

Ewumbua M. Monono

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Education

- Ph.D., Agricultural and Biosystems Engineering, North Dakota State University (NDSU), Aug. 2015.
- MS, Agricultural and Biosystems Engineering, NDSU, Dec. 2011.
- Graduate Certificate, Food Protection, NDSU, May 2011.
- *Diplome d'Ingénieur Agronome* (Equivalent to a Graduate Diploma), Agricultural Engineering, University of Dschang, Cameroon, Dec. 2003.

Employment

- Assistant Professor - Bioprocess Engineering, Department of Agricultural and Biosystems Engineering, NDSU, April 2020 – Present
- Research Specialist – Process Engineering, Department of Agricultural and Biosystems Engineering, NDSU, September 2015 – April 2020.
- Graduate Research/Teaching Assistant, Department of Agricultural and Biosystems Engineering, NDSU, January 2009 – August 2015.
- Agricultural Supervisor, Del Monte Fresh Produce Cameroon in the Tiko Banana Project, November 2005 – January 2009.
- Irrigation Foreman, Cameroon Development Corporation, October 2004 – October 2005.

Course taught

- ABEN 263: Biological Material Processing
- ABEN 458/658: Process Engineering for Food, Biofuels, and Bioproducts
- ABEN 456/656: Biobased Energy (Co-taught)

Grants

PI

Monono, E., D. Webster, and N. Nahar. Production and Characterization of Epoxidized Sucrose and Maltose Ester of Corn Oil. North Dakota Corn Utilization Council, \$89,954. *Jul 1 2020 – June 30, 2022*.

Co-PI

Hellevang, H. and **E. Monono**. Evaluating the Allowable Storage Time of Two Soybean Varieties at Four Moisture Levels at Typical Storage Temperatures. North Dakota Soybean Council, \$38,805. *Jul 1, 2020 – June 30, 2021*.

Hammed, A., **E. Monono**, N. Nahar, and Xiangfa Wu. Biochemical Synthesis of Corn-based Biomaterials for making Edible Bale Net Wrap. North Dakota Corn Utilization Council, \$58,430. *Jul 1 2020 – June 30, 2022*.

- Braaten, B., **E. Monono**, X. Sun, and B. Chen. Development of an RF Sensing Platform for Grain Detection-Phase 3. John Deere, \$138,714. *Jan 1, 2020 - Dec 31, 2020*.
- Hellevang, H., **E. Monono**, and J. Teboh. Impact of drying and storage environment on green and semi green soybean varieties. North Dakota Soybean Council, \$31,202. *Jul 1, 2019 – June 30, 2020*.
- Webster, D. and **E. Monono**. Refining hemp oil for bioresin production. EPSCoR, \$1,200. *Sept 16, 2019 - Dec 15, 2019*.
- Braaten, B., **E. Monono**, X. Sun, B. Chen, and H. Sidhu. Development of an RF Sensing Platform for Grain Detection-Modelling and Field Demonstration. John Deere, \$151,669. *Dec 1, 2018 - Nov 30, 2019*.
- Chen, B. and **E. Monono**. Designing and formulating crude corn germ oil-based shortenings for baked products. North Dakota Corn Council, \$31,575. *Jul 1, 2019 – June 30, 2020*.
- Hellevang, K., **E. Monono**, D. Wiesenborn, and J. Teboh. Impact of Storage Environment on Green and Semi-green Soybeans, North Dakota Soybean Council, \$33,316. *Jul 1, 2018 – Jun 30, 2019*.
- Wiesenborn, D., S. Bajwa, **E. Monono**, B. Johnson and I. Cannayen. Coated Confection Sunflower Kernels for Precision Planting, National Sunflower Assoc., \$24,180 added to previous awards by Confection Committee. *Nov 2016 - Feb 2018*.
- Wiesenborn, D., S. Bajwa, **E. Monono**, B. Johnson and G. Bora. Coated Confection Sunflower Kernels for Precision Planting, National Sunflower Assoc., \$40,600. *Feb 2016 – Oct 31, 2016*.

Peer-reviewed Publications

- Zhao, M., Lan, Y., Cui, L., **Monono, E.**, Rao, J., and Chen, B. 2020. Physical properties and cookie-making performance of oleogels prepared with crude and refined soybean oil. *Food and Function* 2020.
- Zhao, M., Lan, Y., Cui, L., **Monono, E.**, Rao, J., and Chen, B. 2019. Formation, characterization, and potential food application of rice bran wax oleogels: expeller-pressed corn germ oil versus refined corn oil. *Food Chemistry* 30 (2020): 1-9.
- Monono, E.**, Wiesenborn, D., Vargas-Ramirez, J., and Zhou, R. 2019. Preserving Juice from Industrial Beets Using Organic Acids. *Transactions of the ASABE* 62(1): 177-185.
- Sidhu, H., Wiesenborn, D. Johnson, B. **Monono, E.**, and Eriksmoen, E. 2019. Coating the Hulled Kernels Improved Field Plantability and Grain Yield of Extra-large Confectionary Sunflower Achenes. *Crop Science* 59(3): 1-9.
- Sidhu, H., **Monono, E.**, Bora, G., and Wiesenborn, D. 2017. Performance of Coated Extra-large Hulled Confectionary Sunflower Kernels for Precision Planting. *Agricultural Research Journal* 6(4): 347-358.
- Sitz, E., Webster, D., **Monono, E.**, Wiesenborn D., Bajwa. S., and Bajwa, D. 2017. Epoxidized Sucrose Soyate - A Novel Green Resin for Crop Straw based Medium Density Fiberboards. *Industrial Crops and Products* 107 (2017):400-408.
- Tuntiwiwattanapun, N., **Monono, E.**, Wiesenborn, D, and Tongcumpou, C. 2017. Developing an *In-situ* Transesterification Process for Biodiesel Production Using Spent Coffee Grounds from the Instant Coffee Industry. *Industrial Crops and Products* 102(2017): 23-31

