

## William Joseph Sagues

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Updated Jan. 2024

### EDUCATION

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<b>PhD, Forest Biomaterials</b> North Carolina State University	January 2018 - August 2020
<b>MSc, Chemical Engineering</b> University of Florida	August 2015 - December 2017
<b>MSc, Agricultural &amp; Biological Engineering</b> University of Florida	August 2015 - December 2017
<b>BSc, Agricultural &amp; Biological Engineering</b> University of Florida	August 2009 - May 2012

### PROFESSIONAL APPOINTMENTS

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<b>Assistant Professor</b> Director of the Biocarbon Utilization & Sequestration (BUS) Laboratory Biological & Agricultural Engineering North Carolina State University	August 2020 - present
<b>Co-Founder</b> Flip Biosystems, Inc.	May 2023 - present
<b>Graduate Student Research (SCGSR) Fellow</b> Office of Science, U.S. Department of Energy Host Site: National Renewable Energy Laboratory	January 2020 - August 2020
<b>Graduate Research Assistant</b> Department of Forest Biomaterials, North Carolina State University	January 2018 - August 2020
<b>Summer Scholar</b> Green Chemistry Summer School, American Chemical Society	July 2019
<b>Technology-to-Market Scholar</b> Advanced Research Projects Agency (ARPA-E), U.S. Department of Energy	May 2018 - August 2018
<b>Graduate Research Assistant</b> Department of Agricultural & Biological Engineering, University of Florida Department of Chemical Engineering, University of Florida	August 2015 - December 2017
<b>Senior Bioprocess Engineer</b> <b>Bioprocess Engineer</b> Stan Mayfield Biorefinery, Cellulosic Research & Demonstration Plant Florida Center for Renewable Chemicals & Fuels, University of Florida In Partnership with Georgia-Pacific LLC	March 2014 - August 2015 May 2012 - March 2014

## RESEARCH GRANTS FUNDED

### JANUARY 2021 – PRESENT (TOTAL: \$20,700,870)

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Full list of proposals (awarded, pending, and rejected) available by request

\* indicates interinstitutional grant

Average funding awarded per year: \$6,900,290

#### Lead Principal Investigator (Total: \$1,661,532)

Average funding awarded as lead PI per year: \$553,844

1. *Conversion of Cotton Textile Waste to Biochar and Compost*, Cotton Incorporated, 2023, **\$75,000**. PI: **W. Joe Sagues**
2. *Anaerobic Digestion of Industrial Organic Residues*, Burnham RNG, 2023-2024, **\$76,810**. PI: **W. Joe Sagues**
3. KEITS Climate Leaders Award, Kenan Institute of Engineering, Technology, & Science, 2023, **\$5,000** PI: **W. Joe Sagues**
4. Goodnight Early Career Innovator Award. 2022 – 2025. \$22,000 per year for research (**\$66,000** total). PI: **W. Joe Sagues**
5. *Carbon Mineralization via Rock Quarry Fines*, Carolina SunRock, 2022, **\$25,004**. PI: **W. Joe Sagues**, Co-PI: A. Woodley
6. *Electrifying Bioproducts via C1 Fermentation*, USDA, 2022, Hatch Multi-State Grant, **\$5,000**. PI: **W. Joe Sagues**
7. *Electrifying Animal Feed: Leveraging Microbial Communities in Formicine Ants to Produce Single Cell Protein via Assimilation of CO<sub>2</sub>-Derived Formic Acid*, Research Innovation Seed Funding, North Carolina State University, 2022, **\$25,000**. PI: **W. Joe Sagues**, Co-PIs: Elsa Youngsteadt, Amy Grunden, Sung Woo Kim, Kelly Zering, & Doug Call
8. *Electrifying Animal & Fish Feed: Leveraging Microbes in Food Waste Anaerobic Digesters to Produce Single Cell Protein via Assimilation of CO<sub>2</sub>-Derived Formic Acid*, NC Biotechnology Center, 2022, **\$12,477**. PI: **W. Joe Sagues**, Co-PIs: Jay Cheng & Sung Woo Kim
9. *Bioprocess Development for Pulp Liquor Fermentation*, Rayonier Advanced Materials, 2022, **\$23,187**. PI: **W. Joe Sagues**, Co-PIs: Hasan Jameel & Praveen Kolar
10. *Butanol & Nanocellulose from CRISPR-Edited Poplar*, NC Department of Agricultural & Consumer Services, 2021 – 2023, **\$100,000**. PI: **W. Joe Sagues**, Co-PIs: Wayne Yuan, Jack Wang, & Nathalie Lavoine
11. *\*Integrating Carbon Capture, Utilization, & Sequestration into Chemical Pulp Mills*, US Department of Energy's Advanced Manufacturing Office, Award Number: DE-EE0009413, 2021 – 2024, **\$1,273,054**. PI: **W. Joe Sagues**, Co-PIs: Fanxing Li, Rachel Cook, Sunky Park, & Hasan Jameel

#### Co-Principal Investigator (Total: \$19,039,338)

Average funding awarded as Co-PI per year: \$6,346,446

1. *Advanced Separation and Processing Technologies for Enhanced Product Recovery and Improved Water Utilization, Cost Reduction, and Environmental Impact of an Integrated Lithium-Ion Battery Recycling System*, US DOE, 2023 – 2027. **\$606,156**. PI: Ryan Melsert, American Battery Technology Company. Co-PIs: **W. Joe Sagues**, Sunky Park.

