Daniela S. (Gonzáles) Jones, Ph.D.

Intelligent Data for Energy & Agriculture Logistics & Supply Chains (IDEALS) Laboratory

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Education

Ph.D. in Biological & Agricultural Engineering, Texas A&M University, College Station, TX 2017
Dissertation Title: The Development of an Economically Viable Biomass Feedstock Supply Chain to Meet the Renewable Fuel Standards.
Concentration: Machine & Energy Systems
Certificate in Business Management, Texas A&M University, College Station, TX 2017

M.S. in Industrial Engineering, Mississippi State University, Starkville, MS 2012
Thesis Title: Identifying Factors and Quantifying their Impact on Transportation Costs of Pre-processed Biomass
Concentration: Operations Research

B.S. in Industrial Engineering, Mississippi State University, Starkville, MS 2009
Minor in Mathematics, Mississippi State University, Starkville, MS 2009

Computer programing: C, C++, VBA, Python, ModL, SAS. Visualization and geospatial analytics: ESRI ArcGIS, SAS Visual Analytics. Simulation: ExtendSim. Machine Learning: SAS Visual Analytics. Optimization: SAS/OR.

Academic Appointments

Assistant Professor, Biological & Agricultural Engineering, Mar 2022- Present
, North Carolina State University (NCSU), Raleigh, NC
Joint Appointment, Operations Research and Analysis Group, Idaho National Laboratory, Idaho Falls, ID
Data Science Academy Director of Agricultural Analytics, North Carolina State University, Raleigh, NC
Office of Research and Innovation Faculty Fellow, North Carolina State University, Raleigh, NC
Director, Agriculture Data Science Certificate, North Carolina State University, Raleigh, NC
Graduate Faculty, Operations Research Program, North Carolina State University, Raleigh, NC
Faculty Fellow, Center for Geospatial Analytics, North Carolina State University, Raleigh, NC
Faculty Affiliate, Southeast Climate Adaptation Science Center, North Carolina State University, Raleigh, NC
Faculty Affiliate, Agricultural Biotechnology in Our Evolving Food, Energy, and Water Systems NSF Research Traineeship Program, North Carolina State University, Raleigh, NC

- Develop optimization models to solve large-scale problems in transportation, logistics, and renewable energy systems.
- Apply data analytics to integrate data-driven decisions in precision climate-smart agriculture for food and energy.
- Engage government, industry and academia to help increase the workforce capacity trained in agricultural data science.

Research Assistant Professor, Biological & Agricultural Engineering, NCSU, Raleigh, NC Feb 2019- Feb 2022

Postdoctoral Associate, Duke University, Durham, NC 2018- 2019

- Developed statistical analysis to identify the factors that correlate with successful STEM student-development interventions.
- Championed outreach, recruitment and retention activities for students in the bioscience community.
- Mentored graduate and undergraduate students in the Biosciences Collaborative Research Engagement Program.

Graduate Research Assistant, Texas A&M University, College Station, TX 2012-2017

- Assessed national geospatial metadata for biomass predictions (collaboration with *Oak Ridge National Laboratory*).
- Developed GIS-based heuristics to anticipate the optimal location of the US biomass feedstock supply chain.
- Applied discrete-event simulation to evaluate the performance of an experimental module-based biomass collection system.

Graduate Research Assistant, Mississippi State University, Starkville, MS 2010-2012

- Designed decision support systems and optimization models to design and manage the bioenergy supply chain.
- Formulated data-driven cost functions for intermodal delivery of feedstock in a commodity-scale bioenergy production.

Analyst of Biofuels & Renewable Energy Technology, Idaho National Laboratory, Idaho Falls, ID 2011

- Analyzed the impact of intermodal facilities to the design and management of advanced biomass supply systems.
- Implemented transportation cost functions into Idaho National Laboratory's biomass logistics model.

Graduate Teaching Assistant, Mississippi State University, Starkville, MS 2011
• Assisted with teaching the fundamentals to design, develop and implement decision support and database systems.
• Facilitated laboratory sessions to program Excel applications to support engineering analyses using VBA language.

International Research Assistant, Universidad Carlos III de Madrid (NSF Grant), Madrid, Spain 2007
• Explored new material systems for powder metallurgy.
• Compacted, sintered, heat treated and mechanically tested titanium-iron alloys at varying densities and compaction pressures.

