

Kevin N. West

Professor of Chemical & Biomolecular Engineering
University of South Alabama
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Academic Appointments

University of South Alabama, Mobile, AL

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| 2017 – Present | Professor of Chemical & Biomolecular Engineering |
| 2014 – 2017 | Associate Professor of Chemical & Biomolecular Engineering |
| 2008 – 2014 | Assistant Professor of Chemical & Biomolecular Engineering |

University of St. Thomas, St. Paul, MN

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| 2004 – 2008 | Adjunct Professor of Chemistry |
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Education

2001 – 2003 University of Minnesota, Minneapolis, MN

- Post-doctoral Research Associate
- Noble metal catalyzed hydrogen and α -olefin production from alkanes in millisecond reactors
Advisor: Dr. Lanny D. Schmidt

1996 – 2001 Georgia Institute of Technology, Atlanta, GA

- Ph.D. Chemical Engineering, 2001
- Dissertation: “*CO₂-Expanded Liquids as Environmentally Benign Process Solvents*”
Advisors: Dr. Charles A. Eckert and Dr. Charles L. Liotta
- Minor: Organic Chemistry

1992 – 1996 University of Virginia, Charlottesville, VA

- B.S. Chemical Engineering with High Distinction, 1996
- Thesis: “*Spatiotemporal Variations on an Iron Ring Electrode*”
Advisor: Dr. John L. Hudson

Professional Memberships

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| • American Institute of Chemical Engineers | 1994 – Present |
| • American Chemical Society | 1999 – Present |

Honors & Awards

- Russ & Robin Lea Faculty Innovation, Award, USA National Alumni Association, **2017**
- Mortar Board Senior Honor Society – selected as “Top Prof” by Senior USA Chemical Engineering Students:
 - Corey Nguyen, **2016**
 - Mack Bozman, **2016**
 - William C. Spikes, **2015**
 - Katlyn A. Bramblett, **2014**
 - Joshua T. Richardson, **2012**
 - Misbahuddin Syed, **2012**
 - K. Aaron Lepre, **2011**
- USA College of Engineering Excellence in Research Award, **2012**
- Tau Beta Pi – Alabama Epsilon Chapter “Professor of the Year”, **2012**
- AIChE Annual Meeting, Pittsburgh, **2012**, “Best Presentation in Section”

Publications

Journal Articles

1. Brown, A.S., Bozman, M.E., Hickman, T.J., Hossian, M.I., Glover, T.G., West, K.N., Wheeler West, C. (2019). Superhydrophobic Functionalization of Cotton Fabric via Reactive Dye Chemistry and a Thiol-ene Click Reaction. *Industrial & Engineering Chemistry Research*, <https://doi.org/10.1021/acs.iecr.9b03258>.
2. Bunge, M.A., Davis, A. B., West, K. N., West, C. W., Glover, T.G. (2018). Synthesis and Characterization of UiO-66-NH₂ Metal–Organic Framework Cotton Composite Textiles. *Industrial & Engineering Chemistry Research*, 57(28), 9151-9161.
3. Rabideau, B. D., West, K. N., Davis, J. H. Making Good on a Promise: Ionic Liquids with Genuinely High Degrees of Thermal Stability. (2018). *Chemical Communications*, 54(1), 5019-5031.
4. Soltani, M., Siu, B., Salter, E. A., Wierzbicki, A., West, K. N., Davis, J. H. (2018) Synthesis, thermal stability, and computed bond dissociation energies of tetraarylphosphonium-based mesothermal ionic liquids bearing a quinoline ring system
5. Cassity, C. A., Siu, B., Soltani, M., McGeeHee, J. L., Strickland, K. J., Vo, M., Salter, E. A., Stenson, A. C., Wierzbicki, A., West, K. N., Rabideau, B. D., Davis, J. H. (2017). The effect of structural modifications on the thermal stability, melting points and ion interactions for a series of tetraarylphosphonium-based mesothermal ionic liquids. *Physical Chemistry Chemical Physics*, 19(47), 31560-31571.
6. Soltani, M., Siu, B., Salter, E. A., Wierzbicki, A., West, K. N., Davis, J. H. (2017). Synthesis, thermal stability, and computed bond dissociation energies of tetraarylphosphonium-based mesothermal ionic liquids bearing a quinoline ring system. *Tetrahedron Letters*, 58(49), 4628-4631.
7. Benchea, A., Siu, B., McCants, J., Soltani, M., Salter, E. A., Wierzbicki, A., West, K. N., Davis, J. H. (2017). An evaluation of anion suitability for use in ionic liquids with long-term, high-temperature thermal stability. *New Journal of Chemistry*, 41, 7844-7848.

