

CURRICULUM VITAE

JOHN T. EVANS IV, Ph.D.

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EDUCATION

Doctor of Philosophy, 2018; Biological Systems Engineering, University of Nebraska-Lincoln.
Dissertation: Development of a Single Harvester/ Single Grain Cart Harvest Logistics Model.
Advisors: Dr. Joe Luck, Ph.D., P.E., Dr. Santosh Pitla, Ph.D. GPA: 3.83/4.0

Master of Science, 2015; Biosystems and Agricultural Engineering, University of Kentucky.
Thesis: Development of a Method for In-Situ Testing of Oxygen Concentrations in Compost Bedded Pack Barns. Advisor: Dr. Michael Sama, Ph.D., P.E. GPA: 3.9/4.0

Bachelor of Science, 2013; Biosystems and Agricultural Engineering, University of Kentucky.
Emphasis Area: Machine Systems Automation Engineering. GPA: 3.14/4.0

PROFESSIONAL EXPERTISE

Machine Logistics Optimization, Machine Automation, Data Acquisition, Data Management and Analytics, Computer-Aided Design, Computer-Aided Manufacturing, Software Development, Controller Area Network (CAN) systems, GIS/Spatial Analysis Software.

PROFESSIONAL EXPERIENCE

- 11/18 - Present** **Assistant Professor**, Purdue University, Department of Agricultural and Biological Engineering
- 5/15 – 10/18** **Graduate Research Assistant**, University of Nebraska, Department of Biological Systems Engineering, Lincoln, NE. Supervisors: Dr. Santosh Pitla, Ph.D., and Dr. Joe Luck, Ph.D., P.E.
- 7/13 – 5/15** **Graduate Research Assistant**, University of Kentucky, Department of Biosystems and Agricultural Engineering, Lexington, KY. Supervisor: Dr. Michael Sama, Ph.D., P.E.
- 1/12 – 12/12** **Student Labor**, University of Kentucky, Department of Biosystems and Agriculture Engineering. Supervisor: Dr. Michael Sama, Ph.D., P.E.
- 5/12 – 8/12** **Intern**, Clark Material Handling, Lexington, KY. Supervisor: J.B. Eads
- 1/07 – 8/09** **Assistant Farm Manager**, Point Pleasant Farm, Winchester, KY. Supervisor: John T. Evans III.

PROFESSIONAL LICENSURE

Fundamentals of Engineering, Other Disciplines, passed May 2013.

PROFESSIONAL MEMBERSHIP

1. American Society of Agricultural and Biological Engineers (2011 – Present)
2. Alpha Epsilon: The Honor Society of Agricultural, Food, and Biological Engineering

AWARDS

1. 2017 Elenore Gakemeier Swarts Outstanding Doctoral Graduate Student. UNL Department of Biological Systems Engineering.
2. 2017 Milton E. Mohr Teaching Fellowship. UNL College of Agricultural Sciences and Natural Resources.
3. 2015 Nebraska Engineering Recruitment Fellowship. UNL College of Engineering.

RESEARCH & PROJECTS

1. **Flex-Row Project.** Contributing to the design and fabrication of a four wheel steering, variable width, autonomous sensing platform that will be used to collect agronomic data in production grain fields. 2017 – Current
2. **Grain Harvest Logistics.** Work with multiple producers to collect spatial referenced machine data to create and validate a harvest logistics model for single harvester/ single grain cart operations that will optimize harvest efficiency. 2015 – Current
3. **Multi-Hybrid Zone Assignment Study.** Assisted in operation, modification, and maintenance of a multi-hybrid planter that was used to assess hybrid placement methodology. 2016 & 2017
4. **Dairy Cow Gas Emissions.** Collaborated with UNL Animal Science Department to create an automated data collection system for measuring gas emissions from dairy cows. 2017
5. **Sprayer Tank Agitation Product Testing.** Designed testing apparatus that collected samples in various locations of a commercial sprayer tank to determine spatial chemical concentration variation. 2016
6. **Oxygen Sensor Probe Development.** Utilized additive manufacturing (3D printing) to position three galvanic cell type oxygen sensors in a probe that enabled concentrations to be simultaneously measured at varying depth in compost bedded pack barns. The probe was used to determine the effectiveness of aeration methods used in the barns. 2013 – 2015
7. **Aeration Tillage Tool for Compost Bedded Dairy Barns.** Designed and tested a mechanical aeration tool for composted bedded pack barns. 2012 – 2015

PUBLICATIONS

Refereed Journal Articles - Published

1. M.P. Sama, **J.T. Evans**, A.P. Turner, S.S. Dasika. 2016. As-Applied Estimation of Volumetric Flow Rate from a Single Sprayer Nozzle Series Using Water-Sensitive Spray Cards. *Trans. ASABE*. 59(3): 861-869.
2. **Evans, J.T.**, M.P. Sama, J.L. Taraba, G.B. Day. 2017. Automated Calibration of Electrochemical Oxygen Sensors for use in Compost Bedded Pack Barns. *Trans. ASABE*. Vol. 60(3): 957-962.