Math and Spanish Tutor, Mississippi State University, Starkville, MS 2006

Industry Experience

Materials Engineer (Internship), Whirlpool Corporation 2006
• Performed efficiency studies on production lines and streamlined them by re-designing the layout.

Peer-Reviewed Publications ([a]Graduate student. [b]Corresponding author. [c]Impact Factor 9.7 (2020))

12[c]. Hossain, T.[a], **Jones**, **D. S.[b],** Hartley, D., Langholtz, M., Davis, M., Thompson, D. (2022). Nth-plant scenario for forest resources and short rotation woody crops: biorefineries and depots in the contiguous US. *Applied Energy*. Volume 325, 119881. link

11. Grieger, K., Zarate, S., Barnhill-Dilling, K., Hunt, R. S.[a], **Jones, D.,** Kuzma, J. (2022). Fostering Responsible Innovation through Stakeholder Engagement: Case Study of North Carolina Sweetpotato Stakeholders. *Sustainability* 2022, 14(4), 2274. link

10. Jones, **D. S.,** Gilette, D. D., Cooper, P. E., Salinas, R. Y., Hill, J. L., Black, S. J., Lew, D. J., Canelas, D. A. (2022). Cultivating PhD aspirations during College. *CBE-Life Sciences Education*. link

9. Langholtz, M., Davis, M., Eaton, L., Hilliard, M., Brandt, C., Webb, E., Hellwinckel, C., Samu, N., Hartley, D., **Jones, D**. (2021). Nth-plant supply: corn stover supplies and costs in a fleet of biorefineries. *Biofuels, Bioproducts and Biorefining*. link

8[c]. Forsberg, C. W., Dale, B. E., **Jones, D. S.**, Hossain, T.[a], Morais, A. R. C., & Wendt, L. M. (2021). Replacing liquid fossil fuels and hydrocarbon chemical feedstocks with liquid biofuels from large-scale nuclear biorefineries. *Applied Energy*, 298, 117225. link

7[c]. Hossain, T.[a], **Jones**, **D. S.[b],** Hartley, D., Griffel, M., Lin, Y., Burli, P., Thompson, D., Langholtz, M., Davis, M., Brandt, C. (2021). The nth-plant scenario for blended feedstock conversion and preprocessing nationwide: Biorefineries and Depots. *Applied Energy*, 294, 116946. link

6. Forsberg, C., Dale, B., **Jones**, **D.,** Wendt, L. M. (2021). Replacing All Liquid Fossil Fuels and Hydrocarbon Chemical Feedstocks With Liquid Biofuels Produced from Cellulosic Biomass Using Nuclear Heat and Hydrogen. *Transactions of the American Nuclear Society*, Volume 124. link

5. Jones, **D. S.,** Searcy, S. W., Eaton, L. M. (2018). Assessment of perennial grass inventories predicted in the Billion-Ton Studies. *ASABE Transactions*, 61(2): 331-340. link

4. Gonzales, **D. S.,** Searcy, S. W. (2017). GIS-based allocation of herbaceous biomass in biorefineries and depots. *Biomass and Bioenergy Journal*, 97, 1-10. link

3. Acharya, A. M., **Gonzales**, **D. S.,** Eksioglu, S. D., Arora, S. (2014). An Excel-based decision support system for supply chain design and management of biofuels. *International Journal of Operations Research and Information Systems (IJORIS)*, 5(4), 26-43. link

2. Gonzales, **D.,** Searcy, E. M., Ekşioğlu, S. D. (2013). Cost analysis for high-volume and long-haul transportation of densified biomass feedstock. *Transportation Research Part A: Policy and Practice*, Vol. 49, pages 48-61. link

1. Acharya, A., **Gonzales**, **D.,** Eksioglu, S. (2013). A decision support system (DSS) for biomass-to-biofuel supply chain. *Epoka Conference Systems, 1st International Symposium on Computing in Informatics & Mathematics*. link

Published Technical Reports ([a]Graduate student**)**

1. Forsberg, C., Dale, B., **Jones, D.,** Wendt, L.M. (2022). Can a nuclear-assisted biofuels system enable liquid biofuels as the economic low-carbon replacement for all liquid fossil fuels and hydrocarbon feedstocks and enable negative carbon emissions? *Center for Advanced Nuclear Energy Systems*. MIT-NES-TR-023. April 2022. Link.