8. Siu, B., Cassity, C. G., Benchea, A., Strickland, K. J., Wierzbicki, A., Sykora, R. E., Salter, E. A., O'Brien, R. A., West, K. N., Davis, J. H. (2017). Thermally Robust: Triarylsulfonium ionic liquids stable in air for 90 days at 300C. *RSC Advances*, 7, 7623–7630.
9. Thigpen, A. S., Nestor, S. T., O'Brien, R. A., S. M., Y. S., Davis, J. H., West, K. N., Mirjafari, A. (2017) Thioether-Functionalized Picolinium Ionic Liquids: Click Synthesis and Thermophysical Characterizations for use as Lubricants. *New Journal of Chemistry*, 41, 1625-1630.
10. Langham, J. V., O'Brien, R. A., Davis, J. H., West, K. N. (2016). Solubility of CO₂ and N₂O in an Imidazolium-Based Lipidic Ionic Liquid. *Journal of Physical Chemistry B*, 120(40), 10524-10530.
11. West, C. W., Huynh, T. L.Y., Poiroux, K., O'Brien, R. A., West, K. N., Davis, J. H. (2016). Fusion and Thermal Degradation Behavior of Symmetric Sulfur-Containing Quaternary Ammonium Bromides. *Journal of Physical Chemistry B*, 120(7), 1330–1335.
12. Green, B. D., Badini, A. J., O'Brien, R. A., Davis, J. H., West, K. N. (2016). Liquid-Liquid Equilibria of Binary Mixtures of a Lipidic Ionic Liquid with Hydrocarbons. *Physical Chemistry Chemical Physics*, 18, 2459-2467.
13. Thomas, M. J., Bramblett, K. A., Green, B. D., West, K. N. (2015). Thermophysical and absorption properties of brominated vegetable oil. *Journal of Molecular Liquids*, 211, 647–655.
14. Stenson, A. C., West, K. N., Reichert, W. M., Klomkaew, P., Cassity, C. G., Dobyns, B. M., Siu, B., Davis, J. H. (2015). Multi-ion ionic liquids and a direct, reproducible, diversity-oriented way to make them. *Chemical communications (Cambridge, England)*, 51(88), 15914-6.
15. Ruckart, K. N., O'Brien, R. A., Woodard, S. M., West, K. N., Glover, T. G. (2015). Porous Solids Impregnated with Task-Specific Ionic Liquids as Composite Sorbents. *The Journal of Physical Chemistry C*, 119(35), 20681-20697.
16. Green, B. D., O'Brien, R. A., Davis, J. H., West, K. N. (2015). Ethane and Ethylene Solubility in Imidazolium-based Lipidic Ionic Liquid. *Industrial & Engineering Chemistry Research*, 54(18), 5165–5171.
17. Bunge, M. A., Ruckart, K. N., Leavesley, S. J., Peterson, G. W., Nguyen, N., West, K. N., Glover, T. G. (2015). Modification of Fibers with Nanostructures Using Reactive Dye Chemistry. *Industrial & Engineering Chemistry Research*, 54(15), 3821–3827.
18. Mirjafari, A., O'Brien, R. A., West, K. N., Davis, J. H. (2014). Synthesis of Novel Lipid-Inspired Ionic Liquids via Thiol-ene Chemistry: Profound Solvent Effect on Reaction Pathway. *Chemistry: A European Journal - Wiley*, 20(25), 7576-7580.
19. O'Brien, R. A., Mirjafari, A., Mattson, K., Murray, S. M., Mobarrez, N., Salter, E. A., Wierzbicki, A., Davis, J. H., West, K. N. (2014). The Effect of Sulfur Position on the Melting Points of Lipidic 1-Methyl-3-Thiaalkylimidazolium Ionic Liquids. *Journal of Physical Chemistry B*, 118(34), 10232-10239.
20. Chen, L., Mullen, G. E., Le Roch, M., Cassidy, C. G., Gouault, N., Fadamiro, H. Y., Barletta, R. E., O'Brien, R. A., Sykora, R. E., Stenson, A. C., West, K. N., Horne, H., Davis, J. H. (2014). On the Formation of a Protic Ionic Liquid in Nature. *Angewandte Chemie International Edition*, 53(44), 11762-11765.