2. *Sargassum and Wood Waste for Aviation Fuel and Graphite (SWAG)*, US DOE, 2022 – 2026, **\$2,250,000**. PI: Sunkyu Park, Co-PIs: **W. Joe Sagues**, Richard Venditti, Stephen Kelley, Margaret Blanchard.
3. *Biocatalyst Interactions with Gases (BIG) Collaboration*, Novo Nordisk Foundation, 2022 – 2027, **\$7,000,000**. PI: Sonja Salmon, Co-PIs: **W. Joe Sagues**, Amy Grunden, Doug Call, Igor Bolotnov, Nathan Crook, Fanxing Li, Flora Meilleur, & Yaroslava Yingling
4. *New Methods for Methane Pyrolysis*, Eastman Chemical Company, 2022 – 2024, **\$556,536**. PI: Fanxing Li, Co-PIs: **W. Joe Sagues**, Jian Dou, & Wenpei Gao
5. *A Feasibility Assessment of Waste Cotton to Bioenergy with Carbon Removal*, Cotton Incorporated, 2022 – 2024, **\$52,000**. PI: Richard Venditti. Co-PI: **W. Joe Sagues**
6. *Equipment Grant*, NCSU College of Agriculture and Life Science, 2022, **\$80,000**, PI: Jay Cheng. Co-PI: **W. Joe Sagues**, Shuijin Hu, Francois Birgand, Lingjuan Wang-Li, Praveen Kolar, and Wenqiao Yuan
7. *\*Roads to Removal – Options for Negative Emissions in the United States*, US Department of Energy, 2021 – 2024, **\$4,400,000**. PI: Roger Aines (Lawrence Livermore National Laboratory), Co-PIs: **W. Joe Sagues**, Jennifer Pett-Ridge, Sarah Baker, Eric Slessarev, Simon Peng, Corinne Scown, Hanna Brunig, Matt Langholtz, Dan Sanchez, Mark Ashton, Mark Ducey, Mark Bradford, Phil Robertson, Keith Paustian, Dermot Hayes, Jerome Dumortier, Mark Wright, Helen Pilorge, & Susan Hovorka
8. *Enzyme Enhanced Anaerobic Digestion of Source Separated Organics and Municipal Solid Waste*, Novozymes, 2021 – 2022, **\$94,708**. PI: Jay Cheng, Co-PIs: **W. Joe Sagues** & Praveen Kolar.
9. *\*Scaling Up Biocrude Derived Anode Material (BDAM)*, US Department of Energy’s Bioenergy Technology Office, DE-FOA-0002203 SCUBA, Control Number: 2203-1679, 2021 – 2025, **\$3,999,938**. PI: Sunkyu Park, Co-PIs: **W. Joe Sagues**, Mark Nimlos (NREL), Steve Kelley, Hasan Jameel, Sang-Don Han (NREL), Yuan Yao (Yale)

## PEER-REVIEWED PUBLICATIONS

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[Google Scholar](#)

1. E. Woods, V. R. Berrio, P. Berlin, Y. Qiu, N. Clauser, and **W. J. Sagues**. 2024. “Biomass Composting with Gaseous Carbon Dioxide Capture” *RSC Sustainability (accepted with revisions)*
2. T. Vook, S. C. Dey, J. Yang, M. Nimlos, S. Park, S. D. Han, and **W. J. Sagues**. 2023. “Sustainable Li-ion anode material from Fe-catalyzed graphitization of paper waste” *Journal of Energy Storage (IF: 9.4)*, 73, 109242  
<https://doi.org/10.1016/j.est.2023.109242>
3. L. Lower, S. C. Dey, T. Vook, M. Nimlos, S. Park, and **W. J. Sagues**. 2023. “Catalytic graphitization of biocarbon for Li-ion anodes: A mini-review” *ChemSusChem (IF: 9.14)*, e202300729  
<https://doi.org/10.1002/cssc.202300729>
4. J. P. Dees, **W. J. Sagues**, E. Woods, H. M. Goldstein, A.J. Simon, & D. L. Sanchez. 2023. “Leveraging the Bioeconomy for Carbon Drawdown” *Green Chemistry (IF: 11.034)*, 25, 2930-2957  
<https://doi.org/10.1039/D2GC02483G>

5. W. Peng, H. Bao, Y. Wang, E. Cote, **W. J. Sagues**, H. H. Weaver, J. Gao, D. Xiao, and Z. Tong. 2023. "Selective Depolymerization of Lignin Towards Isolated Phenolic Acids Under Mild Conditions" *ChemSusChem* (IF: 9.14)  
<https://doi.org/10.1002/cssc.202300750>
6. E. R. Molina, T. Vook, **W. J. Sagues**, K. Kim, N. Labbé, S. Park, S. S. Kelley. 2023. "Green Needle Coke Production from Pyrolysis Biocrude toward Bio-based Anode Material Manufacture: Biochar Fines Addition Effect as "Physical Template" on the Crystalline Order" *ACS Sustainable Chemistry & Engineering* (IF: 8.4), 11, 8, 6944-6955  
<https://doi.org/10.1021/acssuschemeng.2c06952>
7. Jennifer Pett-Ridge, Hamed Ziad Ammar, Alvina Aui, Mark Ashton, Sarah E. Baker, Bruno Basso, Mark Bradford, Alexander P. Bump, Ingrid Busch, Edna Rodriguez Calzado, Jackson W. Chirigotis, Nicolas Clauser, Sinéad Crotty, Nicholas Dahl, Tao Dai, Mark Ducey, Jerome Dumortier, Nathan C. Ellebracht, Ramon Gil Egui, Ames Fowler, Katerina Georgiou, Diamantoula Giannopoulos, Hannah Goldstein, Thomas Harris, Dermot Hayes, Chad Hellwinckel, Alina Ho, Mu Hong, Susan Hovorka, Elwin Hunter-Sellars, Whitney Kirkendall, Sara Kuebbing, Matthew Langholtz, Mark Layer, Ian Lee, Reid Lewis, Wenqin Li, Weier Liu, Jimena Terrazas Lozano, Abby Lunstrum, Allegra C. Mayer, Kimberley K. Mayfield, Wilson McNeil, Peter Nico, Anastasia O'Rourke, Simon H. Pang, Keith Paustian, George Peridas, Helene Pilorge, Maxwell Pisciotta, Lydia Price, Peter Psarras, G. Philip Robertson, **William Joe Sagues**, Daniel L. Sanchez, Corinne D. Scown, Briana Mordick Schmidt, Eric W. Slessarev, Noah Sokol, Alexander J. Stanley, Amy Swan, Crystal Toureene, Andrew A. Wong, Mark Mba Wright, Yuan Yao, Bingquan Zhang, Yao Zhang, and Roger D. Aines. *Roads to Removal: Options for Carbon Dioxide Removal in the United States*, December 2023, Lawrence Livermore National Laboratory, LLNL-TR-852901.  
<https://roads2removal.org/>
8. L. M. Lower, J. Cunniffe, J. J. Cheng, **W. J. Sagues**. 2022. "Coupling Circularity with Negativity in Food & Agriculture Systems" *Journal of the American Society of Agricultural & Biological Engineers*  
[doi: 10.13031/ja.14908](https://doi.org/10.13031/ja.14908)
9. **W. J. Sagues**, H. Jameel, D. L. Sanchez, and S. Park. 2020. "Prospects for Bioenergy with Carbon Capture & Storage (BECCS) in the United States Pulp and Paper Industry" *Energy & Environmental Science* (IF: 33.250), 13, 8, 2243-2261  
<https://doi.org/10.1039/D0EE01107J>
10. **W. J. Sagues**, C. A. Assis, P. Hah, D. L. Sanchez, Z. Johnson, M. Acharya, H. Jameel, and S. Park. 2020. "Decarbonizing Agriculture through the Conversion of Animal Manure to Dietary Protein and Ammonia Fertilizer" *Bioresource Technology* (IF: 5.807), 297  
<https://doi.org/10.1016/j.biortech.2019.122493>
11. **W. J. Sagues**, J. Yang, N. Monroe, S. D. Han, T. Vinzant, M. Yung, H. Jameel, M. Nimlos, & S. Park. 2020. "A Simple Method for Producing Bio-Based Anode Materials for Lithium-Ion Batteries" *Green Chemistry* (IF: 9.405), 22, 7093 – 7108  
<https://doi.org/10.1039/D0GC02286A>
12. H. Bao, **W. J. Sagues**, Y. Wang, W. Peng, L. Zhang, S. Yang, D. Xiao, and Z. Tong. 2020. "Depolymerization of Lignin into Monophenolics by Ferrous/Persulfate Reagent