2. Hossain, T. [a], Burli, P., Pin, J. [a], **Jones, D.**, Hartley, D., Hess, R. Deployment of Bioenergy with Carbon Capture and Storage (BECCS). *IEA Bioenergy Technology Collaboration Program*. April 2022.

Publications under Review ([a]Graduate student**)**

1. Hunt, R. S.[a], **Jones, D. S.,** Holland, J., Gottula, J. (2022). Environmental Parameterizations for Predictive Agriculture. Manuscript submitted to *Nature Plants* on September 12th, 2022.

External Research Awards **TOTAL $2,033,994**

1. PI: L. Yuzhen. Co-PIs: **D. S. Jones**, M. Kudenov, C. Williams, A. Villordon, N. Wijewardane, M. Kamruzzaman. *Advancing and Implementing Optical Technologies to Evaluate Quality, Grading and Sorting of Sweetpotato*. (01/01/2023-12/31/2024). US Dept. of Agriculture – Specialty Crop Multi-State Program. Full Proposal Submitted. **$750,000.**

2. PI: D. Roberts. Co-PIs: **D. S. Jones**, C. Williams, J. Jaret, K. Barnhill-Dilling, M. Kudenov, N. Malcolm, B. Fisher, L. Pratt. *Decision Intelligence in Supply Chains for Improved Outcomes*. (01/03/2022- 03/29/2024). USDA NIFA Foundational and Applied Science Data Science for Food and Agricultural Systems. Full Proposal Submitted. **$649,722.**

3. PI: M. Sharara. Co-PIs: **D. S. Jones**, E. Edwards. *A Framework to Enhance NC's Natural Resources through Sustainable Manure Nutrient Cycling and Export*. (01/03/2022- 03/29/2024). North Carolina Department of Justice Environmental Grant. **$268,342.** Link

4. PI: **D. S. Jones**. Co-PIs: C. Williams, M. Kudenov, K. Grieger, A. Huseth, A. Scafuro, N. Nelson, R. Dunning, A. Graves, R. Sozzani, C. Yencho, E. Lobaton, K. Ogan, P. Savaiappan. *Cultivating A Resilient Workforce By Integrating A Culturally Competent Community Of Scholarship & Data Science in Food & Agricultural Research*. (01/15/2021- 01/14/2025). Department of Agriculture - National Institute of Food and Agriculture- National Needs Fellowship. **$238,500**.
Role: Project lead responsible for the overall coordination and supervision of all aspects of the study, including coordination with our strategic partners. Advisor to one of the three PhD students funded through this project. Link

5. PI: **D. S. Jones**. Co-PIs: M. Chinn, E. Godfrey, D. Saloni. *Uniform-Format Herbaceous Biomass Feedstock: Value-Added Miscanthus*. (01/01/2021-12/31/2022). North Carolina Department of Agriculture and Consumer Services – Bioenergy Research Initiative. **$99,000**.
Role: Project lead responsible for the overall coordination and supervision of all aspects of the study, including coordination with other researchers and advisor for the graduate student funded through this project. Coordinate collaborations with Idaho National Laboratories to develop cost efficient supply chains to deliver on-spec Miscanthus to emerging domestic biofuels and bioproducts producers. Link.

6. PI: **D. S. Jones**. *Full-season sweetpotato data lifecycle analysis: stakeholder engagement, sensors, and yields*. Alfred P. Sloan Foundation Seed Grant. (08/10/2022- 05/31/2023). **$10,000.** Link.

7. PI: **D. S. Jones**. *Deployment of bioenergy with carbon capture and storage (BECCS)*. (04/01/2022- 05/31/2022). Idaho National Laboratory. **$9,430**.
Role: Create a report of the current state of technology of bioenergy with carbon capture and storage in the US.

8. PI: **D. S. Jones**. *Increasing the visibility of the interdisciplinary cutting-edge research performed by the students in the Agricultural & Biological (Ag&Bio) Logistics Laboratory*. (11/01/2021- 5/31/2023). Alfred P. Sloan Foundation- Sloan Scholar Mentoring Network Career Development Grant. **$7,500**.