21. O'Brien, R. A., West, C. W., Hollingsworth, B. E., Stenson, A. C., Henderson, C. B., Mirjafari, A., Mobarrez, N., West, K. N., Mattson, K. M., Salter, E. A., Wierzbicki, A., Davis, J. H. (2013). A Simple and Rapid Route to Novel Tetra(4-thiaalkyl)ammonium Bromides. *RSC Advances*, 3, 24612-24617.
22. Mirjafari, A., Pham, L. N., McCabe, J. R., Mobarrez, N., Salter, E. A., Wierzbicki, A., West, K. N., Sykora, R. E., Davis, J. H. (2013). Building a bridge between aprotic and protic ionic liquids. *RSC Advances*, 3, 337-340.
23. Murray, S. M., Zimlich, T. K., Mirjafari, A., O'Brien, R. A., Davis, J. H., West, K. N. (2013). Thermophysical Properties of Imidazolium-based Lipidic Ionic Liquids. *Journal of Chemical and Engineering Data*, 58(6), 1516-1522.
24. Kwana, M. L., Pham, L. N., McCabe, J. R., O'Brien, R. A., Essi, D. F., Baum, L., West, K. N., Davis, J. H. (2013). Synthesis and Thermophysical Properties of Ionic Liquids: Cyclopropyl Moieties versus Olefins as T_m-Reducing Elements in Lipid-inspired Ionic Liquids. *Tetrahedron Letters*, 54(1), 12-14.
25. Mirjafari, A., Murray, S. M., O'Brien, R. A., Stenson, A. C., West, K. N., Davis, J. H. (2012). Structure-based tuning of T_m in lipid-like ionic liquids. Insights from Tf₂N-salts of gene transfection agents. *Chemical Communications*, 48, 7522-7524.
26. Leavesley, S. J., West, K. N. (2011). A Graduate Laboratory Course on Biodiesel Production - Emphasizing Professional, Teamwork and Research Skills. *Chemical Engineering Education*, 45(4), 248-256.
27. O'Brien, R. A., Mirjafari, A., Jajam, V., Capley, E. N., Stenson, A. C., West, K. N., Davis, J. H. (2011). Functionalized Ionic Liquids with Highly Polar Polyhydroxylated Appendages and their Rapid Synthesis via Thiol-ene Click Chemistry. *Tetrahedron Letters*, 52(40), 5173-5175.
28. Alagharu, V., Palanki, S., West, K. N. (2010). Analysis of Ammonia Decomposition Reactor to Generate Hydrogen for Fuel Cell Applications. *Journal of Power Sources* (829-833).
29. Murray, S. M., O'Brien, R. A., Mattson, K. M., Ceccarelli, C., Sykora, R. E., West, K. N., Davis, J. H. (2010). The Fluid-Mosaic Model, Homeoviscous Adaptation, and Ionic Liquids: Dramatic Lowering of the Melting Point by Side-Chain Unsaturation. *Angewandte Chemie International Edition*, 49(15), 2755-2758.
30. West, K. N., Hallett, J. P., Jones, R. S., Bush, D. M., Liotta, C. L., Eckert, C. A. (2004). CO₂-Induced Miscibility of Fluorous and Organic Solvents for Recycling Homogeneous Catalysts. *Industrial and Engineering Chemistry Research*, 43(16), 4827-4832.
31. Krummenacher, J. J., West, K. N., Schmidt, L. D. (2003). Catalytic Partial Oxidation of Higher Hydrocarbons at Millisecond Contact Times: Decane, Hexadecane, and Diesel Fuel. *Journal of Catalysis*, 215, 332-343.
32. Schmidt, L. D., Klein, E. J., Leclerc, C. A., Krummenacher, J. J., West, K. N. (2003). Syngas in Millisecond Reactors: Higher Alkanes and Fast Lightoff. *Chemical Engineering Science*, 58, 1037-1041.
33. Ablan, C. D., Hallett, J. P., West, K. N., Jones, R. S., Liotta, C. L., Eckert, C. A. (2003). Use and Recovery of a Homogeneous Catalyst with Carbon Dioxide as a Solubility Switch. *Chemical Communications*, 2972-2973.

34. West, K. N., West, C. W., McCarney, J. P., Griffith, K. N., Bush, D. M., Liotta, C. L., Eckert, C. A. (2001). In Situ Formation of Alkylcarbonic Acids with CO₂. *Journal of Physical Chemistry A*, 105, 3947-3948.
35. West, C. W., West, K. N., Liotta, C. L., Eckert, C. A. (2001). Ionic Liquids as Catalytic Green Solvents for Nucleophilic Displacement Reactions. *Chemical Communications*, 10, 887-888.

Patents

1. *"Process for the Separation of Carbon Dioxide from Flue Gas,"; Chevron Energy Technology Corporation; Daniel Chinn, Russell Cooper, Alice He, James H. Davis, Jr., Kevin N. West, Hye Kyung Timken, Michael S. Driver. U.S. Pat. Appl. Publ. (2012), US 20120167766 A1 20120705, WO 2012092176 A2 20120705.
2. *"Aqueous Solution of Amine Functionalized Ionic Compounds for Carbon Capture Processes,"; Chevron Energy Technology Corporation; Russell Cooper, Daniel Chinn, Alice He, James H. Davis, Jr., Kevin N. West, Hye Kyung Timken, Michael S. Driver. U.S. Pat. Appl. Publ. (2012), US 20120171094 A1 20120705
3. *"Method for Improving the Total Energy Demand in a Post-Combustion Carbon Capture Process with Ionic Absorbent,"; Chevron Energy Technology Corporation; Russell Cooper, Daniel Chinn, Alice He, Jim Davis, Kevin N. West, Hye Kyung Timken, Michael S. Driver. PCT Int. Appl. (2012), WO 2012092204 A2 20120705.
4. "Extraction Process Utilizing Liquefied Carbon Dioxide,"; Cool Clean Technologies, Inc.; Jon R. Turner, Kevin N. West, United States Patent #7,915,379, 2011.
5. "Catalytic Partial Oxidation of Hydrocarbons,"; Reagents – University of Minnesota; Lanny D. Schmidt, Jakob J. Krummenacher, Kevin N. West; United States Patent # 7,262,334, 2007.