- Under Mild Conditions” *ChemSusChem* (IF: 7.962)  
<https://doi.org/10.1002/cssc.202002240>
13. **W. J. Sagues**, H. Jameel, S. Park, D. L. Sanchez. 2019. “Enhanced Carbon Dioxide Removal from Coupled Direct Air Capture-Bioenergy Systems” *Sustainable Energy & Fuels* (IF: 4.912), 3, 3135-3146  
<https://doi.org/10.1039/C9SE00384C>
  14. **W. J. Sagues**, A. Jain, D. Brown, S. Aggarwal, A. Suarez, M. Kollman, S. Park, D. S. Argyropoulos. 2019. “Are Lignin-Derived Carbon Fibers Graphitic Enough?” *Green Chemistry* (IF: 9.405), 21, 4253-4265  
<https://doi.org/10.1039/C9GC01806A>
  15. **W. J. Sagues**, H. Bao, J. Nemenyi, Z. Tong. 2018. “Lignin-First Approach to Biorefining: Utilizing Fenton’s Reagent and Supercritical Ethanol for the Production of Phenolics and Sugars” *ACS Sustainable Chemistry & Engineering* (IF: 6.140), 6, 4, 4958-4965  
<https://doi.org/10.1021/acssuschemeng.7b04500>
  16. E. Castro, I. U. Nieves, V. Rondon, **W. J. Sagues**, M. T. Fernandez-Sandoval, L. P. Yomano, S. W. York, J. E. Erickson, W. Vermerris. 2017. “Potential for ethanol production from different sorghum cultivars” *Industrial Crops and Products* (IF: 3.849), 109, 367-373  
<https://doi.org/10.1016/j.indcrop.2017.08.050>
  17. K. Gubicza, Z. Barta, I. U. Nieves, **W. J. Sagues**, K. T. Shanmugam, L. O. Ingram. 2016. “Techno-economic analysis of ethanol production from sugarcane bagasse using a Liquefaction plus Simultaneous Saccharification and Co-Fermentation process” *Bioresource Technology* (IF: 5.807), 208, 42-48  
<http://dx.doi.org/10.1016/j.biortech.2016.01.093>
  18. E. Castro, I. U. Nieves, M. T. Mullinnix, **W. J. Sagues**, R. W. Hoffman, M.T. Fernandez-Sandoval, Z. Tian, B. Tamang, L. O. Ingram. 2014. “Optimization of dilute-phosphoric-acid steam pretreatment of *Eucalyptus benthamii* for biofuel production” *Applied Energy* (IF: 7.900), 125, 76-83  
<http://dx.doi.org/10.1016/j.apenergy.2014.03.047>
  19. C. C. Geddes, M. T. Mullinnix, I. U. Nieves, R. W. Hoffman, **W. J. Sagues**, S. W. York, K. T. Shanmugam, J. E. Erickson, W. Vermerris, L. O. Ingram. 2013. “Seed train development for the fermentation of bagasse from sweet sorghum and sugarcane using a simplified fermentation process” *Bioresource Technology* (IF: 5.807), 128, 716-724  
<https://doi.org/10.1016/j.biortech.2012.09.121>

#### NON-PEER REVIEWED PUBLICATIONS

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1. W. J. Sagues, A. Woodley. 2022. “Building a Biotechnology Innovation Ecosystem to Mitigate Climate Change” –Report, University-Industry Demonstration Partnership (UIDP)  
<https://uidp.org/custom-type/innovation-in-the-bioeconomy-mitigating-climate-change/>

## PATENTS

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*Pending*

1. **William Joseph Sagues & Ethan Woods.** METHODS, DEVICES, AND SYSTEMS FOR BIOMASS COMPOSTING AND CO<sub>2</sub> CAPTURE. 2022. North Carolina State University. U.S. 63/373,520. 08/25/2022

## PUBLISHED DATA

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1. J.N. Welch, I.U. Nieves, E. Castro, V. Rondon Berrio, W. Vermerris, K.T. Shanmugam, L.O. Ingram, **W.J. Sagues.** 2021. SMDemoBioref: Data from the Stan Mayfield Demonstration Biorefinery. <https://doi.org/10.5281/zenodo.5682712>