9. PI: **D. S. Jones**. *Sloan Scholar Mentoring Network Conference Travel Award*. (2019). Alfred P. Sloan Foundation- Sloan Scholar Mentoring Network Career Development Grant. **$1,500**.

Internal Research Awards and Internal In-kind Contributions **TOTAL $757,040**

1. PI: C. Williams. Co-PIs: **D. S. Jones**, M. Kudenov, M. Boyette, K. Grieger, A. Huseth, A. Scafuro, N. Nelson. *Improving Crop Productivity and Value through Heterogeneous Data Integration, Analytics, and Decision Support Platforms*. (01/06/2020-06/05/2023). Game-Changing Research Incentive Program for the Plant Sciences Initiative (GRIP4PSI), North Carolina State University. **$556,000**.
Role: Lead for developing the agricultural workforce training opportunities that integrate hands-on learning, cooperative extension, transdisciplinary education, and active stakeholder engagement. Sweetpotatoanalytics.com

2. PI: **D. S. Jones**. Co-PIs: C. Williams, M. Kudenov, K. Grieger, A. Huseth, A. Scafuro, N. Nelson, R. Dunning, A. Graves, R. Sozzani, C. Yencho, E. Lobaton, K. Ogan, P. Savaiappan. *Cultivating a Resilient Workforce by Integrating a Culturally Competent Community of Scholarship & Data Science in Food & Agricultural Research*. (01/15/2021- 01/14/2025). In-kind contribution from NCSU Provost' Office, College of Agriculture and Life Sciences, College of Engineering, and Biological & Agricultural Engineering Department. **$178,040**.

3. PI: **D. S. Jones**. Co-PIs: L. Hashemi Beni. *Machine Learning and Optimization Models for UAV Sprayers Flight Paths*. (06/01/2022- 05/31/2023). Office of Research and Innovation, North Carolina State University. **$20,000**.

4. PI: **D. S. Jones**. *Undergraduate research to identify, aggregate, and curate datasets for simulating the sweet potato supply chain*. (2020-2021). NCSU's Provost's Professional Experience Program (PEP) for undergraduate researcher: Emory New. **$2,000**.

5. PI: **D. S. Jones**. *Curate datasets to develop logistic regression models to predict sweet potato shape and size*. (2020-2021). Funded by the NCSU's Office of Undergraduate Research Federal Work Study Research Assistant Position for undergraduate researcher: Rachelle Shelly Hunt. **$1,000**.

Industry In-kind Contributions

1. In-kind contribution from Scott Farms for Precision Agriculture Research Data Collection. **~$5,000** in equipment

Other Awards as Faculty

Honorable Mention – NCSU Envision Research, "NC Farmers' Complex Soils" picture link	2022
SAS Hackathon Finalist – Mixed/Manufacturing category: Think & Do Smart-Ag Team link	2022
SAS Hackathon Winner – Global Sub-Industry category: AgTech–NPK4EVER Team link	2021
SAS Hackathon Winner – Regional category: USA–NPK4EVER Team	2021
SAS Hackathon Finalist – Global category: Data for Good–NPK4EVER Team	2021
Chancellor's Creating Community Award Nomination	2021
American Society of Agricultural and Biological Engineers Superior Paper Award	2019

Awards to my Graduate Students

ASABE Info. Tech., Sensors, & Control Sys. Oral Competition Winner– MS student: Shelly Hunt	2022
ASABE Engineering Ethics Oral and Written Competition 2nd Place.	2022
NCSU College of Eng. MS Student of the Year– MS student: Shelly Hunt	2022
NCSU Bio & Ag Eng. MS Student of the Year– MS student: Shelly Hunt	2022
NC Sweetpotato Council Picture Competition 1st Place– MS student: Shelly Hunt	2022

NC Plant Sciences Building Dedication Student Keynote Speaker– MS student: Shelly Hunt	2022
Alpha Epsilon Biological Engineering Honor Society Inductee– MS student: Shelly Hunt	2022
Alpha Epsilon Biological Engineering Honor Society Inductee– PhD student: Shana McDowell	2022
ASABE Boyd-Scott Graduate Research Award 2nd place– PhD student: Tasmin Hossain	2021
NCSU BAE Johnson Fellowship Award– PhD student: Tasmin Hossain	2021

Teaching and Curriculum/Syllabus Development

North Carolina State University. Raleigh, NC.

