

Darren Jarboe

EDUCATION

Ph.D., Industrial and Agricultural Technology, Iowa State University

M.S., Business Administration, Iowa State University

B.S., Agronomy, Iowa State University

B.S., Agricultural Business, Iowa State University

PROFESSIONAL EXPERIENCE

University of Maryland, College Park, Maryland (2018–present)

- Assistant Director and Program Leader, Agriculture and Food Systems Extension, (2018–present)
- Principal Agent (faculty rank: professor, tenured 2018) (2018–present)
- Affiliate Principal Agent, Department of Environmental Science and Technology (2019–present)
- Affiliate Principal Agent, Department of Plant Science and Landscape Architecture (2019–present)

Iowa State University, Ames, Iowa (1996–2023)

- Affiliate Professor, Agricultural and Biosystems Engineering (2018–2023)
- Program Manager, Center for Crops Utilization Research (2008–2018) and BioCentury Research Farm (2009–2018)
- Adjunct Assistant Professor, Agricultural and Biosystems Engineering (2017–2018)
- Project Administrator, Iowa Alliance for Cooperative Business Development (2003–2014)
- Project Director, Iowa Alliance for Cooperative Business Development (2011–2013)
- Program Coordinator, Center for Crops Utilization Research (2004–2008)
- Program Coordinator, Iowa Grain Quality Initiative (1996–2004)

Gross-Wen Technologies, Ames, Iowa (2014–2019)

- Co-Founder (2014)
- Board Member (2014–2019)
- Vice President of Business Development (2014–2018)

HIGHLIGHTS OF LEADERSHIP EXPERIENCE AND DEVELOPMENT

As Assistant Director and Program Leader for the Agriculture and Food Systems (AgFS) Program at University of Maryland Extension (UME), I lead a statewide team of 63 faculty and staff. AgFS Extension consists of 39 faculty (28 tenured/tenure-track) who conduct applied research and provide research-based educational programming in agriculture and food systems for Maryland. The AgFS Program strategic planning process resulted in one section of the 2020 UME Programmatic Plan that dovetailed with the UME Strategic Plan. The AgFS strategic plan was developed through a grassroots process and is communicated with stakeholders via a comprehensive network. In 2022, I assembled an AgFS team with the support of our stakeholders to work with legislators to pass a bill that acquired permanent state funding for two tenure-track field faculty positions to establish a statewide urban agriculture program. The AgFS

Statewide Extension Advisory Council I initiated in 2018 has representatives from Maryland's major commodity groups and AgFS collaborators that participate in AgFS and UME reviews.

The Agricultural Nutrient Management Program (ANMP) grant funding was cut June 1, 2023 by the Maryland Department of Agriculture, and 23 faculty and staff were terminated. The funding was restored on July 17, but 60% of employees left. The ANMP was transferred from a college department to the AgFS Program on September 30, 2023. Since the transfer, nine new team members were added and processes were modified to improve efficiency. The ANMP team wrote nutrient management plans for 1,125 farmers that covered 244,000 acres. These were all the plans with complete information that farmers requested. The ANMP currently has 18 employees and continues recruiting to fill the final six positions.

To ensure a healthy pool of Maryland agricultural leaders, the University of Maryland (UMD) College of Agriculture and Natural Resources (AGNR) partners with LEAD Maryland Foundation, Inc. to offer the LEAD Maryland Program. I represent AGNR on the Board of Trustees and supervise the faculty members who manage the leadership development program. The AgFS Program partners with Northeast Sustainable Agriculture Research and Education on its farmer and grantee professional development programs. As a member of the Leadership Committee of the Agriculture Law Education Initiative (ALEI), I collaborate with University of Maryland, Baltimore and University of Maryland Eastern Shore colleagues to offer a program that delivers legal education for producers and agribusinesses in the Mid-Atlantic Region. I work with commodity and nonprofit organizations, federal and state agencies, and other research and education entities to communicate UME's agenda and forge sustainable relationships that lead to collaborations that secure contract and grant funding.

At Iowa State University (ISU), my work focused on research and industrial outreach for the Center for Crops Utilization Research (CCUR) and BioCentury Research Farm (BCRF) and the scale up of new processes and technologies, providing services to 75 affiliates from 15 ISU departments in five colleges and industry worldwide. I managed business operations and cultivated industry relationships that led to research collaborations or fee-for-service work (~65 agreements/year) for pilot-plant and startup incubator facilities (35,000 ft²). As a co-PI for the National Science Foundation (NSF) Industry/University Cooperative Research Center for Bioplastics and Biocomposites (CB²), I was instrumental in recruiting the 23 paying industry members and responsible for part of the operations of the center. I oversaw the CCUR Biopolymers and Biocomposites Research Team (~20 people) that initiated and nurtured the CB². As liaison with the ISU Center for Industrial Research and Service, I marketed research and development services to Iowa manufacturers (2012–16 economic impact: \$118 million).

I co-founded Gross-Wen Technologies, Inc., (GWT) with a faculty member and a graduate student, serving as vice president of business development and board member. My business and agricultural production expertise led the team to pivot GWT's business model from algae production for biofuels to algae-based wastewater treatment, the path it continues down today. I led GWT's fundraising that acquired over \$1 million in grants that included phase 1 (lead writer) and phase 2 (wrote the commercialization plan) USDA SBIR awards. GWT installed commercial systems in Iowa City and Slater, Iowa last year and a third installation is underway in Pasco, Washington. The company received \$6.5 million in venture capital recently.

The Iowa Grain Quality Initiative (IGQI) was a new statewide Extension program that advanced my skills in program administration, strategic plan development, and financial management. I worked with a 24-member industry advisory board. The Iowa Alliance for Cooperative Business Development, a USDA Rural Cooperative Development Center, was initiated as part of IGQI's focus on training cooperative directors and managers, rural economic development, and organizational and strategic management. I co-developed the center and served as project administrator (2003–2014) and project director (2011–2013).