Book Chapter

Mirjafari, A., O'Brien, R. A., Murray, S. M., Mattson, K. M., Mobarrez, N., West, K. N., Davis, J. H. (2012). Lipid-Inspired Ionic Liquids Containing Long-Chain Appendages: Novel Class of Biomaterials with Attractive Properties and Applications. *Ionic Liquids: Science and Applications* (vol. 1117, pp. 199-216). American Chemical Society.

Conference Presentations

Rabideau, B. D. (Presenter), Soltani, M., Salter, E. A., Wierzbicki, A., West, K. N., Davis, J. H. "The Effect of Cation Polarity on the Melting Points of Ionic Liquids: An Experimental and Computational Study." 2019 AIChE Annual Meeting, Orlando, FL (November 2019).

West, K. N. (Presenter), Siu, B., Badini, A., Rabideau, B.D., Davis, J. H., Badilla, K., Soltani, M. "Thermodynamics & Thermophysical Properties of Thermally Robust Ionic Liquids and Their Mixtures." 2018 AIChE Annual Meeting, Pittsburgh, PA (November 2018).

West, K. N. (Presenter), Rabideau, B.D., Salter, E. A., Wierzbicki, A., Davis, J. H. "Pushing the Thermal Limits of Ionic Liquids." Gordon Research Conference on Ionic Liquids, Newry, ME. (August 2018).

Glover, T. G. (Presenter), West, K.N., Chemical and Biological Defense Science & Technology Conference 2017, "A Platform to Modify Textiles for Defense Applications," Long Beach, CA. (November 2017).

West, K. N. (Presenter), Siu, B., Davis, J. H., O'Brien, R. A., Cassity, C. G., Badini, A., Soltani, M., 2017 AIChE Annual Meeting, "Thermally Robust Molten Salts & Ionic Liquids: Thermodynamics Properties and Phase Behavior", American Institute of Chemical Engineers, Minneapolis, Minnesota. (October 31, 2017).

Poster - West, C. W. (Presenter), West, K. N., Glover, T. G., Bozman, M., Moran, C., AIChE Annual Meeting, "Versatile Surface Modification for Functionalization of Fibers," Minneapolis. (November 1, 2017).

Glover, T. G. (Presenter), West, K. N., ECBC/DTRA Surface Science Review, "Functionalization of Fibers with UiO MOFs and Zr(OH)₄," Raleigh, NC. (September 2017).

Glover, T. G. (Presenter), West, K. N., DoD US Army MOF/Fiber Working Group, "Functionalization of Cotton with UiO-66-NH₂," Natick, MA. (June 2017).

Glover, T. G. (Presenter), Bunge, M., Ruckart, K. Neil, Leavesley, S. J., Peterson, G., Nguyen, N., West, K. N., MOF 2016, "Attachment of MOFs to Nylon and Cotton Fabrics," Long Beach, CA, (2016).

West, K. N. (Presenter), Davis, J. H., O'Brien, R. A., Siu, B., Cassity, C. G., 2016 AIChE Annual Meeting, "Thermal and Thermodynamic Properties of Ionic Liquids and Molten Salts with High Thermal Stability", American Institute of Chemical Engineers, San Francisco, California. (November 16, 2016).

Siu, B. (Presenter), West, K. N., Cassity, C. G., Davis, J. H., AIChE Southern Regional Conference, "Pure Component & Binary Thermal Behavior of Novel Ionic Compounds with High Thermal Stability", AIChE, Tuscaloosa, AL. (April 2, 2016).

Glover, T. G. (Presenter), West, K. N., PacifiChem, "Modification of Fibers with Nanostructures for Chemical Defense", Honolulu, HI. (December 2015).

West, K. N., Green, B. D., Dobyns, B. M., O'Brien, R. A., Davis, J. H., 2015 AIChE Annual Meeting, "Solubility and Volumetric Behavior of Binary Mixtures of Lipidic Ionic Liquids and Molecular Solutes", American Institute of Chemical Engineers, Salt Lake City, Utah. (November 9, 2015).

Bunge, M. (Presenter), Ruckart, K. N., Leavesley, S. J., Peterson, G. W., Nguyen, N., West, K. N., Glover, T. G., 2015 AIChE Annual Meeting, "The Application of Reactive Dyes to Functionalize Fibers with MOFs, Quantum Dots, and Gold Nanoparticles", AIChE, Salt Lake City, Utah. (November 8, 2015).

West, K. N. (Presenter), Green, B. D., O'Brien, R. A., Davis, J. H., 2014 AIChE Annual Meeting, "Binary Phase Behavior of Lipidic Ionic Liquids", Atlanta, GA. (November 17, 2014).