- Fall 2022: Taught "E 102: Engineering in the 21st Century", a 2 credit course for 100 undergraduate students. This interdisciplinary course provides an overview of the fourteen engineering grand challenges of the 21st century and their relationships to all of the separate engineering disciplines in the College of Engineering. The lectures incorporate examples, guests, and specific readings on the challenges in sustainability, health, vulnerability, and the joy of living to advance civilization into the next century. Students gained an appreciation for the methods in which engineers, in each discipline, acquire knowledge and design tools or interdisciplinary solutions essential to meet society's future needs.
- Spring 2022: Taught the Advanced Analytics to Agriculture, Food & Life Sciences Data, a flipped-classroom project-based graduate-level 3 credit course.
- Fall 2021**:** Successfully developed curriculum, routed for approval by the College of Engineering, College of Agriculture and Life Sciences, College of Science, Graduate School, Provost, Chancellor, Board of Trustees, and implemented the Agricultural Data Science Graduate Certificate at North Carolina State University. Link.
- Fall 2021**:** Co-developed syllabus for the Statistical Methods and Computing for Data Science, graduate-level 3-credit course. Course delivered by Dr. Paul Savariappan.
- Spring 2021: Developed and taught Advanced Analytics to Agriculture, Food & Life Sciences Data, a flipped-classroom project-based graduate-level 3 credit course. This course introduces students to predictive modeling techniques for applications in large-scale data in Agriculture, Food,and Life Sciences using the SAS environment. The techniques that students will be equipped with include: longitudinal data analysis using discrete and continuous responses, data mining, machine learning, data manipulation and resource cost benefits.
- Spring 2020: Developed and taught Foundation Tools to Agriculture, Food & Life Sciences Data, a flipped-classroom project-based graduate-level 3 credit course. This course introduces students to the rapidly growing field of data science and the applications of these techniques in large-scale data in Agriculture, Food, and Life Sciences. The course will equip students with techniques to leverage SAS programing to access, explore, validate, prepare, manipulate, analyze and report on data.

Mississippi State University. Starkville, NC.

- Fall 2011: Assisted with Information Systems for Industrial Engineering, undergraduate-level 4-credit course.

Research Funding and Fellowship Awards during Academic Training

Association of Energy Engineers Scholarship, Lone Star Chapter ($500)	2016
Association of Energy Engineers Scholarship, Lone Star Chapter ($1,000)	2015
Bill and Rita Stout International Graduate Student Achievement Award ($250)	2015
Three-year Doctoral Fellowship, Texas A&M University ($81,000)	2012
Three-year Department Graduate Assistantship, Texas A&M University ($22,700)	2012
Alfred P. Sloan Foundation Minority Ph.D. Fellowship ($17,000)	2012
College of Agriculture Diversity Excellence Fellowship, Texas A&M University ($5,000)	2012
Cum Laude, Mississippi State University	2009
Industrial Engineering Senior Award, Mississippi State University	2009

President's Scholar, Mississippi State University	Spring 2008
President's Scholar, Mississippi State University	Fall 2008
Dean's Scholar, Mississippi State University	Fall 2004
Dean's Scholar, Mississippi State University	Spring 2005
Dean's Scholar, Mississippi State University	Fall 2005
Dean's Scholar, Mississippi State University	Spring 2007

Invited Research Presentations

8. *Agriculture Analytics to Decarbonize our Food and Energy Needs.*
- Operations Research Program Seminar Series, NC State University. Sept 2022.
- Computer Science Seminar Series, NC State University. Sept 2022.

7. *Precision Agriculture to Decarbonize our National Energy Needs.*
- Genetic Engineering and Society Center Colloquium, NC State University. Oct 2021.
- Center for Geospatial Analytics Forum, NC State University. Oct 2021.

6. *Biomass Supply Chain to the Refinery: Transportation from Depot to Biorefinery*. Nuclear Biofuels Workshop. Virtual Presentation. Aug 2021.