EXTERNAL INSTITUTIONAL LEADERSHIP/SERVICE EXPERIENCE

Governor's Intergovernmental Commission on Agriculture, Maryland State Government, member (2024–present)

Maryland Agriculture Commission, member (2024–present)

- **Committee on Agricultural Literacy,** member (2024–present)
- **Value Added Ag Committee,** member (2024–present)

Maryland Department of Agriculture-University of Maryland Agricultural Nutrient Management Program Committee, member (2023–present)

Maryland Agriculture Council, member (2020–present)

Animal Waste Technology Fund Advisory Committee, Maryland Department of Agriculture, member (2019–present)

Board of Trustees, LEAD Maryland Foundation, Inc., member (2018–present)

- Executive Committee, member (2018–present)
- Finance Committee, member (2020–present)

Maryland Food Center Authority Board of Directors, member (represent AGNR Dean) (2019–present)

Leadership Committee, Agriculture Law Education Initiative, member (2018–present)

Mid-Atlantic Farm Credit Outstanding District Awards, Maryland Association of Soil Conservation Districts, judge (2019, 2020)

Northeast Region Agriculture and Natural Resource Program Leaders, chair (2019–2021), member (2018–present)

State Soil Conservation Committee, Maryland Department of Agriculture, member (2018–present)

Governor's Agriculture Hall of Fame, Maryland Department of Agriculture, judge (2020–present)

Farm to School Advisory Committee, Maryland Food Center Authority, member (2018–19)

Greater Iowa Credit Union (2013–2018)

- Vice Chair (2016–2018)
- Treasurer (2014–2016)
- Board Member (2013–2018)
- Committees: Asset Liability (2013–2018, Chair 2014–2016), Audit (2013–2014), Credit (2016–2018), Executive (2016–2018), and Governance (2016–2017, Chair 2016–2017)

Venture Network of Iowa, business expert panel member (2015–2018)

Iowa Biotechnology Association Partnering for Growth Forum, member (2014–2018)

National Corn Growers Association Biennial Corn Utilization and Technology Conference,
Planning Committee (2012–2016)

USDA State Outreach Council – Iowa, member (2013–2015)

CooperationWorks! (2004–2013)

- Networking Circle (2007–2013)
- Member Board (2009–2012)

Identity Preserved Committee, Iowa Crop Improvement Association (2003–2009)

Iowa Gold Specialty Grain Test Committee (1996–2000), co-chair (1996–2000)

INTERNAL INSTITUTIONAL LEADERSHIP/SERVICE EXPERIENCE

Research Advisory Committee, Harry R. Hughes Center for Agro-Ecology, AGNR, member
(2023–present)

Baltimore City REC Exploratory Committee, Maryland Agricultural Experiment Station
(MAES), AGNR, member (2022–present)

AGNR Dean’s Strategic Initiatives Program, UMD

- Advance Innovative, Profitable, and Sustainable Agricultural Production Systems, member (2021–present)
- One Health: Improve Human, Animal, and Environmental Health, member (2020–present)

College of Agriculture and Natural Resources Administrative Council, UMD, member
(2018–present)

Appointment, Promotion, and Tenure Review Committee, Senior and Principal Agents,
Extension Department, UMD, member (2018–present)

UME Administrative Leadership Team, UMD, member (2018–present)

UME Faculty Advisory Council, UMD, member (2018–present)

UME Program Leader Team, UMD, member (2018–present)

UME Senior Administrative Council, UMD, member (2018–present)

Agriculture and Extension Education Tenure-track Faculty Search Committee, Department
of Plant Science and Landscape Architecture, UMD, member (2022–2023)

Partner for Good Strategic Plan Committee, UMD, member (2022–2023)

Cornerstone Event Poster Competition, AGNR, Judge (2022)

Maryland Agricultural Experiment Station (MAES) Grant Program, AGNR, Reviewer
(2022)

UME Council, UMD, member (2020–2022)

AGNR Ag Enterprise Challenge, UMD, judge (2019, 2021)

Biopolymers and Biocomposites Research Team, ISU (2005–2018)

Biopolymers and Biocomposites Workshop Subcommittee (2008–2016)

Corn Stover Harvest Team, ISU (2012–2016)

CCUR/BCRF Director Search Committee, ISU, member (2014–2015)

Professional and Scientific (P&S) Classification Review Committee, ISU, Iowa State University (2008–2013)

- P&S Scientific Series Subcommittee (2010–2011)

P&S Professional Development Committee, ISU (2002–2013)

Biorenewables Lab Conference Room Table Design Committee, ISU (2009)

Biobased Industry Outlook Conference, ISU (2004–2008)

- Exhibits Subcommittee (2005–2008), co-chair (2006–2008)
- Planning Committee (2004–2008)

P&S Council, ISU (1999–2002)

- Compensation and Benefits Committee, co-chair (1999–2000)
- Professional Development Day Committee (2000–2003), co-chair (2001–2002)
- Policies and Procedures Committee (2001–2002)

HONORS AND AWARDS

Search for Excellence in Farm and Ranch Business Management National Finalist, and State and Regional Winner, Agriculture Law Education Initiative’s Annual Agricultural and Environmental Law Conference, National Association of County Agricultural Agents, Paul Goeringer, Ryan Zimmerman, Nicole Cook, Sarah Everhart, Megan Todd, Darren Jarboe, Elizabeth Thilmany (2023)

Educational Program Poster National Finalist, and State and Regional Winner, National Association of County Agricultural Agents, Andy Kness, Erika Crowl, and Darren Jarboe (2020)

2019 Start-Up Stadium Winner, BIO World Congress, Gross-Wen Technologies, Inc. (2019)

Prometheus Award for 2019 Iowa Startup Company of the Year, Technology Association of Iowa, Gross-Wen Technologies, Inc. (2019)

Award for Achievement in Economic Development in Iowa, ISU for Center for Crops Utilization Research and BioCentury Research Farm Team (\$1,500 stipend, 2017)

First Place, Pappajohn Iowa Entrepreneurial Venture Competition, Gross-Wen Technologies, Inc. (\$25,000 prize, 2017)

Team Award, College of Agriculture and Life Sciences, ISU for Bioplastics for the Green Industry Team, William Graves, Chris Currey, David Grewell, Darren Jarboe, Kurt Rosentrater, and James Schrader (2017)

Finalist, Pappajohn Iowa Entrepreneurial Venture Competition, Gross-Wen Technologies, Inc. (\$1,000 prize, 2016)

Extra-meritorious Performance Pay Award, ISU (\$5,000 stipend, October 2014)

Regents Award for Staff Excellence, Board of Regents, State of Iowa (\$1,000 stipend, fall 2013)