Woodard, S. M. (Presenter), West, K. N., Deal, J., West, C. W., 2014 AIChE Annual Meeting, "Separations Using Supercritical CO₂ Deposited Adsorbents", Atlanta, GA. (November 17, 2014).

Green, B. D. (Presenter), West, K. N., O'Brien, R. A., Davis, J. H., 2014 AIChE Annual Meeting, "Solvent Properties of Lipidic Ionic Liquids", Atlanta, GA. (November 17, 2014).

Bramblett, K. A. (Presenter), Thomas, M. J., West, K. N., 2014 AIChE Annual Meeting, "Thermal and Thermophysical Properties of Brominated Vegetable Oil", Atlanta, GA. (November 17, 2014).

Davis, J. H. (Presenter), Chen, L., Mullen, G. E., Le Roch, M., Cassity, C. G., Gouault, N., Fadamiro, H. Y., Barletta, R. E., O'Brien, R. A., Sykora, R. E., Stenson, A. C., West, K. N., Horne, H. H., Hendrich, J. M., Rui, K., Ionic Liquids, "On the formation of a protic ionic liquid", Gordon Research Conference, Newry, ME. (August 17, 2014).

Nguyen, N. (Presenter), Glover, T. G., West, K. N., West, C. W., 2013 UCUR Symposium, "Nanoscale Modification of Fibers via Reactive Dye Chemistry", USA UCUR, Mobile, AL. (2013).

West, K. N. (Presenter), Davis, J. H., O'Brien, R. A., Langham, J. V., AIChE Annual Meeting, "VLE of Lipidic Ionic Liquid Systems", AIChE, San Francisco. (2013).

West, K. N. (Presenter), Davis, J. H., O'Brien, R. A., Zimlich, T. K., AL-Hashem, A., Langham, J. V., USA Graduate Research Symposium, "Understanding the Thermophysical & Solvent Properties of Lipidic Ionic Liquids", USA FDC, Mobile, Alabama. (2013).

West, K. N., Zimlich, T. K. (Presenter), Jung, C. A. (Presenter), 2013 UCUR Symposium, "Liquid/Liquid Equilibria of Binary Systems of Lipidic Ionic Liquids with Molecular Species", USA UCUR, Mobile, Alabama. (October 17, 2013).

West, K. N., Langham, J. V. (Presenter), 2013 UCUR Symposium, "Measurement and Modeling of CO₂ and N₂O Solubility in Lipidic Ionic Liquids", USA UCUR, Mobile, Alabama. (October 17, 2013).

West, K. N. (Presenter), Murray, S. M., Thigpen, A. S., Zimlich, T. K., Mirjafari, A., O'Brien, R. A., Davis, J. H., ACS Spring Meeting, "Tuning the thermophysical properties of lipidic ionic liquids through structural variation", American Chemical Society, San Diego, CA. (2012).

West, K. N., McCabe, J. R., Thigpen, A. S., AL-Hashem, A., Mirjafari, A., Davis, J. H., AIChE Annual Meeting, "Binary SLE of Lipidic Ionic Liquid Systems", AIChE, Pittsburgh, PA. (2012).

West, K. N. (Presenter), Davis, J. H., AL-Hashem, A., Zimlich, T. K., Mirjafari, A., O'Brien, R. A., AIChE Annual Meeting, "Pure and Mixture Thermophysical Properties and Phase Behavior of Lipidic Ionic Liquid", AIChE, Pittsburgh, PA. (2012).

Reichert, W. M. (Presenter), Williams, N. G., Goodie, T., La, M., Mirjafari, A., Davis, J. H., West, K. N., Murray, S. M., 2012 Materials Research Society Spring Meeting, "Application of Ionic Liquids for the Conversion of Biomass to Feedstock Chemicals", San Francisco, CA. (April 12, 2012).

Liotta, C. L. (Presenter), Brown, J. S., West, K. N., Hallett, J. P., McCarney, J. P., Nolen, S. A., West, C. W., Griffith, K. N., Eckert, C. A., Glaser, R., ACS Joint Southeast-Southwest Regional Meeting, "Environmentally Benign Solvent Systems for Chemical Reactions and Processes", American Chemical Society, New Orleans. (2000).

West, C. W. (Presenter), West, K. N., McCarney, J. P., Griffith, K. N., Liotta, C. L., Eckert, C. A., AIChE Annual Meeting, "CO₂-Alcohol Systems for Novel in situ Acid Generation", AIChE, Los Angeles, CA. (2000).

West, K. N. (Presenter), Hallett, J. P., Brown, J. S., West, C. W., Bush, D. M., Liotta, C. L., Eckert, C. A., AIChE Annual Meeting, "Novel Single-Phase Fluorous-Organic Systems for Environmentally Benign Processing", AIChE, Los Angeles, CA. (2000).