5. *Decarbonization of the US agricultural and energy sectors*. NC State & Clemson Symposium on Ecological and Environmental Engineering. Aug 2021.

4. *Bioenergy Logistics*. Idaho National Laboratory Collaboration Event with NUC and CAES. Virtual Presentation. Jul 2021.

3. *Locating nth-plants for biomass conversion and preprocessing nationwide: biorefineries and depots*.
- American Institute of Chemical Engineers Annual Meeting. Virtual Presentation. Oct 2020.
- Presentation to DOE Bioenergy Technologies Office (BETO). Virtual Presentation. Jul 2020.

2. *The Development of an Economically Viable Biomass Feedstock Supply Chain to Meet the Renewable Fuel Standards.*
- Lenovo visit to North Carolina State University. Virtual Presentation. Oct 2020.
- Operations Research Program Research Seminars, NC State University. Virtual Presentation. Oct 2020.
- Forest Biomaterials Department Research Seminars, NC State University. Virtual Presentation. Sept 2020.
- Auburn University. Auburn, AL. Feb 2019.
- Oak Ridge National Laboratory. Oak Ridge, TN. Nov 2018.
- Institute on Teaching and Mentoring. Arlington, VA. Oct 2018.

1. *GIS-Based Allocation of Lignocellulosic Biorefineries and Depots*.
- Oak Ridge National Laboratory. Oak Ridge, TN. Aug 2016.
- Clemson Doctoral Pathfinder Program, Clemson University. Clemson, SC. April 2016.
- University of British Columbia. Vancouver, Canada. Jun 2014.

Other Research Presentations

8. *The Development of an Economically Viable Biomass Feedstock Supply Chain to Meet the Renewable Fuel Standards.*
- ASABE Annual International Meeting. Boston, MA. Jul 2019.

7. *Analysis of a module-based biomass collection system for corn stover and switchgrass*.
- ASABE Annual International Meeting. Detroit, MI. Jul 2018.

6. *Cultivating PhD scientists in a pre-med undergraduate environment: creating a community of scholarship and removing institutional barriers.*
- ASABE Annual International Meeting. Boston, MA. Jul 2019.
- Understanding Interventions. Baltimore, MD. Mar 2018.

5. *GIS-Based Allocation of Lignocellulosic Biorefineries and Depots*.
- ASABE Annual International Meeting. Orlando, FL. Jul 2014 and Jul 2016.
- INFORMS Annual Meeting. Philadelphia, PA. Nov 2015.
- ASABE Annual International Meeting. New Orleans, LA. Jul 2015.
- Evening of Energy. College Station, TX. Nov 2014.

• ASABE Annual International Meeting. Montreal, Canada. Jul 2014.

4. *Assessment of the Predicted Biomass Production in the Billion Ton Study Update*.
• ASABE Annual International Meeting. New Orleans, LA. Jul 2015.

3. *Analyzing the Cost of Rail and Truck Transportation of Densified Biomass for Bioenergy Production*.
• INFORMS International. Beijing, China. Jun 2012.
• MSU Biofuels Conference. Starkville, MS. Oct 2011.

2. *An Excel-based Decision Support System for Supply Chain Design and Management of Biofuels.*
• Transportation, Supply Chain and Logistics Workshop. Starkville, MS. Mar 2011.
• INFORMS Annual Meeting. Austin, TX. Nov 2010.
• Design & Management of Biofuels. MSU Biofuels Conference. Jackson, MS. Aug 2010.

1. *Heuristic Procedures for Biomass-to-Biorefinery Supply Chains*.
• INFORMS Annual Meeting. Austin TX. Nov 2010.

Synergistic Activities: Outreach and Service to Profession

1. Academic Mentor

• Graduate major advisor to 4 PhD students:
- Student: Tasmin Hossain. Degree Seeking: PhD. Department/Program: Biological & Agricultural Engineering. Graduation: Fall 2022. Dissertation Title: *Mobilizing National Cellulosic Feedstock Supplies for Biofuel Production*.
- Student: Juliana Pin. Degree Seeking: PhD. Department/Program: Operations Research.
- Student: Shana McDowell. Degree Seeking: PhD. Department/Program: Biological & Agricultural Engineering.
- Student: Ashley Walgren. Degree Seeking: PhD. Department/Program: Biological & Agricultural Engineering.