## MEDIA & PRESS RELEASES

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1. W. J. Sagues, T. Howell. 2023. “The Lead”, interviewed on a podcast hosted by the American Society of Agricultural & Biological Engineers (ASABE)
2. W. J. Sagues. 2023. “The Quest for Net Zero” interviewed on the “Farm, Food, and You” podcast hosted by NCSU College of Agriculture and Life Sciences <https://farmsfoodyou.buzzsprout.com/1095827/14021098-the-quest-for-net-zero>
3. W. J. Sagues, J. Daystar. 2023. “Threaded Together – Sustainability and Cotton”, interviewed on a podcast hosted by Ecotextile News <https://www.ecotextile.com/2023/10/20/1319/materials-production-news/podcast-thread-together-sustainability-and-cotton.html>
4. S. Jones, W. J. Sagues. 2023. “The Quest for Net Zero” article published the NCSU’s College of Agriculture & Life Sciences (CALs) <https://cals.ncsu.edu/news/joe-sagues-carbon-recycling/>
5. W. J. Sagues, D. Thompson, & S. Lommel. 2023. Live segment on CBS My Carolina “Long-Term Carbon Sequestration” <https://www.cbs17.com/my-carolina/my-carolina-videos/monday-february-20th-cheerwine-noda-brewing-partner-to-create-cheerwine-ale/>
6. J. Hart., W. J. Sagues. 2023. “Carbon bathtub filling up too fast”. Southeast Farm Press. <https://www.farmprogress.com/conservation-and-sustainability/carbon-bathtub-filling-up-too-fast>
7. S. Jones, W. J. Sagues. 2022. “\$2.25M DOE Grant Awarded to Develop Sustainable Aviation Fuel and Graphite from Waste Streams”, <https://cals.ncsu.edu/news/2-25m-grant-awarded-to-develop-sustainable-energy-products-from-waste-streams/>
8. W. J. Sagues. 2022. Interviewed by WRAL-TV (NBC) in Raleigh, NC on the sustainable practice of converting sunflower residues into biodiesel fuel: <https://www.wral.com/dix-park-sunflowers-turned-into-biofuel-after-they-wilt/20376732/>
9. E. Packard, “NC State Announces 2021-22 Goodnight Early Career Innovators”, <https://news.ncsu.edu/2022/04/nc-state-announces-2021-22-goodnight-early-career-innovators%E2%82%AC/>
10. K. A. Askey, J. Welch, B. Wilson, & W. J. Sagues. 2022 “Bioenergy – Data Boost”, ORNL press release, <https://www.ornl.gov/news/bioenergy-data-boost>
11. W. J. Sagues & M. Grattiri. 2021 “Merging Industry, Academia and National Labs at the Electrosynthesis of Chemicals & Fuels Session”, ACS Nexus, <https://communities.acs.org/t5/GCI-Nexus-Blog/Merging-Industry-Academia-and-National-Labs-at-the/ba-p/85819>

12. W. J. Sagues. 2021. “The Farming We Need”, Indigo Ag Monthly Newsletter, personal quote included in newsletter sent to over 4,000 sustainability officers
13. D. Shore, W. J. Sagues. 2021 “New Faculty Focus: A Focus on Carbon” NCSU press release, <https://www.bae.ncsu.edu/news/2021/new-faculty-focus-a-focus-on-carbon/>
14. W. J. Sagues, 2019, “Forest Biomaterials Joe Sagues Awarded Prestigious US DOE Fellowship”, <https://cnr.ncsu.edu/fb/news/2019/09/forest-biomaterials-joe-sagues-awarded-prestigious-u-s-doe-fellowship/>

## TEACHING

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Student evaluations available upon request

(All evaluations for 2021 are qualitative due to COVID-19 protocols)

**North Carolina State University, 2021 – present**

1. BAE 321: Bioprocess Engineering Fundamentals (3 credits, fall, lead instructor)
2. BAE 315: Engineering Properties of Biological Materials (1 credit, spring, lead instructor)
3. BAE 495/590: Biocarbon Utilization & Sequestration (3 credits, spring, lead instructor)
4. PSE 295/FB 595: Engineering Concepts for the Production of Bio-Based Materials, Chemicals, & Energy (3 credits, every other spring, co-instructor)

**USDA-Sponsored Extension Foundation, 2020 - present**

1. The Sustainable Bioeconomy – Free online course (co-instructor)
  - a. <https://campus.extension.org/enrol/index.php?id=1641>
2. Biomass Conversion for Bioproducts & Bioenergy – Free online course (co-instructor)
  - a. <https://campus.extension.org/enrol/index.php?id=1642>

## MENTORING

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### Postdoctoral Advising

Md Sumon Reza, PhD, 2023 - present

Yaojing Qi, PhD, 2022 - present

Nicolas Clauser, PhD, 2022 - 2023

Ruo Chen Wu, PhD, 2021 - 2022

### Graduate Student Advising

***PhDs in progress as Chair (Total = 4)***

1. Lillian Lower, BAE, NCSU, 2023 – 2027, *Catalytic Graphitization of Sargassum (seaweed) Waste into Li-ion Anode Material*
2. Vanessa Rondon Berrio, BAE, NCSU, 2021 – 2024, *Decoupling Land Use from Protein Production via Microbial Assimilation of CO<sub>2</sub>-Derived Formic Acid*
3. Ethan Woods, BAE, NCSU, 2021 – 2025, *Atmospheric Carbon Removal via Engineered Composting of Food Waste with CO<sub>2</sub> Capture and Soil Carbon Mineralization*
4. Julia Cunniffe, BAE, NCSU, 2021 – 2023, *Selective Enzyme Hydrolysis to Enhance Cellulose Crystallinity & Generate Fermentable Carbon Substrates*

***MS in progress as Chair (Total = 1)***

1. June Khongpatimakorn, BAE, 2022 – 2024, *Waste Cotton to Bioenergy with Carbon Removal*

**MS graduates as Chair (Total = 2)**

1. Lillian Lower, BAE, NCSU, 2021 – 2023, *Optimizing Anaerobic Digestion of Lemnaceae (Duckweed)*
2. Trevor Vook, BAE, NCSU, 2020 – 2022, *Catalytic Graphitization of Biocarbon for Green Battery Anodes*

**PhD graduates as Committee Member (Total = 3)**

1. Eliezer Reyes Molina, Forest Biomaterials, NCSU, 2018 – 2022, *Graphite Nucleation Induced by Biochar Particles in Bio-Oil*
2. Rodrigo Tello Buitrago, Forest Biomaterials, NCSU, 2018 – 2022, *Life-Cycle Environmental and Economic Assessment of Diverse Pulp Grades – Targeting Energy Efficiency and GHG Reductions based on Process Simulation*
3. Hyeonji Park, Forest Biomaterials, NCSU, 2020 – 2023, *Valorization of Sludge-derived Hydrolysate into Furan Chemicals*

**PhDs in progress as Committee Member (Total = 3)**

1. Jingjing Wang, BAE, NCSU, 2022 – 2025, *Redox-enhanced bio-succinic acid fermentation*
2. Shaikat Chandra Dey, Forest Biomaterials, NCSU, 2020 – 2024, *Catalytic Graphitization of Biocrude for Green Lithium-Ion Batteries*
3. Edgar Carrejo, Forest Biomaterials, NCSU, 2021 – 2025, *Retrofitting Kraft Pulp Mills with Carbon Capture and Sequestration*

**MSs in progress as Committee Member (Total = 0)**

**MS graduates as Committee Member (Total = 2)**

1. Matthew Byington, Forest Biomaterials, NCSU, 2020 – 2022, *Optimization of the Graphite Exfoliation & Compression Process*
2. Nur-Al-Sarah Rafsan, Biological & Agricultural Engineering, NCSU, 2021 – 2023, *S-doped Biochar for Supercapacitors*