Grant and Contract Awards/Submission

Total external funding as PI: \$ 3,399,438

Total external funding as PI or Co-PI: \$ 6,213,082

Grants

Funded & Current

West, K. N. (Principal), Reichert, W. M. (Project Manager), Davis, J. H. (Co-Principal), Wheeler West, C. (Co-Principal), Rabideau, B. D. (Co-Principal), et al., "Understanding the Molecular-level Interactions Between Ionic Liquids and Molecular Species to Design and Develop Novel Solvent Systems for Environmental and Energy Applications," Sponsored by Department of Energy – EPSCoR Implementation Grant, Federal, \$2,710,993. (August 15, 2019 – August 14, 2021).

Davis, J. H. (Principal), Reichert, W. M. (Co-Principal), Glover, T. G. (Co-Principal), West, K. N. (Co-Principal), "Development of CO₂-Capturing Ionic Liquid Solutions for Spacecraft Air Revitalization Systems", Sponsored by NASA – EPSCoR CAN (Administered through State EPSCoR program at UAH) – Federal, \$1,142,414. (August 15, 2019 – August 14, 2022).

Glover, T. G. (Principal), Rabideau, B. D. (Co-Principal), West, K.N. (Co-Principal), "Technical Evaluation of Methods to Recover Liquids from Gas in Microgravity", Sponsored by NASA – X-Hab – Federal, \$30,000. (August 1, 2019 – May 31, 2020).

Funded & Completed

Glover, T. G. (Principal), (Co-Principal), West, K.N. (Co-Principal), Davis, J. H., "Undergraduate Elective Class Evaluating Ionic Liquids for Closed Air Revitalization", Sponsored by NASA – X-Hab – Federal, \$30,000. (July 1, 2018 – June 30, 2019).

Davis, J. H. (Principal), West, K. N. (Co-Principal), "Development of Room-Temperature Ionic Liquids for Reversible Electroplating," Sponsored by Air Force - SBIR - Sub-contract for Faraday Technologies, Federal, \$225,000.00. (July 1, 2017 - June 30, 2019).

Glover, T. G. (Principal), West, K. N. (Co-Principal), "Development of Biocidal Fabrics Using the Reactive Dye Method," Sponsored by Army Research Office (ARO), External to the University, \$598,332.00. (2016 - 2018).

Glover, T. G. (Principal), West, K. N. (Co-Principal), "Modification of Fibers Using Reactive Dye Chemistry," Sponsored by U. South Alabama, Internal to the University, \$25,000.00. (2014 - 2017).

Glover, T. G. (Principal), West, K. N. (Co-Principal), "Application of the Reactive Dye Method to Tailor Fibers with Adsorbent Materials," Sponsored by Army Research Office (ARO), External to the University, \$305,772.00. (September 2015 - 2018).

West, K. N. (Co-Principal), Davis, J. H. (Principal), "Development of Room-Temperature Ionic Liquids for Reversible Electroplating," Sponsored by Air Force - SBIR - Sub-contract, Federal, \$45,000.00. (July 1, 2016 - March 31, 2017).

Reichert, W. M. (Principal), Glover, T. G. (Co-Principal), West, K. N. (Co-Principal), Wallace, K. (Co-Principal), "Fluorescent Test Strips for the Detection of Heavy Metals in the Mobile Bay Region," Sponsored by University of South Alabama Center for Environmental Resiliency, Internal to the University, \$20,000.00. (January 2016 - December 2016).

West, C. W. (Principal), West, K. N. (Co-Principal), Glover, T. G. (Co-Principal), "Investigation of a Novel Hybrid Absorbent for Oil Spill Remediation," Sponsored by Center for Environmental Resiliency, \$20,000.00. (December 2015 - November 2016).

West, K. N. (Principal), Davis, J. H. (Co-Principal), Reichert, W. M. (Co-Principal), "MRI: Acquisition of an Intelligent Gravimetric Analyzer to Characterize Gas Absorption Properties of Ionic Liquids for Energy and Environmental Applications," Sponsored by National Science Foundation – MRI-CBET, Federal, \$361,923.00. (August 1, 2011 - July 31, 2015).

West, K. N. (Principal), Davis, J. H. (Co-Principal), "Understanding the Thermophysical and Solvent Properties of Lipid-like Ionic Liquids," Sponsored by National Science Foundation – CBET, Federal, \$248,522.00. (August 1, 2011 - July 31, 2015).

West, K. N. (Principal), "Enhanced Supercritical Fluid Extraction through Solute Partitioning to a Non-Volatile Phase," Sponsored by USA Research Council, Internal to the University, \$5,500.00. (March 15, 2013 - March 14, 2015).

West, K. N. (Principal), "Hamilton Syringe Grant – Gas-tight Syringes for Undergraduate and Graduate Education and Research Use," Sponsored by Hamilton Syringe Company, Private, \$1,000.00. (August 1, 2013 - July 31, 2014).