• Graduate major advisor to 2 MS students:
- Student: Rachelle Shelly Hunt. Degree Seeking: MS. Department/Program: Biological & Agricultural Engineering. Graduation: Fall 2022. Thesis Title: *A Data Processing, Feature Engineering, Variable Selection, and Machine Learning Modeling Framework for Predictive Agriculture*.
- Student: Scott Carpenter. Degree Seeking: MS. Department/Program: Biological & Agricultural Engineering.

• Graduate committee member to 3 PhD students:
- Student: Yixuan (Wendy) Wang. Degree Seeking: PhD. Department/Program: Civil Engineering, Graduation: Fall 2021. Dissertation Title: *Improving Life Cycle Assessments for Sustainable Municipal Solid Waste Management Decision Making.*
- Student: Mariella Carbajal-Carrasco. Degree Seeking: PhD. Department/Program: Biological & Agricultural Engineering.
- Student: Nnamdi Osakwe. Degree Seeking: PhD. Department/Program: Bioinformatics.

• Graduate committee member to 2 MS students:
- Student: Somayeh Khanpour Aghdam. Degree Seeking: MS. Department/Program: Biological & Agricultural Engineering. Graduation: Fall 2021. Thesis Title: *Environmental impact assessment (LCA) and techno-economic assessment (TEA) of struvite recovery in swine manure.*
- Student: Lucas Micthell. Degree Seeking: MS. Department/Program: Biological & Agricultural Engineering.

• Advised 4 undergraduate research students:
- Student: Carly Graves. Period: Fall 2020.
- Student: Emory New. Period: Fall 2020.
- Student: Jason Oliva Milla. Period: Fall 2021-Spring 2022.
- Student: Lily Averette. Period: Summer 2021- Spring 2022.
- Student: Chris Mulvey. Period: Spring 2022.

• Advised 1 undergraduate research visiting Scholar:
- Student: Fernando Demarchi Pockrandt. Institution: Pontificia Universidade Católica do Paraná. Department/Program: Department of Agricultural Engineering. Period: Fall 2021.

• Career advisor to:
- Student: Brendon Sadlowski. Period: Fall 2021.

- Student: Costas Pieri. Period: Fall 2021.
- Student: Paige Seibert. Period: Fall 2021.

• NASA Motivating Undergraduates in Science and Technology Mentorship Program. 2011.

2. Presenter for professional development and/or outreach events

• *What makes me a scientist*, Biosciences Collaborative Research Engagement. Duke University. Mar 2023.
• *Data-Decisions in Food and Energy*. NCSU Wicked Problems, Wolfpack Solutions Course. Jul 2022. link
• *Data-Decisions in Agriculture for Food and Energy*. American Scientist- Sigma Xi Society. Mar 2022.
• *Networking and Creating a Research Identity*. NCSU BAE Graduate Conversations. June 2021.
• *Networking towards your Engineering Job*. Guest lecturer at the E101 Introduction to Engineering & Problem Solving. Feb 2021.
• *Science Outreach: Feeding your car with corn*. Flat Rock Middle School. Virtual classroom. Apr 2021.
• *Mini Academy of Science & Technology Peru: Feeding your car with corn*. Virtual presentation. Oct 2020
• *Data Management 101*. North Carolina State University. Raleigh, NC. Nov 2019.
• *Effective poster and oral presentations*. Auburn University. Auburn, AL. Feb 2019.
• *Science Match for Middle School Classes: Feeding your car with corn*. PreEminent Charter School. Raleigh, NC. Feb 2019.
• *Science Day: Feeding your car with corn*. NC School of Science & Mathematics. Durham, NC. Sep 2018.
• *Communicating with your PI*. Duke University. Durham, NC. Feb 2018.

3. Judge/ Reviewer

• *Current Opinion in Environmental Sustainability*. 2022.
• USDA National Institute of Foods and Agriculture funding programs. 2021-Present.
• *Biofuels, Bioproducts and Biorefining* Journal. 2020-Present.
• Judge North Carolina Science and Engineering Fair. Feb 2022.
• Search committee member for CALS Artificial Intelligence Faculty Position at NCSU. 2022.
• Search committee member for two postdoctoral positions in the Data Science Academy at NCSU. 2021.
• Search committee member for one lecturer position in the Data Science Academy at NCSU. 2022.
• Judge for conference papers. 2020 American Society for Eng. Education Southeastern Section. Dec 2019.
• Judge for written papers and oral presentations for the ASABE Boyd-Scott Graduate Research Award. Jul 2019, Jul 2020, Jul 2022.
• SACNAS: The National Diversity in STEM Conference Research Presentation Competition. Sept 2018.