- Monono, E.M.** Bahr, J.A, Pryor, S.W, Webster, D.C, and Wiesenborn D.P. 2015. Optimizing Process Parameters of Epoxidized Sucrose Soyate Synthesis for Industrial Scale Production. *Organic Process Research & Development* 19 (11): 1683-1692.
- Monono, E.M.**, Webster, D.C, and Wiesenborn D.P. 2015. Pilot Scale (10 kg) Production and Characterization of Epoxidized Sucrose Soyate. *Industrial Crops and Products* 74 (2015): 897-997.
- Monono, E.M.**, Haagenson, D.M., and Wiesenborn D.P. 2015. Characterizing the Epoxidation Process Conditions of Canola Oil for a Scale-up Reactor. *Industrial Crops and Products* 67 (2015):364-372.
- Monono, E.M.**, Nyren, P.E, Berti, M.T, and Pryor, S.W. 2013. Variability in Biomass Yield, Chemical Composition, and Ethanol Potential of Individual and Mixed Herbaceous Biomass Species Grown in North Dakota. *Industrial Crops and Products* 41 (2013):331-339.
- Monono, E.M.**, Haagenson, D.M, and Pryor, S.W. 2012. Developing and Evaluating NIRS Calibration Models for Multi-species Herbaceous Perennials. *Industrial Biotechnology* 8(5):285-292.

Conference Presentations

- Monono, E.**, H. Sidhu, X. Sun, B. Braaten, R. Striker, B. Chen, A. Peckrul, G. Advani. 2019. Developing Radio Frequency Sensor based Model for Grain Measurement. Paper No. 1900836 ASABE International Meeting Boston, MA July 7-10, 2019.
- Ajayi-Banji, I., K. Hellevang, **E. Monono**, T. Jasper. 2019. Impact of Drying and Storage Conditions on the Physical Quality of Green and Semi-green Soybean. Paper No. 1900557 ASABE International Meeting Boston, MA July 7-10, 2019.
- Monono, E.**, and D. Wiesenborn. 2018. Design and Testing of a Prototype Distillation Unit: A Student Class Project. Paper No. 1800968 ASABE International Meeting Detroit, MI July 29-Aug 1, 2018
- Sidhu, H., **Monono, E.**, Wiesenborn, D., Johnson, B., Eriksmoen, E. 2018. Does hulling extra-large confection sunflower seeds and coating the kernels improve seed plantability stand establishment and crop performance? Paper No. 1801408 ASABE International Meeting Detroit, MI July 29-Aug 1, 2018.
- Monono, E.**, J. Vargas-Ramirez, D. Wiesenborn. 2017. The Potential of Using Organic Acid Produced *in-situ* to Preserve Sugar Beet Juice. Paper No. 1700384 ASABE International Meeting Spokane WA July16-19, 2017
- Monono, E.**, M. Penariol da Silva, D. Wiesenborn. 2017. Modeling Oil Quality Parameters of Crambe Seeds Stored at Various Conditions. Paper No. 1700391 ASABE International Meeting Spokane WA July16-19, 2017
- Sidhu, H., **E. Monono**, B. Johnson, G. Bora, and D. Wiesenborn. 2017. Evaluating Precision Planting of Coated Extra-large Confection Sunflower Kernels. Paper No. 1701294 ASABE International Meeting Spokane WA July16-19, 2017 (Poster)
- Monono, E.**, J. Bahr, S. Pryor, D. Webster, and D. Wiesenborn. 2016. Optimizing the Reagent Amounts and Process Conditions of Epoxidized Sucrose Soyate for Industrial Scale Production. Paper No. 162461770 ASABE International Meeting Orlando, FL July 17-20, 2016