American Society of Agricultural and Biological Engineers Blue Ribbon Awards

- Plot Harvester Clean-Out Procedures, ISU Extension Video VID 0056, H. Mark Hanna and Darren Jarboe (2005)
- Identity Preserved Crops: Equipment Clean-Out, ISU Crop Adviser Institute Item C20027, H. Mark Hanna and Darren Jarboe (2004)
- Planter Clean-out Procedures for Corn and Soybeans video, ISU Extension Video VID 0041, H. Mark Hanna and Darren Jarboe (2002)

American Society of Agronomy Educational Materials Awards

- Plot Harvester Clean-Out Procedures, ISU Extension Video VID 0056, H. Mark Hanna and Darren Jarboe (2005)
- Identity Preserved Crops: Equipment Clean-Out, ISU Crop Adviser Institute Item C20027, H. Mark Hanna and Darren Jarboe (2004)
- Planter Clean-out Procedures for Corn and Soybeans Video, ISU Extension Video VID 0041, H. Mark Hanna and Darren Jarboe (2002)

Professional and Scientific Excellence Award, ISU (\$1,500 stipend, 2004)

SPONSORED PROJECTS (98 Projects, \$14,244,162)

1. Kumar, H. and D. Jarboe. 2024. Maryland NRCS Irrigation Services Agreement. USDA Natural Resources Conservation Service. \$1,437,526.
2. Jarboe, D. 2024. Agricultural Nutrient Management Program. Maryland Department of Agriculture, \$1,271,000. Award #FY2025MOU1139.
3. Jarboe, D. 2024. Agricultural Nutrient Management Program. Maryland Department of Agriculture, \$475,000. Award #FY2025MOU841.
4. Townsend, M.E., Hirsh, S.M., Sater, H., Dill, S., Rhodes, J., Grev, A., Semler, J., Sasscer C., Beale, B., Joseph, D., Kness, A., Nichols, K., Jarboe, D. 2024. Improving Soil Health and Water Quality through Purposeful, Site-Specific Cover Crop Planning and Management. National Fish and Wildlife Foundation, Innovative Sediment and Nutrient Reduction (INSR). \$595,623.
5. Jarboe, D., N. Little, S. Henley, and S. Dill. 2024. Technical service support for entrepreneurship in rural Maryland. Rural Maryland Prosperity Investment Fund, Rural Maryland Council, \$80,000. Award #2024RMPIF.
6. Jarboe, D. 2023. Agricultural Nutrient Management Program. Maryland Department of Agriculture, \$1,271,000. Award #FY2024MOU1139.
7. Jarboe, D. 2023. Agricultural Nutrient Management Program. Maryland Department of Agriculture, \$475,000. Award #FY2024MOU841.
8. Chan, A., Dill, S., Jarboe, D., & Kim, J. 2022–2023. Maryland Farm Stress Assistance, Supplemental increase. USDA-National Institute of Food and Agriculture, MDA. \$45,301.

9. Nichols, K., J. Semler, and D. Jarboe. 2021. Third party evaluation of manure injection on Maryland dairy farms. Agricultural Waste Technology Fund. Maryland Department of Agriculture, \$135,105. Award #MDA-1925 E1. Contribution: MDA relationship, co-developed proposal, mentored PI, and provided agribusiness management and agronomy expertise.
10. Connelly, S.A., A. Chan, S.P. Dill, D. Jarboe, and J. Kim. 2021. Maryland Farm Stress Assistance. USDA-NIFA. \$500,000. Award #2021-70035-35375. Contribution: MDA relationship, co-developed the proposal, mentored the faculty, identified outreach opportunities and promoted the program.
11. Jarboe, D. 2021. Pesticide Safety Education Funds Management Program. eXtension Foundation. \$17,024. Award #304600-00001.
12. Hirsh, S., S. Dill, A. Kness, A. Leslie, N. Little, B. Beale, E. Crowl, S. Everhart, D. Jarboe, K. Nichols, D. Severson, & C. Wang. 2020. Cultivating Conservation for Maryland and Delaware's Small and Historically Underserved Farmers. USDA NRCS. \$250,000. Award #303617-00001. Contribution: Provided project cost share, mentored junior faculty, and promoted the program.
13. Nichols, K., J. Semler, and D. Jarboe. 2020. Developing Maryland's Soil Health Program to Promote the Co-Benefits of Water Quality and Climate Resilience. Maryland Department of Agriculture (subcontract for National Fish and Wildlife Foundation). \$62,681. Award #302822-00001. Contribution: MDA relationship, co-developed proposal, mentored PI, and provided agribusiness management and agronomy expertise.
14. Dill, S.P., D. Jarboe, J.-L. Izursa. 2019. Conduct a Feasibility Study for the New BSD Farms, Inc. Operation in Caroline County, Maryland. BSD Farms, Inc. \$19,692.83. Award #301495-00001. Contribution: BSD Farms relationship, co-developed the proposal, reviewed the study prior to submission, and provided agribusiness management, crop production, and business development expertise.
15. Kness, A., M. Morris, and D. Jarboe. 2019. Agricultural Education for Agricultural Service Professionals. USDA Natural Resources Conservation Service. \$29,516. Award #300951-00001. Morris resigned and E. Crowl added. Contribution: NRCS relationship, co-developed the proposal, reviewed educational materials, and mentored the junior faculty investigators.
16. Jarboe, D. 2018. Organic Agriculture and Environmental Sustainability Information Access (continued collaborative agreement). USDA Agricultural Research Service. \$37,777. Award #026279-00001.
17. Hurtado Ghaffar, A., D. Jarboe; J. Rhodes, K. Rush Lynch; V. Brown; and D. Patel. 2018. Strengthening Health and Farm Vitality by Assessing Stress among MD Farmers. Transdisciplinary Approaches to Improving Human, Animal and Environmental Health Seed Grant Program, College of Agriculture and Natural Resources, UMCP. \$10,000. Contribution: Assisted with designing the project and identified and identified and supervised two of the faculty members involved.