4. Symposium/conference Chair/ Co-Chair

• Chair *Agricultural Analytics and Bioprocess, Biofuels and Bioproducts to Enable New Research Collaborations between Idaho National Laboratory and North Carolina State University*. Sept 2022.
• Chair *Agricultural Data Science Jam* at North Carolina State University. Sept 2022.
• Co-chair *Bioenergy Sustainability Conference*. Dec 2021. Link.
• Co-chair for the *Biofuels Workshop: Can a Nuclear Biofuels System Enable Liquid Biofuels as the Economic Low-carbon Replacement for All Liquid Fossil Fuels and Hydrocarbon Feedstocks and Enable Negative Carbon Emissions?* Lead by the Idaho National Laboratory National University Consortium. Aug 2021. Link.
• Co-chair *Biosciences Collaborative Research Engagement Symposium*. Duke University. Jul 2018.
• Chair *Office of Biomedical Graduate Diversity Retreat*. Jun 2018.
• Co-chair *MAPRS (Mid-Atlantic PREP/IMSD Research Symposium*. Duke University. May 2018.

5. Panelist

• *Professional Development Roundtable*. ASABE Annual International Meeting. Boston, MA. Jul 2019.
• *8th Annual NC State University Postdoctoral Research Symposium*. Durham, NC. May 2019
• *Lean In, Women in Science*. NC School of Science and Mathematics. Durham, NC. Apr 2019
• *Mentoring and Graduate Student Success Workshop for Incoming Doctoral Students*. Graduate Student Professional Development, The Graduate School. Duke University. Durham, NC. Aug 2018.
• *Choosing a Postdoc Position*. Duke University. Durham, NC. Apr 2018
• *Transitioning from Undergraduate to Graduate School*. Eng. Academic & Student Affairs Office, Texas A&M University. May 2014.

6. Workshops/Trainings

• *Building Interdisciplinary Collaborations to Transform Food and Agriculture into Circular Systems: A Mid-Career Mentoring Workshop*. Agricultural and Applied Economics Association. Kansas City, MO. Jun 2022.

Other Leadership Roles

Data Science Advisory Board, North Carolina State University.	2020-Present
Inclusion, Diversity, Equity, and Access Committee Member, ASABE	2019-Present
BAE Student Retention and Inclusion Committee Member, North Carolina State Univ.	2022-Present
Data Science Advisory Board, North Carolina State University.	2020-Present
BAE Public Relations and Recruitment Committee Member, North Carolina State Univ.	2020-2022
President of BAEN Graduate Student Association, Texas A&M Univ.	2014-2015
Chair of Multicultural & Diversity Affairs, Graduate Student Council, Texas A&M Univ.	2014-2015
Chair of Travel Award Committee, BAEN Graduate Student Association, Texas A&M Univ.	2013-2014
President & Chapter Founder, SHPE, Mississippi State Univ.	2009, 2011
Vice President of Membership and Recruitment, INFORMS, Mississippi State Univ.	2010, 2011
President & Secretary, Alpha Pi Mu Honor Society for Industrial Engineers	2008, 2011

Professional Memberships

American Society of Agricultural and Biological Engineers (ASABE)
Institute for Operations Research and the Management Sciences (INFORMS)
Sloan Scholars Mentoring Network. Sloan Foundation.
American Institute of Chemical Engineers (AIChE)
Society for Advancement of Chicanos and Native Americans in Science (SACNAS)
Society of Hispanic Professional Engineers (SHPE)
Association of Energy Engineers (AEE)
Alpha Epsilon Honor Society of Agricultural, Food and Biological Engineering
Gamma Sigma Delta, Honor Society of Agriculture, Leadership & Development for Success Steering Committee.
Hispanic Leaders in Agriculture and Environment. National Society of Collegiate Scholars.