**Undergraduate Research Assistant Advising**

1. Caleb Carter, CBE, NCSU, 2024 - present
2. Perry Berlin, BAE, NCSU, 2022 – present
3. Chloe Lum, BAE, NCSU, 2022 – present
4. June Khongpatimakorn, BAE, NCSU, 2022
5. Julianne Mahley, CBE, NCSU, 2022 – 2023
6. Shomari Presswood, BAE, NCSU, 2022
7. Paige Seibert, BAE, NCSU, 2021 – 2022
8. Delani McKee, BAE, NCSU, 2021 – 2022
9. Luke Szoch, BAE, NCSU, 2021 – 2022
10. Nicholas Monroe, Forest Biomaterials, NCSU, 2019 – 2020
11. Thomas Cluen, Forest Biomaterials, NCSU, 2018 – 2019
12. John Nemenyi, ABE, UF, 2015 – 2017
13. Zhonglin Lai, ABE, UF 2015 - 2016



### **Undergraduate Senior Design Mentorship**

1. Team Mentor, Fall & Spring, 2024, Team: Rosie Maloney, Brendon Sadlowski, Shomari Presswood, and Hannah Wall. *Food waste composting reactor with CO<sub>2</sub> capture*. Under confidentiality agreement with Flip Biosystems, Inc.

### **Awards received by graduate and undergraduate research assistants**

1. Julia Cunniffe (PhD Student), Presentation Excellence Award, Annual International Meeting, American Society of Agricultural & Biological Engineers, 2023
2. Lillian Lower (PhD Student), Presentation Excellence Award, Annual International Meeting, American Society of Agricultural & Biological Engineers, 2023
3. Vanessa Rondon Berrio (PhD Student), Presentation Excellence Award, Annual International Meeting, American Society of Agricultural & Biological Engineers, 2023
4. Lillian Lower (PhD Student): KEITS Climate Leaders Student Fellow, Kenan Institute of Engineering, Technology, & Science, 2023 – 2024
5. Lillian Lower (PhD Student): Center for Environmental Farming Systems (CEFS) Graduate Fellow, NCSU, 2023 – 2024
6. Ethan Woods (PhD Student): Accepted into NCSU's competitive "Long View Project" <https://provost.ncsu.edu/university-interdisciplinary-programs/longview/>
7. Lillian Lower (PhD Student): First place, Student Research Poster Competition, Society for Industrial Microbiology (SIMB) Symposium on Bio-materials, fuels, and chemicals (SBFC), 2023
8. Paige Seibert (Undergraduate): Science Undergraduate Laboratory Internship (SULI) at the National Renewable Energy Laboratory (NREL), 2023
9. Julia Cunniffe (PhD Student): Summer fellowship with the Bipartisan Policy Center, 2023
10. Julia Cunniffe (PhD Student): KEITS Climate Leaders Student Fellow, Kenan Institute of Engineering, Technology, & Science, 2022 – 2023
11. Julia Cunniffe (PhD Student): College of Engineering Dean's Doctoral Fellowship, 2022-2023
12. Ethan Woods (PhD Student): Technology-to-Market Scholar for the Department of Energy's Advanced Research Projects Agency (ARPA-E), 2022
13. Ethan Woods (PhD Student): Consulting Intern, Aemetis Bioenergy, 2022
14. Julia Cunniffe (MS Student): Consulting Intern, Aemetis Bioenergy, 2022
15. Ethan Woods (PhD Student): Student Delegate, Consortium for Advanced Bioeconomy Leadership Education (CABLE), USDA, 2021 - 2022
16. Julia Cunniffe (MS Student): Student Delegate, Consortium for Advanced Bioeconomy Leadership Education (CABLE), USDA, 2021 – 2022
17. Trevor Vook (MS Student): 2<sup>nd</sup> place, Research Competition, NC Agricultural & Life Sciences, NCSU, 2021
18. Trevor Vook (MS Student): Outstanding Student Presentation, Annual International Meeting, American Society of Agricultural & Biological Engineers, 2021
19. Vanessa Rondon Berrio (PhD Student), Robert O. Evans Fellowship, BAE, NCSU, 2021
20. Luke Szoch (Undergraduate Student): REEP Scholar, BAE, NCSU, 2021 – 2022
21. Paige Seibert (Undergraduate Student): Summer Research Fellow, Office of Undergraduate Research, NCSU, 2021
22. John Nemenyi & Zhonglin Lai (Undergraduate Students): 1<sup>st</sup> place, Research Competition, ABE, UF, 2016

### **Student Organization Advising**

1. Mentor, Grand Challenges Scholar Program, NCSU, 2022 - present
2. Mentor, Senior Design Group in MBA 585: Current Topics in Biosciences Management, NCSU, 2022
3. Mentor, Graduate Student Association, Dept. of Biological & Agricultural Engineering, NCSU, 2021 – present
4. Mentor, Undergraduate Senior Design, Dept. of Chemical Engineering, University of British Columbia, 2020 – 2021

### **SELECT HONORS & AWARDS**

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#### International/National Recognition:

1. Superior Paper Award “Coupling Circularity With Carbon Negativity in Food and Agriculture Systems”, 2023, American Society of Agricultural & Biological Engineers
2. Finalist, NCSU Graduate School Outstanding Graduate Faculty Mentor Award, 2023
3. KEITS Climate Leaders Faculty Fellow, Kenan Institute of Engineering, Technology, & Science, 2022 – 2023
4. Goodnight Early Career Innovator, NCSU, 2022
5. Honorary Advisor, Consortium for Advanced Bioeconomy Leadership Education (CABLE), USDA, 2021
6. Graduate Student Research (SCGSR) Fellowship, Office of Science, U.S. Department of Energy, 2020
7. CIBA Research Award, American Chemical Society - Green Chemistry Institute, 2018
8. 1<sup>st</sup> Place – Boyd Scott Graduate Research Award, Annual International Meeting, American Society of Agricultural and Biological Engineers, 2017
9. 1<sup>st</sup> Place – 5-Minute Rapid Fire Presentation + Poster Competition, International Bioproducts Conference, Technical Association of the Pulp & Paper Industry, 2016
10. 1<sup>st</sup> Place – Outstanding Student Presentation in Applied Research 38<sup>th</sup> Symposium on Biotechnology for Fuels & Chemicals, Society for Industrial Microbiology and Biotechnology, 2016
11. Awards Finalist – New Faces of Engineering, New Faces of Engineering – Professional Edition, DiscoverE, National Society of Professional Engineers, 2016
14. Finalist, Andrews Launch Accelerator Startup Competition, Entrepreneurship Clinic, North Carolina State University, 2020
15. Graduate School Fellowship, College of Natural Resources, North Carolina State University, 2018
16. 1<sup>st</sup> Place – Research Poster Symposium, University of Florida’s Chemical Engineering Department, 2017
17. 2<sup>nd</sup> Place – Research Poster Symposium, University of Florida’s Agricultural and Biological Engineering Department, 2017
18. Service Award, Florida Section of the American Society of Agricultural & Biological Engineers, 2016
19. Graduate Student Travel Grant, Graduate Student Council, University of Florida, 2016
20. Graduate Research Fellowship, Informatics Institute, University of Florida, 2016
21. Graduate School Fellowship, College of Engineering, University of Florida, 2015