18. Gross, M., Z. Wen, and D. Jarboe. 2017. Deriving a new biobased product from wastewater: Production of a slow release algal-based fertilizer. USDA Small Business Innovation Research (SBIR) Phase 2. \$600,000. Award #2017-33610-27018. Contribution: Wrote the commercialization plan and rewrote the grant application after a national consultant determined the PI's initial draft would not be funded. The team led performance of the project. Jarboe provided agribusiness management, agronomy, and technology commercialization expertise.
19. Wang, T., D. Jarboe, and T. Fei. 2017. Use of High-oleic Soybean Oil and Soybean Oil Hardstock in Commercializing Soy-based Coating Waxes. United Soybean Board. \$250,000. Award #1840-362-0735. Contribution: Conducted marketing intelligence to determine the project targets, co-wrote the proposal, assisted with the funding agency relationship and reporting, and navigated the company relationships during commercialization process.
20. Gross, M., Z. Wen, and D. Jarboe. 2017. Production of selenium-enriched microalgae as an animal feed supplement. SBIR/STTR Outreach Program, Iowa Innovation Corp. Contribution: Assisted with the application, performance of the work, and provided agribusiness management, agronomy, and technology commercialization expertise.
21. Gross, M., Z. Wen, and D. Jarboe. 2017. Production of selenium-enriched microalgae as an animal feed supplement. USDA Small Business Innovation Research (SBIR) Phase 1. \$100,000. Award #2017-33610-26752. Contribution: Proposal was patterned after the successful proposal written in 2016, assisted with the work conducted, and provided agribusiness management, agronomy, and technology commercialization expertise.
22. Jarboe, D. and K. Keener. 2017. 2017 Iowa Manufacturing Extension Partnership Assistance. Center for Industrial Research and Service (CIRAS), ISU. \$41,411. Award #MEP/YR2/70NANB15H227-CCUR-JARBOE.
23. Jarboe, D., K. Keener, and S. Colletti. 2016. Iowa Manufacturing Extension Partnership Assistance. CIRAS, ISU. \$31,058. Award #MEP/YR2/70NANB15H227-CCUR-JARBOE.
24. Wen, Z., C. Hill, and D. Jarboe. 2016. Evaluation of Nutrient Removal from Municipal Wastewater Using Pilot-Scale Algal Cultivation Systems. \$76,030. Award #A-2016-118. Contribution: The relationship with CIRAS, co-wrote the proposal, assisted with the work conducted, and provided agribusiness management, agronomy, and technology commercialization expertise.
25. Wen, Z., M. Gross, and D. Jarboe. 2016. Removal of nitrogen from production facility effluent using algae – optimization of a continuous algal cultivation. CIRAS and CJ Bio America, Inc. \$17,576. Award #EA-2016-098. Contribution: The relationship with CIRAS, co-wrote the proposal, assisted with the work conducted, and provided agribusiness management, agronomy, and technology commercialization expertise.
26. Wen, Z., M. Gross, and D. Jarboe. 2016. Deriving a new biobased product from wastewater: Production of a slow release algal-based fertilizer. SBIR/STTR Outreach Program, Iowa Innovation Corp. \$25,000. Contribution: Lead writer of the application, member of the team

that executed the project, and provided agribusiness management, agronomy, and technology commercialization expertise.

27. Gross, M., Z. Wen, and D. Jarboe. 2016. Deriving a new biobased product from wastewater: Production of a slow release algal-based fertilizer. USDA Small Business Innovation Research (SBIR) Phase 1. \$100,000. Award #2016-33610-25443. Contribution: Lead writer of the proposal, member of the team that executed the project, and provided agribusiness management, agronomy, and technology commercialization expertise.
28. Jarboe, D., D. Grewell, J. Schrader, Z. Wen, A. Mallarino, J. Sawyer, and W. Graves. 2016. Microlagae-based Fertilizer for Nitrogen and Phosphorus Loss Reduction. Leopold Center for Sustainable Agriculture. \$100,000. Award #E2016-12.
29. Wen, Z., C. Hill, and D. Jarboe. 2015. Evaluation of Bio Springer Yeast Products. Bio Springer North America Corp. (now Procelys) and CIRAS. \$52,220. Award #A-2015-158. Contribution: The relationship with CIRAS, co-wrote the proposal, assisted with the work conducted, and provided agribusiness management and technology commercialization expertise.
30. Grewell, D., E. Cochran, D.R. Raman, D. Jarboe. 2015–2019. Collaborative Research: IUCRC: Center for Bioplastics and Biocomposites. Industry/University Cooperative Research Centers (I/UCRC), National Science Foundation and member companies. \$2,850,000. Awards #1439639 and #1738417. Contribution: Co-wrote the proposal; assisted PI with company relationship building to recruit additional members; led CCUR team that performed administrative, communications, and marketing support for first year; and provided management and technology commercialization expertise.
31. Jarboe, D. and K. Keener. 2015. Travel expense support for students to attend the 2016 Corn Utilization and Technology, Conference. Iowa Corn Promotion Board. \$10,000.
32. Wen, Z., M. Gross, D. Jarboe, and S.L. Lee. 2015. Removal of nutrients from production facility effluent using algae. Biova, LLC and CIRAS. \$11,862. Award #EA-2015-138. Contribution: The relationship with CIRAS, co-wrote the proposal, assisted with the work conducted, and provided agribusiness management, agronomy, and technology commercialization expertise.
33. Wen, Z., M. Gross, S.L. Lee, and D. Jarboe. 2015. Removal of selenium from production facility effluent using algae. Iowa Company and CIRAS. \$11,837. Award #P-2014-190. Contribution: The relationship with CIRAS, co-wrote the proposal, assisted with the work conducted, and provided agribusiness management, agronomy, and technology commercialization expertise.
34. Wen, Z., M. Gross, S.L. Lee, and D. Jarboe. 2015. Removal of phosphorus from production facility effluent using algae. Iowa Company and CIRAS. \$14,238. Award #P-2015-002. Contribution: The relationship with CIRAS, co-wrote the proposal, assisted with the work conducted. and provided agribusiness management, agronomy, and technology commercialization expertise.