West, K. N. (Co-Principal), Davis, J. H. (Principal), "USA/Chevron Ionic Liquids Technology Development," Sponsored by Chevron Energy Technology Corporation, Private, \$300,000.00. (July 1, 2010 - June 30, 2014).

West, K. N. (Co-Principal), Glover, T. G. (Principal), West, C. W. (Co-Principal), "Nanoscale Modification of Fibers via Reactive Dye Chemistry," Sponsored by Army Research Office, Federal, \$50,000.00. (September 1, 2013 - March 15, 2014).

West, K. N. (Co-Principal), Russ, S. H. (Principal), "A Conductivity-Based in situ Hydrocarbon Sensor," Sponsored by Alabama's Marine Environmental Science Consortium (MESCC): Rapid Response Funds – Small Grants for Exploratory Research (SGER), State, \$9,338.00. (January 1, 2011 - August 31, 2011).

West, K. N. (Co-Principal), Adams, M. (Principal), "Enhanced Detection of Hydrocarbons Through Optical Scattering," Sponsored by Alabama's Marine Environmental Science Consortium (MESCC): Rapid Response Funds – Small Grants for Exploratory Research (SGER), State, \$12,788.00. (January 1, 2011 - August 31, 2011).

West, K. N. (Principal), White, K. D. (Co-Principal), "Sustainable Landfill Gas Recovery and Utilization Project," Sponsored by Mobile County Commission/Mobile County Solid Waste Disposal Advisory Board, Local, \$67,000.00. (June 1, 2010 - June 1, 2011).

West, K. N. (Principal), "Thermodynamic Characterization of Novel Ionic Liquids and Energetic Biomolecules," Sponsored by USA Research Council, Internal to the University, \$5,000.00. (April 1, 2010 - March 31, 2011).

Contract

Funded & Completed

West, K. N. (Principal), "Thermal & Thermophysical Property Measurement of Urethane Precursors," Sponsored by Evonik Corporation, Private, \$2,500.00. (August 15, 2016 - October 31, 2016).

West, K. N. (Principal), Glover, T. G. (Co-Principal), "Thermal & Thermophysical Property Measurement of Siloxanes," Sponsored by Evonik Corporation, Private, \$2,500.00. (September 1, 2014 - February 13, 2015).

Student Research Mentoring

Graduate Students

Current Students

Kelsey J. Tootle
Jimmie L. McGehee

Graduation (or Expected)

July 2020
July 2021

Former Students

Blane D. Green
Wei Sin Chai
Samuel Murray
Vijaykumari Jajam
A. Shay Thigpen
Rajeev Davuluru

Spring 2015
Summer 2013
August 2012
August 2012
December 2012
May 2011

Undergraduate Research Students

Current Students

Abdullah Alazmi
Dustin Arden
Jordan Harbison
Joseph Milter
Joseph Carrier
Alton Stoute
Randi Swanson

Graduation (or Expected)

May 2020 Departmental Honors
May 2020 Departmental Honors
May 2020 Departmental Honors
May 2020 Departmental Honors
May 2021 Departmental Honors
May 2021 Departmental Honors
May 2021 University Honors

Former Students

Abdullah Algady
Mack Bozman
Kelly Badilla
Bradley Brimmer
Tanner Hickman
Michael Weinzirl
Benjamin Siu
Amy L. Bosarge
Cody S. Parker
Corey D. Nguyen
Fatima A. Hamade
Will C. Spikes
Alexander J. Badini
Katlyn A. Bramblett
Breanna M. Dobyms
Seth M. Woodard
Conner A. Jung
Jacob V. Langham
Matthew J. Thomas
T. Kyle Zimlich
Ali AL-Hashem
James Bolger
Joshua T. Richardson

May 2019 Departmental Honors
May 2019 Departmental Honors
May 2019 University Honors
May 2019 Departmental Honors
May 2019 Departmental Honors
May 2018 University Honors
May 2017 Departmental Honors
May 2017 Departmental Honors
May 2017 Departmental Honors
May 2016 Departmental Honors
May 2016 Departmental Honors
May 2015 Departmental Honors
May 2015 University Honors
May 2015 Departmental Honors
May 2015 Departmental Honors
May 2014 Departmental Honors
May 2014 Departmental Honors
May 2014 Departmental Honors
May 2013 Departmental Honors
May 2013 Departmental Honors

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|---------------------|---------------|---------------------|
| Robert J. Compton | May 2012 | |
| Richard L. Cullum | May 2012 | Departmental Honors |
| Misbahuddin Syed | May 2012 | |
| Trent D. Thomas | May 2012 | |
| Blane D. Green | December 2012 | |
| Zachary D. Hart | May 2011 | |
| Jake G. LeBlanc | May 2011 | |
| K. Aaron Lepre | May 2011 | Departmental Honors |
| John A. Cooley | August 2010 | |
| Donna L. Gaya | May 2010 | |
| James E. Lake | May 2010 | |
| Samuel M. Murray | May 2010 | |
| Johnathon D. Powell | May 2010 | |