## PROFESSIONAL SERVICE

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### Grant Program Workshop Participation

1. US DOE FECM Program on Biomass Carbon Removal & Storage (2023)
2. US DOE ARPA-E Program on Carbon Farming (2022)
3. US DOE ARPA-E Program on Carbon Sequestering Building Materials (2021)
4. US DOE ARPA-E Program on Decarbonizing the Steel Industry (2021)
5. US DOE BETO Program on Utilizing Biorefinery Data (2020)

### Grant Proposal Reviewer

1. NSF EPSCoR Advancing climate change research and resilience capacity to expand opportunities for disproportionately affected communities (2023)
2. USDA SBIR/STTR 8.1 Forests and Related Products (2022)
3. US DOE ARPA-E Program on Entrepreneurship in Clean Energy (2021)
4. North Dakota Industrial Commission Program on CO<sub>2</sub> Capture & Utilization (2021)
5. North Dakota Industrial Commission Program on CO<sub>2</sub> Capture & Utilization (2020)
6. US DOE ARPA-E Program on Direct Air Capture and Ocean Capture (2020)

### Manuscript Reviewer

1. *ACS Sustainable Chemistry & Engineering* (2023)
2. *ACS Applied Energy Materials* (2023)
3. *iScience* (2022)
4. *Biofpr: biofuels, bioproducts, and biorefining* (2022)
5. *Biofpr: biofuels, bioproducts, and biorefining* (2021)
6. *Frontiers in Climate* (2021)
7. *Biofpr: biofuels, bioproducts, and biorefining* (2020)

### Technical Committee Leadership & Membership

1. Board Member, NCSU's Sustainability Fund, 2023 – present
2. Elected Member, American Society of Agricultural and Biological Engineers (ASABE) Nominating Committee, 2024 – 2026
3. Chair, Working Group 1, Circular Bioeconomy Systems Task Force, American Society of Agricultural & Biological Engineers (ASABE), 2021 - present
4. Member, Student Competition Committee P-120, American Society of Agricultural & Biological Engineers (ASABE), 2021 - present
5. Invited Technical Advisor & Writer, Leveraging Biotechnologies to Mitigate Climate Change – Workshop & Report, University-Industry Demonstration Partnership (UIDP), 2021 - 2022
6. Chair, Bioprocess Startup Competition, American Society of Agricultural & Biological Engineers (ASABE), 2021 - present
7. Member, ASE-16, Engineering for Sustainability, American Society of Agricultural & Biological Engineers (ASABE), 2021 - present
8. Secretary, Florida Section of the American Society of Agricultural & Biological Engineers, 2015 – 2017

### Conference Leadership

1. Chair, Graduate Student Oral Presentations & Rapid Fire Poster Presentations, 2024, Society for Industrial Microbiology (SIMB) Symposium on Bio-materials, fuels, and chemicals (SBFC)

## William Joseph Sagues

2. Co-Chair, Section on Biodegradable Polymers from Renewable & Waste Resources and Biocomposites, American Institute of Chemical Engineers (AIChE) 2023 Annual Conference
3. Chair, Emerging Research Showcase: *Long-Term Carbon Sequestration*, 2023, NCSU College of Agriculture & Life Sciences <https://www.eventbrite.com/e/emerging-research-showcase-long-term-carbon-sequestration-tickets-467644085047>
4. Organizer and Moderator, Workshop on Circular Bioeconomy Systems, The American Society of Agricultural & Biological Engineers' 2022 Annual International Meeting
5. Symposia Director, The American Chemical Society Green Chemistry Institute's 2021 Annual Green Chemistry & Engineering Conference -- Symposia: Electrosynthesis of Chemicals & Fuels (co-sponsored by iScience)
6. Convener and Moderator, Session on Electrosynthesis of Chemicals & Fuels, The American Chemical Society Green Chemistry Institute's 2021 Annual Green Chemistry & Engineering Conference

### Seminar Leadership

1. Coordinator, research seminar by visiting professor Dr. Daniel Sanchez from UC Berkeley. 2023. "Markets for Biomass Carbon Removal"
2. Coordinated meeting to present advancements in carbon capture in the pulp and paper sector. 2023. Attendance: 25. Attendees from UC Berkeley, US Department of Energy, Indigo Ag, Cotton Incorporated, Andritz, and Westrock.
3. Coordinator, webinar series on carbon dioxide removal, NCSU, 2021

### Student Engagement

1. Invited judge, Research Poster Competition, 2023, Society for Industrial Microbiology (SIMB) Symposium on Bio-materials, fuels, and chemicals (SBFC)
2. Invited Judge, Poster Competition, American Institute of Chemical Engineers – Bioenergy Conference, 2020
3. Professional Development Group Leader, Forest Biomaterials Graduate Student Association, North Carolina State University, 2019
4. Founder & President, Technical Association of the Pulp and Paper Industry Student Chapter, University of Florida, 2016 – 2017
5. President, Biological Engineering Graduate Student Organization, University of Florida, 2016 – 2017
6. Treasurer, Chemical Engineering Graduate Student Organization, University of Florida, 2016 – 2017
7. Pen-Pal, Letters to a Pre-Scientist, 2015 – 2017
8. Invited Judge, State Science & Engineering Fair, Florida Foundation for Future Scientists, 2016
9. Invited Judge, Future City Competition, DiscoverE's National Science Fair, 2016

### Professional Society Membership

1. American Chemical Society, 2017 – present
2. American Society of Agricultural & Biological Engineers, 2015 – present
3. Society for Industrial Microbiology & Biotechnology, 2015 – present
4. Institute of Biological Engineers, 2015 – present
5. Technical Association of the Pulp and Paper Industry, 2015 – 2020
6. American Institute of Chemical Engineering, 2015 - 2020

## SELECT PRESENTATIONS

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*\* indicates invited presentation*