35. Wen, Z., M. Gross, S. Lee, and D. Jarboe. 2015. Removal of nitrogen from production facility effluent using algae. Iowa Company and CIRAS. \$5,068. Award #P-2015-031. Contribution: The relationship with CIRAS, co-wrote the proposal, assisted with the work conducted, and provided agribusiness management, agronomy, and technology commercialization expertise.
36. Wang, H. and D. Jarboe. 2015. Development of a Wet Milling Process for Guar. United Guar, LLC. \$10,393. Contribution: Established the relationship with the company, worked with the scientific staff, and ensured performance of the agreement objectives.
37. Jarboe, D. and S. Colletti. 2015. Iowa Manufacturing Extension Partnership Assistance. CIRAS, ISU. \$41,162. Award #014039-00002.
38. Strohl, J., W. Colonna, and D. Jarboe. 2015. Fermentation of sugars derived from biomass using gamma-valerolactone extraction. Center for Biorenewable Chemicals (CBiRC). \$4,575. Contribution: Developed the agreement with the startup company in CBiRC's incubator, worked with the scientific staff, and ensured performance of the agreement objectives.
39. Wen, Z., M. Gross, and D. Jarboe. 2015. Establishment of a mobile Revolving Algal Biofilm (RAB) cultivation system for treating industrial and municipal wastewater on site. ISU Regents Innovation Fund. \$50,000. Contribution: Lead writer of the proposal, changed the business model to a financially viable option, assisted with the work conducted, and provided agribusiness management, agronomy, and technology commercialization expertise.
40. Jarboe, D., H. Wang, and L. Johnson. 2014. Culinary Boiler Replacement for CCUR Wet Pilot Plant. CIRAS, ISU. \$15,884.
41. Johnson, L., D. Jarboe, and S. Colletti. 2014. Iowa Manufacturing Extension Partnership Assistance. CIRAS, ISU. \$29,723. Award #70NANB10H147. Contribution: Developed the agreement in collaboration with CIRAS, led CCUR's project performance, and provided technology commercialization expertise.
42. Wang, T., D. Jarboe, and B. Martin. 2014. Using modified vegetable oil-based fat for bird seed binding and block formation. Iowa Company and CIRAS. \$37,679. Award #A-2015-023. Contribution: The relationship with CIRAS, co-wrote the proposal, assisted with the commercialization work conducted, and navigated the company relationship.
43. Wen, Z., D. Jarboe, J. Strohl, and W. Colonna. 2015. Pilot-scale Production of a Biofungicide. AgBiome, Inc. \$2,269. Contribution: The relationship with Agbiome, co-wrote the proposal, and assisted with the commercialization work conducted.
44. Rosentrater, K., D. Grewell, J. Schrader, and D. Jarboe. 2014. Development of a Life Cycle Assessment Tool for Screening of Trade-Offs Among Processing Costs, Environmental Impacts, and End-of-Life Options. NSF Center for Bioplastics and Biocomposites. \$53,116. Contribution: Co-wrote the proposal and assisted with the work conducted.

45. Wang, T., L. Yao, and D. Jarboe. 2014. Commercialization of Soybean Oil-based Waxes. United Soybean Board. \$90,194. Award #1440-612-6280. Contribution: Conducted marketing intelligence to determine the project targets, co-wrote the proposal, assisted with the funding agency relationship and reporting, and navigated company relationships during commercialization process.
46. Jarboe, D., and L. Johnson. 2014. Travel expense support for students to attend the 2014 Corn Utilization and Technology Conference. Iowa Corn Promotion Board. \$10,000.
47. Wang, T., L. Yao, and D. Jarboe. 2013. Developing Soybean Oil-based Plastic Fat as Substitute for Paraffin and Beeswax (Year 2). United Soybean Board. \$52,436. Award #1440-612-6280. Contribution: Conducted marketing intelligence to determine the project targets, co-wrote the proposal, assisted with the funding agency relationship and reporting, and navigated company relationships during commercialization process.
48. Grewell, D., M.R. Kessler, D. Jarboe, E.W. Cochran, M.J. Darr, W.R. Graves, E.F. MacDonald, C.J. Martin, R. Pruszko, D.R. Raman, J. Schrader, T. Wang, and R.C. Williams. 2013. Collaborative Research: Planning Grant: I/UCRC for Center for Bioplastics and Biocomposites, National Science Foundation. \$15,940. Award #1440-612-6280. Contribution: Co-wrote the proposal; assisted the PI with company recruiting and relationship building for the membership drive; and led administrative, communications, and marketing for execution of the planning meeting.
49. Jarboe, D. and S. Fox. 2013. Sawdust Testing and Analysis. VT Industries. CIRAS project. \$480.
50. Johnson, L., D. Jarboe, and S. Colletti. 2013. Iowa Manufacturing Extension Partnership Assistance. CIRAS, ISU. \$28,873. Award #70NANB10H147. Contribution: Developed the agreement in collaboration with CIRAS, led CCUR's project performance, and provided technology commercialization expertise.
51. Jarboe, D. and J. Maiers. 2013. Create sample cards with pictures for electronic distribution. Hurburgh FDA project, ISU. \$2,500.
52. Johnson, L., D. Jarboe, and S. Colletti. 2012. Iowa Manufacturing Extension Partnership Assistance. CIRAS, ISU. \$34,613. Award #70NANB10H147. Contribution: Developed the agreement in collaboration with CIRAS, led CCUR's project performance, and provided technology commercialization expertise.
53. Jacobs, K.L., D. Jarboe, G.M. Artz, and K. Kimle. 2012. Iowa Alliance for Cooperative Business Development. USDA Rural Development. \$175,000. Award #RCDG-2012-IA-02-P. Contribution: Lead writer of the proposal, assisted PI with project management and execution, managed the relationship with the collaborating organization providing most of the cost share, and transitioned center to Dr. Jacobs leadership.
54. Jarboe, D. and L.A. Johnson. 2012. Graduate Student Travel Support for the 2012 Corn Utilization and Technology Conference, Iowa Corn Promotion Board. \$8,000.