- Monono, E.,** N. Tuntiwiwattanapun, C. Tongcumpou, D. Wiesenborn. 2016. Scale up Production of Biodiesel from Spent Coffee Grounds via in-situ Transesterification. Paper No. 162461770 ASABE International Meeting Orlando, FL July 17-20, 2016.
- Sidhu, H., D. Haagenson, S. Bajwa, G. Bora, B. Johnson, **E. Monono,** and D. Wiesenborn. 2016. Coating of Hulled Extra-large Confectionary Sunflower Kernels for Improved Plantability and Viability. Paper No. 162455876 ASABE International Meeting Orlando, FL July 17-20, 2016
- Monono, E.M,** and D.P. Wiesenborn, 2015. Heat Transfer Analysis of a 38 L Reactor for the Production of Epoxidized Sucrose Soyate, Paper No. 2190724 ASABE International Meeting New Orleans, LA July 26st – July 29th, 2015
- Monono, E.M,** D.M. Haagenson, and D.P. Wiesenborn, 2013. Pilot Scale Production of Epoxidized Sucrose Soyate, Paper No. 131620857 ASABE International Meeting Kansas City, MO July 21st – July 24th, 2013
- Monono, E.M,** D.M. Haagenson, and D.P. Wiesenborn, 2012. Effect on Reaction Scale-up on Properties of Epoxidized Canola oil, Paper No. 121337073 ASABE International Meeting Dallas, TX July 29th – August 1st, 2012.
- Monono, E.M** and S.W. Pryor, 2011. Influence of Sieve Size and Sample Presentation on NIR Prediction of Perennial Grass Composition, Paper No. 1111307 ASABE International Meeting. Louisville, KY August 7-11, 2011.
- Monono, E.M,** Nahar, N. Karki, B. and Pryor, S. W. 2010. Compositional Analysis of Perennial Grass Species to Evaluate Potential as Individual or Conglomerate Bioenergy Crops, Paper No. 1009050. ASABE International Meeting. Pittsburgh, PA June 19-23, 2010. (Poster).

Students Supervised/Advised

Graduate students

- Co-advisor, doctoral student Ibukunolowa Ajayi-Banji (ABEN)
- Committee member, MS student Sanaul Huda (ABEN)

Undergraduate students

- Advisor/co-advisor, 3 senior design project teams 8 students
- Supervisor, undergraduate research assistants 9 students

Service

- Building and social committee member in the Department of Department of Agricultural and Biosystems Engineering, Sept 2015 - Present.
- Organizer and moderator, Food Process Engineering technical session in the 2019 annual American Society of Agricultural and Biosystems Engineers (ASABE) meeting in Boston, MA, July 7-10, 2019.
- Poster judge, Processing Systems community poster sessions in the 2019 annual ASABE meeting in Boston, MA, July 7-10, 2019.
- Judge, first round of 2019 Spellman High Voltage Electronics Clean Tech competition “Towards a Greener Tomorrow”.
- Search committee member, interim department chair for the Department of Agricultural and Biosystems Engineering, January 2019.
- Search committee member, post-doctoral scientist in the Department of Coatings and Polymeric Materials, May 2018.

- Moderator, Food Safety Engineering session at the 2018 annual meeting of American Society of Agricultural and Biosystems Engineers (ASABE) in Detroit, MI, July 29-Aug 1, 2018.
- Poster judge, Processing Systems community poster sessions at the 2018 annual meeting of American Society of Agricultural and Biosystems Engineers (ASABE) in Detroit, MI, July 29-Aug 1, 2018.
- Reviewer, Industrial Crops and Products journal; Transactions of the ASABE; Lubricant; Industrial Biotechnology; Algal Research, and Journal of advanced oxidation technologies since 2014.

Professional Development

- Faculty conference on classroom practices to increase success and retention of all students. Fargo, ND August 23, 2019.
- Bio-Industry Summit. Fargo, ND, May 15, 2018.
- Blackboard 9.1:Tests and Surveys, QBB-NDSU, Feb 6, 2018
- Blackboard 9.1:Make Grade Center Work for You! QBB-NDSU, Jan 8, 2018
- Blackboard 9.1: Quick start training, QBB-NDSU, Jan 5, 2018
- Getting started with TurningPoint 8 (Clickers), QBB-NDSU, Jan 4, 2018
- Faculty conference on “content deliver to meet your instructional goals” and “research & grants, student success collaborative platform”. Fargo, ND August 16, 2017

Awards

- Tapestry of Diverse Talents award at the North Dakota State University in May 2011.
- “Frank Bain” scholarship award of \$1,400 (2012/2013) and \$1,700 (2014/2015). The scholarship was awarded by the College of Agriculture, Food Systems, and Natural Resources through the Department of Agricultural and Biosystems Engineering.
- Cameroon’s Ministry of Higher Education academic excellence award (Bourse d’excellence) (2nd and 4th years at the University of Dschang: 2000 and 2002).

Memberships in professional associations

- American Society of Agricultural and Biosystems Engineers since August 2009
- National Society of Black Engineers since May 2010.
- Institute of Biological Engineering, August 2010-2012.
- Alpha Epsilon – The Honor Society of Agricultural, Biological and Food Engineering.

Other Language Skills

- French (good reading, speaking and writing)

Computer Skills

- MS Excel, MS Word, MS PowerPoint, SAS, Minitab, modelling in MATLAB and Simulink.