1. **\*W. J. Sagues**. 2023. “The Shifting Role of Bioproducts in Circular Systems and the Importance of Interdisciplinarity” Invited Key Note presentation. American Society of Agricultural & Biological Engineers Circular Bioeconomy Systems Day as part of the Annual International Meeting
2. **\*W. J. Sagues**. 2023. “The Potential for Biomass Carbon Removal & Storage in the US Bioeconomy” Invited Key Note presentation. Kenan Institute for Engineering, Technology & Science (KIETS) Research Symposium.
3. **\* W. J. Sagues**. 2023. “Valorizing atmospheric CO<sub>2</sub> via Flipped Composting”. NC Chapter of the Solid Waste Association of North America
4. **W. J. Sagues**, J. Cunniffe, J. Wang, and N. Lavoine. 2023. “Co-production of crystalline cellulose and biofuels from poplar” Oral presentation at NC Department of Agriculture and Consumer Services Research Symposium.
5. E Woods, **WJ Sagues**. 2023. “Carbon dioxide removal via flipped composting” Poster presentation at the Society for Industrial Microbiology (SIMB) Symposium on Biomaterials, Fuels, and Chemicals (SBFC)
6. L Lower, **WJ Sagues**, J Cheng. 2023. “Thermophilic anaerobic co-digestion of swine waste and lemnaceae for biogas production” Poster presentation at the Society for Industrial Microbiology (SIMB) Symposium on Biomaterials, Fuels, and Chemicals (SBFC)
7. J Cunniffe, N Lavoine, W Yuan, J Wang, **WJ Sagues**. 2023. “Co-production of crystalline cellulose and biofuels from CRISPR-edited biomass” Poster presentation at the Society for Industrial Microbiology (SIMB) Symposium on Biomaterials, Fuels, and Chemicals (SBFC)
8. VR Berrio, **WJ Sagues**, A Grunden, D Call, E Youngsteadt. 2023. “Formate discovery and evolution for CO<sub>2</sub> utilization” Poster presentation at the Society for Industrial Microbiology (SIMB) Symposium on Biomaterials, Fuels, and Chemicals (SBFC)
9. E. Carrejo, H. Jameel, F. Li, R. Wu, S. Park, **W. J. Sagues**. 2023. “Decarbonizing Lime Kilns at Pulp Mills Via Oxy-Fuel Combustion/Electrification” Oral presentation at American Institute of Chemical Engineers (AIChE) 2023 Annual Conference
10. S. C. Dey, L. Lower, **W. J. Sagues**, B. Tremolet, S. D. Han, M. R. Nimlos, S. S. Kelley, S. Park. 2023. Oral presentation at “Pyrolysis Oil: A Promising Anode Precursor for Lithium-ion Batteries”. American Institute of Chemical Engineers (AIChE) 2023 Annual Conference
11. **W. J. Sagues**, E. Woods, V. R. Berrio, and Y. Qiu. 2023. “Carbon-negative biomaterials via engineered composting with carbon capture” Oral presentation at American Institute of Chemical Engineers (AIChE) 2023 Annual Conference
12. S. C. Dey, T. Vook, W. J. Sagues, S.D. Han, M. Nimlos, S. S. Kelley, S. Park. 2022. “Catalytic Conversion of Bio-oil into Rechargeable Battery Anode” Oral & poster presentation at the 2022 Frontiers in Biorefining conference
13. S. C. Dey, **W. J. Sagues**, S. Park. 2022. “Iron-Catalyzed Conversion of Bio-Oil into Lithium-Ion Battery Anode.” Oral presentation at the 28<sup>th</sup> North American Catalysis Society
14. **\*W. J. Sagues** 2022. “Circular Bioeconomy Systems & Carbon Dioxide Removal”. Keynote speaker at ASABE’s tri-state section meeting between SC, NC, and VA.

15. **\*W. J. Sagues**. 2022. “The Biocarbon Utilization & Sequestration Lab”. Oral presentation at NCSU Bioenergy symposium hosting the Idaho National Laboratory
16. **\*W. J. Sagues**, A. Woodley. 2022. “Highlights of the UIDP Workshop: Leveraging Biotechnologies to Mitigate Climate Change” UIDP webinar series
17. T. Vook, S. D. Han, S. Park, M. Nimlos, & **W. J. Sagues**. 2022. “Catalytic Graphitization of Biomass for Green Battery Anodes” oral presentation at TC Biomass Conference
18. **\*W. J. Sagues**. 2022. “Bioeconomy Supply Chains & Conversion Processes for Carbon Removal”. Oral presentation at US Department of Energy’s Advanced Research Projects Agency’s Workshop on Carbon Farming
19. **\*W. J. Sagues**. 2022. “Opportunities for Industrial Carbon Mineralization”. Oral presentation to the company Nouryon.
20. P. Seibert, V. Rondon Berrio, D. McKee, **W. J. Sagues**. 2022. “Biological Conversion of Cotton Residues to Bioplastic & Proteins via Wild Fermentation”. Poster presentation at NCSU’s Undergraduate Research Symposium
21. **\*W. J. Sagues**. 2022. “Findable, Accessible, Interoperable, and Reusable (FAIR) Data from the Stan Mayfield Demonstration Cellulosic Biorefinery”. Oral presentation at the US Department of Energy’s Bioenergy Technology Systems Development and Integration Office
22. **\*W. J. Sagues**. 2022. “Carbon Dioxide Removal via Engineered & Natural Biosystems”. Oral presentation at the University of Florida’s Biocomplexity Research Group’s monthly seminar series
23. **W. J. Sagues**, H. Jameel, S. Park, D. L. Sanchez. 2022. “Integrating Biomass Carbon Removal & Storage (BiCRS) in Chemical Pulp Mills” Poster presentation at the Gordon Research Conference on Carbon Removal
24. **\*W. J. Sagues**. 2022. “A Carbon-Negative Bioeconomy”. Oral presentation at NCSU Student Energy Club’s monthly meeting
25. **\*W. J. Sagues**. 2022. “Opportunities for CO<sub>2</sub> Removal in the Pulping Industry” Oral presentation at the International Symposium on Wood, Fiber, and Pulping Chemistry (cancelled due to COVID reasons)
26. **\*W. J. Sagues**, T. Vook, V. Rondon, E. Woods, J. Cunniffe, & L. Lower. 2021. “Going Carbon Negative – An Opportunity for Agricultural & Biological Engineers” Oral presentation at the American Society of Agricultural & Biological Engineers Annual North Carolina State Section Meeting
27. T. Vook, P. Kolar, **W. J. Sagues**. 2021 “Statistical Optimization of Catalytic Graphitization of Paper Towel Waste” Oral presentation at the American Society of Agricultural & Biological Engineers Annual International Meeting
28. **\*W. J. Sagues**, J. Cunniffe, L. Lower, & J. Cheng. 2021 “Coupling Circularity with Negativity in Food & Agriculture Systems” Oral presentation at the American Society of Agricultural & Biological Engineers Member Hour
29. **W. J. Sagues**, M. Yung, H. Jameel, M. Davis, B. Donohoe, M. Nimlos, and S. Park. 2021. “Catalytic Graphitization of Biomass for Green Battery Anodes” Oral presentation at the Institute of Biological Engineering’s Annual Conference
30. **W. J. Sagues**, H. Jameel, S. Park, D. L. Sanchez. 2021. “Integrating CO<sub>2</sub> Capture, Utilization, and Storage at Pulp & Paper Mills in the United States” Oral presentation at the Institute of Biological Engineering’s Annual Conference