55. Artz, G.M., W. Edwards, and D. Jarboe. 2012. Machinery Management for Small- and Medium-Sized Horticultural Farms (Year 1). Leopold Center for Sustainable Agriculture. \$30,292. Award #M2012-11. Contribution: Co-wrote the proposal, collaborated on the development of the case studies and execution of the workshops, and provided agribusiness management expertise.
56. Jarboe, D., G.M. Artz, and K. Kimle. 2011. Iowa Alliance for Cooperative Business Development. USDA Rural Development. \$225,000. Award #RCDG-2011-IA-02.
57. Wang, T., L. Yao, D. Jarboe, and B. Walton. 2011. Soybean Oil-based Plastic Fat as Substitute for Paraffin and Beeswax (Year 1). United Soybean Board. \$70,339. Award #2434. Contribution: Conducted marketing intelligence to determine the project targets, co-wrote the proposal, assisted with the funding agency relationship and reporting, and navigated company relationships during commercialization process.
58. Rouse, J. and D. Jarboe. 2011. Field Trial for BIO-CAT RhizoBoost. BIO-CAT, Inc. \$5,725. Contribution: Developed proposal in collaboration with company and selected contractor to conduct the work.
59. Wilson, L., D. Jarboe, and H. Wang. 2011. Chickpea-based Product Development Project (phase 1B). Cicer Foods. \$1,878. Contribution: Co-wrote the proposal and assisted PI with management of the relationship with the company.
60. Jarboe, D., and D. Grewell. 2011. Biopolymers and Biocomposites Workshop. Iowa Department of Economic Development. \$5,000. Award #11-TINF-038.
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 78. Ginder, R.G., C. Langinier, D. Jarboe, and L.A. Johnson. 2005. Analytical Tools for Production of Non-Food Protein Corn. Illinois-Missouri Biotechnology Alliance. \$62,785. Award #20050512602A5683. Contribution: Co-wrote the proposal, assisted PI with execution of the project, including mentoring graduate students; and provided agronomy, agribusiness management, and information technology expertise.
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 83. Hanna, H.M., and D. Jarboe. 2004. Development of Harvesting and Planting Equipment Training Manuals. USDA-APHIS Biotechnology Regulatory Services. \$25,000. Contribution: USDA relationship, co-developed proposal and co-managed project, focusing on grain identity preservation.
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85. Ginder, R.G., and D. Jarboe. 2004. Poster to Increase Awareness of the Market Choices Corn Channel. Dow AgroSciences LLC, Monsanto Company, and Pioneer Hi-Bred International, Inc. \$30,000. Contribution: Relationships with the companies, wrote the proposal, executed the project, and reported the results, and provided identity-preserved grain, crop genetics, and communications expertise.
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89. Ginder, R.G., and D. Jarboe. 2003. Poster to Increase Awareness of the Market Choices Corn Channel. Dow AgroSciences LLC, Monsanto Company, and Pioneer Hi-Bred International, Inc. \$30,500. Contribution: Relationships with the companies, wrote the proposal, executed the project, and reported the results, and provided identity-preserved grain, crop genetics, and communications expertise.
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94. Hanna, H.M., and D. Jarboe. 2002. Development of a Planter Clean Out Video. Pioneer Hi-Bred International, Inc. \$30,975. Contribution: Pioneer relationship, co-developed proposal and co-managed project, and grain identity preservation and agribusiness expertise.
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4. Jarboe, D., E. Zobel, J. Jeffrey, N. Richards, J. Ketterman, S. Dill, J. Rhodes, J. Kim, C. Schuster, L. Thompson, and D. Bauer. 2020. Training Maryland Agricultural Service Providers about Producer Engagement on Mental Health. Paper number: 2001014. Annual International Meeting, American Society of Agricultural and Biological Engineers, virtual, July 12–15. doi: 10.13031/aim.202001014
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7. Hoque, M.M., G.M. Artz, B.J. Martens, D.H. Jarboe. 2013. Essentials for Producer Participation in Biomass Markets When Choices Are Correlated. Selected Paper for presentation at the Southern Agricultural Economics Association Annual Meeting, Orlando, Florida, February 3–5, 2013. doi: 10.22004/ag.econ.142747
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10. Jarboe, D.H. and D.R. Raman. 2012. Student Perspectives on a New Biomass Production Module for Fundamentals of Biorenewable Resources. American Society of Agricultural and Biological Engineers Annual International Meeting paper number 121337374, 2012 Dallas, Texas, July 29–August 1, 2012. doi:10.13031/2013.41774
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Sustainable Agri-Food Systems, P. G. Chengappa, N. Nagaraj, and R. S. Kanwar, ed.; I. K. International Publishing House Pvt. Ltd, Bangalore, India. 397–406.

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13. Hanna, H. M., D. H. Jarboe, and G. R. Quick. 2006. Grain residuals and time requirements for combine cleaning. American Society of Agricultural and Biological Engineers, St. Joseph, Michigan. Paper No. 066082. doi: 10.13031/2013.29231
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2. Hanson, J., D. Jarboe, N.I. Fields, J. Kim, and W. Hubbard. University of Maryland Extension 2020 Programmatic Plan. 2020. https://extension.umd.edu/sites/default/files/2021-05/UMEPogrammaticPlan_2020%2C%20FINAL%2C%20082420.pdf
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4. Johnson, L.A., and D. Jarboe, eds. 2015–2018. Center for Crops Utilization Research Bulletin. Center for Crops Utilization Research, Iowa State University, Ames, Iowa.
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14. Jarboe, D. 2011. Student-Cooperative Team Explores New Feed Manufacturing Business. CooperationWorks! Networks Newsletter. Fall.
15. Jarboe, D. 2011. Acquiring Machinery and Machinery Services Workshop March 2. Extension News Release. February 15.
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25. Jarboe, D., C.R. Hurburgh, R.G. Ginder, and H.M. Hanna. 2004. Producer Training Programs for Grain. NC-213 Progress Report for 2003. 73–4. January.
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32. Ginder, R.G., G.M. Artz, and D. Jarboe. 2000. Establish a Baseline of Specialty and Identity Preserved Corn Production in Iowa. Multistate Project NC-213 Marketing and Delivery of Quality Cereals and Oilseeds Annual Progress Report, Kansas City, Missouri. February 17–18. 75–76.
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34. Hurburgh, C.R., Jr., and D. Jarboe. 2000. Maintain a Database of Corn and Soybean Intrinsic Quality by Hybrid/Variety. Multistate Project NC-213 Marketing and Delivery of Quality Cereals and Oilseeds Annual Progress Report, Kansas City, Missouri. February 17–18. 26.
35. Hurburgh, C.R., Jr., and D. Jarboe. 1999. Third Annual Informational Seminar. Iowa Grain Quality Initiative, Ames, Iowa. July 19, 1999.
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37. Jarboe, Darren, and Roger Ginder. 1998. SoyContract Explorer™ Software, Iowa Soybean Review.
38. Hommes, H., and D. Jarboe. 1997. Adapting to the Changes and Challenges of Agriculture. Seed World. May.
39. Ginder, R.G., A. Naik, and D. Jarboe. 1997. Contract comparisons for specialty beans. Department of Economics, Iowa State University, Pub. 11-1997.