Service & Synergistic Activities

University Service

| | |
|---|------------------------------------|
| Faculty Senate: | 4/2012 – 4/2018 |
| Past-President | 4/2016 – 4/2017 |
| President | 4/2015 – 4/2016 |
| Vice-President | 4/2014 – 4/2015 |
| Chair – Technology Utilization Committee (as committee chair, member of Executive Committee) | 4/2013 – 4/2014 |
| Engineering Caucus Leader | 4/2012 – 4/2013 4/2017 – 4/2018 |

University Committees:

| | |
|---|------------------|
| Graduate Council | 8/2019 – Present |
| International Student Services & Success Committee | 2016 – 2018 |
| Search Committee: VPFA Human Resources | 5/2017 – 10/2017 |
| Search Committee: Dean of Graduate School/VP Academic Affairs | 4/2016 – 4/2017 |
| University Retention Committee | 2016 – 2017 |
| Sexual Harassment & Sexual Violence Resolution Committee | 4/2016 – 5/2016 |
| Committee on Standards in Conduct of Research | 7/2015 – 7/2016 |
| Search Committee: Vice President for Finance and Administration | 2/2015 – 10/2015 |
| EVisions Research Management Software Implementation Committee | 2/2015 – 10/2015 |
| University Academic Standards Committee | 8/2014 – 8/2016 |
| USA Faculty Development Committee | 8/2014 – 8/2015 |
| University Academic Computing Committee | 9/2013 – 8/2014 |
| Electronic Learning Committee | 9/2013 – 8/2014 |
| Teleconferencing Committee | 8/2013 – 7/2014 |
| University Scholarship & Financial Aid Committee | 9/2011 – 8/2015 |
| Grants-in-Focus Working Lunch (USA OSP) – Invited Speaker | 12/6/2011 |
| SACS Quality Enhancement Program Committee | 12/2010 – 8/2011 |

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| First Year Experience (FYE) Development Committee | 9/2010 – 11/2010 |
| Freshman Seminar Evaluation Committee (single meeting) | 2009 |

College Service

College Committees:

| | |
|---|-------------------------------|
| College of Engineering Representative on University Graduate Council | 2019 – Present |
| College of Engineering Graduate Affairs Committee | 2016 – Present 2011 – 2013 |
| College of Engineering Undergraduate Affairs Committee | 2013 – 2016 |
| College of Engineering Safety Committee | 2012 – 2016 |
| College of Engineering Scholarship Committee | 2008 – 2012 |
| College of Engineering Academic Standards Committee (also serves as the Grade Dispute Committee) | 2008 – 2012 |
| College of Engineering EG 101 Committee | 2009 – 2011 |
| EYE and Engineer's Week Open House – Organized Demonstrations | 2009, 2010 |
| EG 101 – Developed Fermentation Design Lab and 2-Excel Projects Based on Phase Equilibria and Circuit Analysis | 2010 – 2011 |
| Fundamentals of Engineering Exam Review Chemistry | 2008 –2013 |
| Chemical Engineering Thermodynamics | 2009 –2013 |

Departmental Service

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|---|-------------------------------|
| Faculty Search Committees | 2011 – 2012 2015 – 2016 |
| Departmental Safety Committee, Chair Implemented chemical and gas cylinder inventory and tracking system | 3/2012 – 3/2016 |
| Departmental Graduate Program Coordinator | 2016 – Present 2011 – 2013 |

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|--|-------------------|
| Organized course syllabus, outline and ABET materials for CHE 442 | Spring 2011 |
| Served as Acting Department Chair for 4 weeks | Summer 2010 |
| Conducted two freshman orientations and one transfer orientation session | Summer 2010 |
| B.E.A.Ch.E.S. Program: Developed and participated in 1 – 2.5 day's worth of activities with high school students | Summer 2009, 2010 |
| Actively recruited students from seven Mobile County High Schools for the B.E.A.Ch.E.S. Program and ChBE at USA | Spring 2009 |
| Master's Comprehensive Exam – Selected the journal article and formulated questions for exam | 2009 – 2011 |

Professional Service

Journal Reviewer: Langmuir, Fluid Phase Equilibria, ChemPhysChem, Energy & Fuels, Environmental Pollution, Industrial & Engineering Chemistry Research, International Journal of Refrigeration, Journal of Chemical & Engineering Data, Journal of Hydrogen Energy, Journal of Lipid Science & Technology, Journal of Molecular Liquids, Korean Journal of Chemical Engineering, Polymer Chemistry, Journal of CO₂ Utilization, European Journal of Lipid Science.

Grant Reviewer

NSF – CBET – Chemical & Biological Separations/Molecular Thermodynamic – Joint Review Panel, January 2019

Department of Energy – EPSCoR Proposal Review, 2016

NSF – CBET – Chemical & Biological Separations – Review Panel, January 2016

NSF – CREST Center Proposal, 2015