Conference Proceedings

1. C.A. Shearer, J.D. Luck, **J.T. Evans**. 2017. Development of a Sprayer Performance Diagnostic Tool for Better Management Practices of In-Field Spraying Operations. 75th International Conference on Agricultural Engineering LAND. TECHNIK, 2017.

Other Technical Publications

1. Luck, J.D., S.H. Forney, and **J.T. Evans**. 2016. Agitation product research testing to support the revision of international standard ISO 5682-4. Technical report prepared for the Association of Equipment Manufacturers (AEM) Liquid Application Equipment Technical Committee (LAETC); Submitted March 30th, 2016.

Popular Press Articles

1. Sama, M.P., **J.T. Evans**. 2016. *Seniors Design Solutions for Real Problems*. ASABE Resource Magazine. 23(3): 8-8.

PRESENTATIONS

1. **Evans, J.T.**, Luck, J.D., Pitla, S.K., Row Crop Harvest Logistics Modeling for Single Combine/ Grain Cart Operations. 2018 ASABE Annual International Meeting.
2. Stevens, R.H., Evans, J.T., Thompson, L.J., Luck, J.D., Data Collection and Analysis for Deploying and Assessing Multi-Hybrid Planting Applications. 2018 AgInfo.
3. **Evans, J.T.**, Luck, J.D., Pitla, S.K., Row Crop Harvest Logistics Modeling for Single Combine/ Grain Cart Operations. 2018 AgInfo.
4. **Evans, J.T.**, Luck, J.D., Yield Data Collection and Quality. 2018 NEATA Conference.
5. **Evans, J.T.**, Luck, J.D., Pitla, S.K., In-Field Harvest Logistics Modeling for Single Combine/ Grain Cart Operations. 2017 ASABE Annual International Meeting.
6. **Evans, J.T.**, Pitla, S.K., Hands on Approach to Teaching J1939 Controller Area Network (CAN) bus Communication and Embedded Controls. 2017 ASABE Annual International Meeting.
7. Shearer, C.A., J.D. Luck, and **J.T. Evans**. Development of a sprayer performance diagnostic tool using improved mapping and error quantification practices. 2017 ASABE International Annual Meeting
8. **Evans, J.T.**, Luck, J.D., Pitla, S.K., Evaluating Potential for Minimizing in Field Grain Cart Travel through Path Planning. 2017 ASABE Agricultural Equipment Technology Conference (AETC) Meeting.
9. **Evans, J.T.**, Luck, J.D., Pitla, S.K., Agricultural Machinery Data Collection and Analysis 2017 Nebraska Agricultural Technologies Association (NEATA) Conference.
10. **Evans, J.T.**, Luck, J.D., Pitla, S.K., Evaluating Potential for Minimizing in Field Grain Cart Travel through Path Planning 2016 ASABE Annual International Meeting.
11. **Evans, J.T.**, Luck, J.D., Pitla, S.K., Grain Cart Instrumentation System for in-field Load Monitoring. 2016 ASABE AETC Meeting.
12. **Evans, J.T.**, Sama, M.P., Effect of Tillage Methods on Oxygen Concentrations in Bedding of Compost Bedded Pack Barns. 2015 ASABE Annual International Meeting.

13. **Evans, J.T.**, Sama, M.P., Calibration of Oxygen Sensors for use in Compost Bedded Pack Barns. 2014 ASABE Annual International Meeting.
14. **Evans, J.T.**, Sama, M.P., Calibration of Oxygen Sensors for use in Compost. 2014 ASABE AETC.
15. **Evans, J.T.**, Blum, M., UK ¼ Scale Design Presentation. 2013 ASABE Annual Meeting.

TEACHING EXPERIENCE

- AGEN 492: Embedded Control Systems (2016-2017)
 - Created and administered: lectures, labs, homework, quizzes and projects
 - Graded homework assignments, quizzes and project reports
 - Secured a \$59,768 donation of laboratory materials from Danfoss Solutions
 - Designed and manufactured demonstrator units for lab work
- AGEN 431: Site-Specific Crop Management (2016-2017)
 - Provided lecture on row crop harvest optimization and modeling
 - Supervised GIS (ArcMap-based) computer laboratory activities
- MSYM 412: Hydraulics (2016)
 - Supervised and directed hands-on hydraulic laboratory activities
 - Graded laboratory reports and homework assignments
 - Tutored students on hydraulic principles

SERVICE

1. Social Committee, Biosystems and Agricultural Engineering, 2014 – 2015
2. Captain, UK Quarter Scale Tractor Team, 2012 & 2013
3. Presenter, Engineering Day, 2011 – 2013
4. Presenter, FFA National Convention 2013

ADVISING

1. Adviser, Purdue Quarter Scale Tractor Team, 2019 - Current
2. Adviser, UNL Quarter Scale Tractor Team, 2015 – 2018
3. Adviser, UK Quarter Scale Tractor Team, 2013 – 2015