NATIONAL AND INTERNATIONAL CONFERENCE PRESENTATIONS

1. Moyle, J., Rhodes, J., Jarboe, D., Zobel, E., Perdue, M., 2023. "How Farmer-to-Farmer Can Help You Become a Better Agent." National Association of County Agricultural Agents - 2023 AM/PIC, Des Moines, Iowa.
2. Moyle, J., Perdue, M., Rhodes, J., Jarboe, D., 2023. "Farmer-to-Farmer – What’s the 411," National Association of County Agricultural Agents - 2023 AM/PIC, Des Moines, Iowa.

3. Nichols, K.M., M. Townsend, and D. Jarboe. 2022. Effect of manure injection on nitrogen availability and corn response. Poster presented at the 2022 International Annual Meeting of the Agronomy Society of America, Crop Science Society of America, and Soil Science Society of America, Baltimore, Maryland. November.
4. Jarboe, D. 2022. Extension's Role in Agricultural and Rural Development. China-US Dialogue on Global Agriculture and Rural Development: Common Aspiration for a Better Future, College of International Development and Global Agriculture, China Agricultural University. May 12. Invited. Virtual.
5. Rhodes, J.L., S.P. Dill, A.A. Kness, E.N. Crowl, K.M. Nichols, S.M. Hirsh, R.D. Myers, E. Zobel, N. Fiorellino, B.E. Beale, N. Little, A. Grev, and D. Jarboe. 2021. Winter Crop Production Meetings go Virtual. NACAA AM/PIC. Virtual.
6. Jarboe, D. 2021. An Effective Response to Change: Transitioning to the New Normal of a Pandemic. Extension Leadership Conference, Joint Council of Extension Professionals. February 12. Virtual.
7. Kness, A.A., E.N. Crowl, and D. Jarboe. 2020. New Extension Program Aims to Educate Ag Service Providers About Maryland Agriculture. National Association of County Agriculture Agents Annual Meeting, Virginia Beach, VA. Virtual.
8. Jarboe, D. 2020. Innovative strategies for growing the agricultural sector and increasing trade and investment in the sector, to stimulate youth employment and improve food security in West Africa. Agra Innovate West Africa Digital Day 2020. November 25.
9. Jarboe, D., E. Zobel, J. Jeffrey, N. Richards, J. Ketterman, S. Dill, J. Rhodes, J. Kim, C. Schuster, L. Thompson, and D. Bauer. 2020. Training Maryland Agricultural Service Providers about Producer Engagement on Mental Health. Annual International Meeting, American Society of Agricultural and Biological Engineers. June 24.
10. Behrens, J., D. Grewell, D. Jarboe, M. Gross, Z. Wen, A. Gimondo, W. Graves, and J. Schrader. 2017. Development of extruded algal-based fertilizer pellets. Annual International Meeting, American Society of Agricultural and Biological Engineers, Spokane, Washington. July 17.
11. Gimondo, A., W. Graves, D. Jarboe, J. Schrader, M. Gross, Z. Wen, Show-Ling Lee, J. Behrens, and David Grewell. 2017. Fertilization of Greenhouse-Grown Marigolds with Extruded, Slow-Release Biobased Pellets. Annual International Meeting, American Society of Agricultural and Biological Engineers, Spokane, Washington. July 17.
12. Gimondo, A., M. Gross, M. Gangstad, Z. Wen, W. Graves, J. Schrader, and D. Jarboe. 2017. Evaluation of wastewater-grown microalgae, slow-release fertilizer pellet performance in greenhouse-grown corn, marigolds, and tomatoes. Annual International Meeting, American Society of Agricultural and Biological Engineers, Spokane, Washington. July 17.

13. Gross, M., D. Jarboe, Show-Ling Lee, Michael Gross, and Zhiyou Wen. 2017. Manufacture of slow-release fertilizer pellets from wastewater-grown microalgae. Annual International Meeting, American Society of Agricultural and Biological Engineers, Spokane, Washington. July 17.
14. D. Jarboe, T. Wang, and T. Fei. 2017. An example of commercializing biobased materials. Annual International Meeting, American Society of Agricultural and Biological Engineers, Spokane, Washington. July 17.
15. O'Donnell, M. and D. Jarboe. 2017. Getting Real Results from a Tech Transfer Partnership. National Manufacturing Extension Partnership Summit, National Institute of Standards and Technology, Denver, Colorado. May 2.
16. Jarboe, D. 2016. An Overview of the BioCentury Research Farm. Partnering for Growth Forum, Iowa Biotechnology Association, Ankeny, Iowa. March 31.
17. Fei, T., D. Jarboe, and T. Wang. 2016. Developing and commercializing vegetable oil-based coating materials. Coatings/Inks & Adhesives/Paper Technical Advisory Panel, United Soybean Board, St. Louis, Missouri. March 16.
18. Rosentrater, K.A., D. Grewell, D. Jarboe, and J. Schrader. 2015. Development of a Life Cycle Assessment Tool for Screening of Trade-offs Among Processing Costs, Environmental Impacts, and End-of-Life Options. CB² Semiannual Meeting, Baltimore, Maryland. May 20.
19. Wang, T., D. Jarboe, and Tao Fei. 2015. Developing and commercializing vegetable oil based coating materials. United Soybean Board Coatings/Inks Technical Advisory Panel, St. Louis, Missouri. March 18.
20. Jarboe, D.H., L.A. Johnson, and A.A. Suby. 2013. The BioCentury Research Farm: Accelerating Biomass Production and Conversion Research, Development, and Outreach. 2013 American Society of Agricultural and Biological Engineers Annual International Meeting, Kansas City, Missouri. July 21–24.
21. Wang, T., L.X. Yao, and D. Jarboe. 2013. Developing Soybean Oil-Based Plastic Fat as Substitute for Paraffin and Beeswax. United Soybean Board Coatings/Inks/Solvents Technical Advisory Panel, St. Louis, Missouri. March 20.
22. Hoque, M.M., G.M. Artz, B.J. Martens, and, D.H. Jarboe. 2013. Essential Elements for Producer Participation in Biomass Markets When Choices Are Correlated. 2013 Annual Meeting, Southern Agricultural Economics Association, Orlando, Florida. February 2–5.
23. Hoque, M.M., B.J. Martens, G.M. Artz, and, D.H. Jarboe. 2012 Antecedents to Biomass Procurement: The Essentials for Producer Participation. Agricultural and Applied Economics Association Annual Meeting, Seattle, Washington. August 12–14.
24. Jarboe, D.H., B.J. Martens, M.M. Hoque, and G.M. Artz. 2012. Essential Elements for Producer Participation in Biomass Markets. American Society of Agricultural and Biological Engineers Annual International Meeting, Dallas, Texas. July 29–August 1.

