shell Nanoparticles: An Electron Microscopy Study

Sponsor: Mississippi State University, Materials Characterization Lab (MCL), Electron Microscope Center

Investigator(s): Shampa Aich (PI), Adrienne Minerick (Co-PI), and Keisha B. Walters (Co-PI)

Period of Performance: 07/01/06-06/30/07

Amount: $4,000 ($1,333 KBW)

Title: Course Proposal – Introduction to Fluid Dynamics and Aerodynamics

Sponsor: Mississippi Governor’s School

Investigator(s): D.K. Walters (PI), Keisha B. Walters (Co-PI)

Period of Performance: 6/1/08 – 6/20/08

Amount: $2,500 ($625 KBW)

Title: SERC2 –Identification and Solution of Chemical Factors Responsible for the Negative Properties of Bio-Oils Produced from Wood Barks

Sponsor: US Department of Energy

Investigator(s): Keisha B. Walters (PI)

Period of Performance: 01/01/08-06/30/2011

Amount: $131,301

Title: Engineering Future Chemical Engineers: Incorporation of Process Intensification Concepts into the Undergraduate Curriculum

Sponsor: National Science Foundation

Investigator(s): Rebecca Toghiani (PI), Priscilla Hill (Co-PI), Adrienne Minerick (Co-PI), Keisha B. Walters (Co-PI), and Carlen Henington (Co-PI)

Period of Performance: 01/01/09-12/31/12

Amount: $150,000 ($30,000 KBW)

Title: Identifying a Method to Visually See Radiation/Contamination for Decontamination Activities and Dose Control

Sponsor: Entergy Services, Inc.

Investigator(s): Mark G. White (PI) and Keisha B. Walters (Co-PI)

Period of Performance: 07/01/08-12/31/08

Amount: $60,000 ($30,000 KBW)

Title: Quick Grant for an Atomic Force Microscopy Mini-Seminar Series

Sponsor: MSU ORED

Investigator(s): Keisha B. Walters (PI)

Period of Performance: 10/01/08-12/31/08

Amount: $2,000

Title: Modeling and Simulation of Complex Systems

Sponsor: National Science Foundation

Investigator(s): Sandra Harpole (PI)

Period of Performance: 5/15/09 - 5/14/14

Amount: $ 40M ($20M NSF; $4.3M BioSIM; $1.9M MSU BioSIM; $478,145 KBW)

Title: MRI: Acquisition of an Atomic Force Microscopy System for Advanced Materials Research and Education

Sponsor: National Science Foundation

Investigator(s): Keisha Walters (PI), Adrienne Minerick (Co-PI), Giselle Thibaudeau Munn (Co-PI), David Wipf (Co-PI), and Lakiesha Williams (Co-PI)

Period of Performance: 8/1/2009 – 7/31/2012

Amount: $726,940 ($726,940 KBW)

Title: Targeted Recruiting for Underrepresented PhD students in Chemical Engineering

Sponsor: MSU Office of the Graduate School, Mississippi State University

Investigator(s): Keisha B. Walters (PI)

Period of Performance: 04/01/09 – 09/30/09

Amount: $1,960

Title: Thermal Characterization Equipment for Diverse Particulate Materials Research and Education

Sponsor: National Science Foundation

Investigator(s): Priscilla Hill (PI), Keisha B. Walters (Co-PI), and Adrienne Minerick (Co-PI)

Period of Performance: 09/01/2009-08/31/2010

Amount: $115,000 ($38,333)

Title: SERC3: Production of Multiple Biofuels from Fractionated High-Sugar Pyrolysis Oil

Sponsor: US Department of Energy

Investigator(s): Phil Steele (PI), Keisha B. Walters and others (Senior Investigators)

Period of Performance: 01/01/2010-09/30/2012

Amount: ~$6M DOE ($349,162KBW)

Title: Innovations Through Computational Sciences

Sponsor: National Science Foundation

Investigator(s): Keisha Walters (PI)

Period of Performance: 07/15/06-10/31/09

Amount: $11,634

Title: Collaborative Computational and Experimental Characterization of the Physicochemical Properties of Bioactive Materials Related to their Transport in Pulmonary Mucus

Sponsor: National Science Foundation – MS EPSCoR Seed Grant Program

Investigator: Keisha Walters (PI); Co-PIs: Rebecca Toghiani (MSU), Greg Tschumper (Univ. of Miss.)

Period of Performance: 11/15/2010-08/31/2012

Amount: $152,354 ($40,177 KBW)

Title: pH and Temperature Dependent SANS Studies of Stimuli-responsive Polymer-nanoparticle Composites

Sponsor: Oak Ridge National Laboratory, HFIR User Proposal

Investigator(s): Keisha B. Walters (PI)

Period of Performance: 05/20/11 –05/23/11

Amount: N/A

Title: Characterization of Clear Wood- and Bark-Derived Pyrolysis Oil

Sponsor: KiOR, Inc.

Investigator(s): Glenn Steele (PI) and Senior Investigators: Keisha B. Walters and others

Period of Performance: 06/30/11 –07/01/12

Amount: ~$1M ($75,000 KBW)

Title:In Vitro Inhalation and Deposition of Polymer-Stabilized Gold Nanoparticles for Validation of Computer Simulated Particulate Distributions in the Lung

Sponsor: National Science Foundation – MS EPSCoR Seed Grant Program

Investigator: Keisha Walters (PI), Charlie McCormick (Co-PI, USM); Collaborators: Robert Hester (UMC) and Keith Walters

Period of Performance: 09/01/2011-08/31/2012

Amount: $86,395 ($43,201 KBW)

Title: MRI: Acquisition of a Multi-user Focused Ion Beam-SEM for Multidisciplinary Research and Training Sponsor: National Science Foundation

Investigator(s): PI: Yaroslav Koshka (ECE); CoPIs: Kirkland (GeoSci), Thibaudeau (I2AT), Schnieder (ME), El Kadiri (ME); SIs: Grimes (GeoSci), Hill (ChE), Lacy (AE), Li (CVAS), Monroe (I2AT), Myers (ME), Principe (FIT), Peacock (AMEC), Toghiani (ChE), Walters (ChE), Wipf (Chem)

Period of Performance: 01/01/13-12/31/15

Amount: $965,366

Title: SERC4

Sponsor: Department of Energy (DOE)

Investigator(s): PI: Keisha B. Walters

Period of Performance: July 1, 2011 – June 30, 2014 (NCE)

Amount: $115,157

Title: Mechanical Properties of Pulmonary Mucus

Sponsor: National Science Foundation – MS EPSCoR Seed Grant Program

Investigator: PI: Santanu Kundu (PI); Collaborators: Keisha Walters and D. Keith Walters

Period of Performance: 08/16/2012-08/15/2013

Amount: $43,505 ($0 KBW)

Title: Mechanical Properties of Pulmonary Mucus

Sponsor: National Science Foundation – MS EPSCoR Seed Grant Program

Investigator: PI: Santanu Kundu (PI); Collaborators: Keisha Walters and D. Keith Walters

Period of Performance: 08/16/2012-08/15/2013

Amount: $43,505 ($0 KBW)

Title: Selective Metals Removal in a Chrome Plating Process

Sponsor: Chrome Deposit Corporation

Investigator: PI: Keisha Walters

Period of Performance: 9/16/2013- 03/15/2014

Amount: $$64,643 ($64,643 KBW)