31. **\*W. J. Sagues** 2021 “The Grand Challenge of Carbon Sequestration” Oral presentation to the NCSU course E102: Engineering in the 21<sup>st</sup> Century
32. **\*W. J. Sagues** 2021 “Introduction to Biocarbon Utilization & Sequestration” Oral presentation for the Sustainable Materials & Technology program at NCSU
33. **\*W. J. Sagues** 2021 “Introduction to the Bioeconomy and Carbon Sequestration” Oral presentation to the Environmental Science program at North Carolina Central University
34. **\*W. J. Sagues** 2021 “Emerging Opportunities for Biological Carbon Sequestration” Oral presentation at the Consortium for Advanced Bioeconomy Leadership Education (CABLE) Annual Conference
35. **\*W. J. Sagues** 2021 “Carbon Sequestering Building Materials” Oral presentation at the workshop on Carbon Accounting in Land Development, hosted by Dr. Bill Hunt at NCSU
36. **W. J. Sagues**, S. D. Han, S. Park, & M. Nimlos. 2020. “Catalytic Graphitization of Biomass for Green Battery Anodes” Oral presentation at the 2020 AIChE Bioenergy Conference
37. **W. J. Sagues**, D. Sanchez, H. Jameel, & S. Park. 2020. “Catalytic Graphitization of Biomass for Green Battery Anodes” Poster presentation at the 2020 AIChE Bioenergy Conference
38. **W. J. Sagues**, D. Sanchez, H. Jameel, & S. Park. 2020. “Integrating CO<sub>2</sub> Capture, Utilization, & Sequestration at Kraft Pulp Biorefineries” Poster presentation at the 2020 AIChE Bioenergy Conference
39. **\*W. J. Sagues** 2020. “Biocarbon Utilization & Sequestration” Oral presentation at Cotton Incorporated
40. **\*W. J. Sagues** 2020. “Integrating Carbon Capture, Utilization, & Sequestration into Pulp & Paper Mills” Oral presentation as Horizon Lecture Series Speaker at Kimberly-Clark
41. **\*W. J. Sagues** 2020. “Integrating Carbon Capture, Utilization, & Sequestration into Pulp & Paper Mills” Oral presentation at UC Berkeley & Carbon 180’s Conference on Bioenergy with Carbon Capture & Storage
42. **\*W. J. Sagues** 2020. “Scale-Up Data: A Hidden Asset” Oral presentation at the DOE Bioenergy Technology Office Data Workshop
43. **W. J. Sagues**, M. Yung, H. Jameel, M. Davis, B. Donohoe, M. Nimlos, and S. Park. 2020. “Catalytic Graphitization of Lignin for Green Battery Anodes” Oral presentation at the Society for Industrial Microbiology and Biotechnology’s Symposium on Biomaterials, Fuels, and Chemicals (*Cancelled due to COVID-19*)
44. **W. J. Sagues**, D. L. Sanchez, H. Jameel, and S. Park. 2020. “Integrating CO<sub>2</sub> Capture, Utilization, & Storage at Pulp & Paper Mills in the United States” Poster presentation at the Society for Industrial Microbiology and Biotechnology’s Symposium on Biomaterials, Fuels, and Chemicals (*Cancelled due to COVID-19*)
45. **W. J. Sagues**, M. Yung, H. Jameel, M. Davis, B. Donohoe, M. Nimlos, and S. Park. 2020. “Catalytic Graphitization of Biomass for Green Battery Anodes” Oral presentation at the Institute of Biological Engineering’s Annual Conference (*Cancelled due to COVID-19*)
46. **W. J. Sagues**, H. Jameel, S. Park, D. L. Sanchez. 2020. “Integrating CO<sub>2</sub> Capture, Utilization, and Storage at Pulp & Paper Mills in the United States” Oral presentation at the Institute of Biological Engineering’s Annual Conference (*Cancelled due to COVID-19*)

47. **W. J. Sagues**, H. Jameel, S. Park, D. L. Sanchez. 2019. “Enhanced Carbon Dioxide Removal from Coupled Direct Air Capture-Bioenergy Systems” Oral presentation at the Applied Energy Symposium at MIT
48. **W. J. Sagues**, H. Jameel, S. Park. 2019. “Catalytic Graphitization of Lignocellulosic Biomass” Oral presentation at the ACS Annual Green Chemistry & Engineering Conference
49. **W. J. Sagues**, K. McCance, S. L. McAlexander, M. Blanchard, R. Venditti. 2019. “An Interdisciplinary Educational Program to Promote Interest in the Circular Bioeconomy” Oral presentation at the ACS Annual Green Chemistry & Engineering Conference
50. **W. J. Sagues**, Z. Tong. 2017. “Production of Phenolic Monomers and Free Sugars from Sweet Sorghum Bagasse via Fenton Modification & Supercritical Ethanol” Oral presentation at the American Society of Agricultural & Biological Engineers’ Annual International Meeting
51. **W. J. Sagues**, Z. Tong. 2016. “Ironing out the kinks: A ferric catalyzed process for selective monomerization of lignin from whole biomass while leaving the cellulosic fraction in high purity” Oral presentation at the Technical Association of the Pulp and Paper Industry’s International Bioenergy and Bioproducts Conference
52. **W. J. Sagues**, Z. Tong. 2016. “Overcoming the blend wall: Ethanol as a green solvent for thermochemical conversion of whole biomass into high-value aromatics and purified cellulose” Oral presentation at the American Society of Agricultural & Biological Engineers’ Annual International Meeting