25. Jarboe, D.H. and D.R. Raman. 2012. Impact of Two Course Content Delivery Systems on Student Learning. American Society of Agricultural and Biological Engineers Annual International Meeting, Dallas, Texas. July 29–August 1.
26. Jarboe, D.H. and D.R. Raman. 2012. Student Perspectives on a New Biomass Production Module for Fundamentals of Biorenewable Resources. American Society of Agricultural and Biological Engineers Annual International Meeting, Dallas, Texas. July 29–August 1.
27. Jarboe, D.H., B.J. Martens, M.M. Hoque, and G.M. Artz. 2012. Essential Elements for Producer Participation in Biomass Markets. 2012 Corn Utilization and Technology Conference, Indianapolis, Indiana. June 4–6.
28. Jarboe, D.H., D.R. Raman, and K.L. Christiansen. 2010. Impact of Two Course Content Delivery Systems on Student Learning. 2010 American Society of Agricultural and Biological Engineers Annual International Meeting, Pittsburgh, Pennsylvania. June 20–23.
29. Jarboe, D.H., D.R. Raman, and L.A. Johnson. 2010. 2009 Intensive Program in Biorenewables. 2010 Corn Utilization and Technology Conference, Atlanta, Georgia. June 7–9.
30. Johnson, L.A., and D.H. Jarboe. 2010. BioCentury Research Farm: Building Capacity through Partnerships. 2010 Corn Utilization and Technology Conference, Atlanta, Georgia. June 7–9.
31. Johnson, L.A. and D. Jarboe. 2009. Iowa State University BioCentury Research Farm. BIGMAP Symposium, Ames, Iowa. April 21.
32. Johnson, L.A., and D.H. Jarboe. 2008. New Century Farm: Showcase for Biomass Production and Processing Technology Research and Commercialization. 2008 Corn Utilization and Technology Conference, Kansas City, Missouri. June 2–4.
33. Hanna, H.M., and D.H. Jarboe. 2008. Effects of Full, Abbreviated, and No Clean-outs on Commingled Grain. Combine Clean-out Subcommittee, Grain Harvesting Committee, American Society of Agricultural and Biological Engineers, Louisville, Kentucky. February 11.
34. Hanna, H.M., D.H. Jarboe, and G.R. Quick. 2007. Combine effects on commingling and residual grain. International Conference on Crop Harvesting and Processing, Louisville, Kentucky. February 12–14, 2007 (electronic only) 701P0307e.
35. Hanna, H.M., G.R. Quick, and D.H. Jarboe. 2007. Cleaning harvest machinery for identity-preserved grain production. International Conference on 21st Century: Challenges to Sustainable Agri-Food Systems, Bangalore, India. March 15–17, 2007.
36. Hanna, H.M., D.H. Jarboe, and G.R. Quick. 2006. Grain residuals and time requirements for combine cleaning. American Society of Agricultural Engineers Annual Meeting, Portland, Oregon. July 9–12.

37. Hanna, H.M., and D.H. Jarboe. 2006. Cleanout of Combines for Identity-Preserved Grain Production. 2006 Corn Utilization and Technology Conference, Dallas, Texas. June 5–7.
38. Johnson, L.A., D. Jarboe, and J. Maiers. 2006. Technology Transfer and Commercialization at the Iowa State University Center for Crops Utilization Research. Corn Utilization and Technology Conference, Dallas, Texas. June 5–7.
39. Hanna, H.M., G.R. Quick, and D.H. Jarboe. 2004. Combine Clean-out for Identity Preserved Grains. 2004 International Grain Quality Conference, Indianapolis, Indiana. July 19–22.
40. Jarboe, D.H., R.G. Ginder, and C.R. Hurburgh, Jr. 2004. Stewardship for Biotechnology Corn. 2004 International Grain Quality Conference, Indianapolis, Indiana. July 19–22.
41. Hanna, H.M., G.R. Quick, and D.H. Jarboe. 2004. Grain Residuals During and After Combine Clean-Out. 2004 Corn Utilization and Technology Conference, Indianapolis, Indiana. June 7–9.
42. Jarboe, D.H., R.G. Ginder, and C.R. Hurburgh, Jr. 2004. Stewardship for Biotechnology Corn. 2004 Corn Utilization and Technology Conference, Indianapolis, Indiana. June 7–9.
43. Hanna, H.M., G.R. Quick, D.H. Jarboe, T.C. Kuennen, and B.L. Harris. 2004. Grain Residue Left in Combines During and After Clean-out. Agricultural Equipment Technology Conference, American Society of Agricultural and Biological Engineers, Louisville, Kentucky. February 8–10.
44. Jarboe, D., R.G. Ginder, C.R. Hurburgh, Jr., J. McGuire, and D. Pavlik. 2003. Biotechnology Corn: Fostering Communication Between Producers and Grain Handlers. American Society of Agronomy Annual Meeting, Denver, Colorado. November 5.
45. Hanna, M., D. Jarboe, T. Hobbs, and J. Jensen. 2002. Development of a Planter Clean Out Procedures Video. 2002 Corn Utilization and Technology Conference, Kansas City, Missouri. June 3–5.
46. Jarboe, D., C.R. Hurburgh, Jr., and R.G. Ginder. 2002. Leveraging Outreach Program Resources through Technology. 2002 Corn Utilization and Technology Conference, Kansas City, Missouri. June 3–5.
47. Jarboe, D., C.R. Hurburgh, Jr., and R.G. Ginder. 2002. Development of Producer Education Programs for Biotechnology Grains. 2002 Corn Utilization and Technology Conference, Kansas City, Missouri. June 3–5.
48. Jarboe, D., H.M. Hanna, T. Hobbs, J. McGuire, S. Hart, L. Lloyd, J. Eilertson, K. Whitaker, and E. Edwards. 2002. Development of a Planter Cleanout Procedures Video. American Society of Agronomy Annual Meeting, Indianapolis, Indiana. November 11–14.

49. Jarboe, D., C.R. Hurburgh, Jr., and R.G. Ginder. 2002. Development of Producer Education Programs for Biotechnology Grains. American Society of Agronomy Annual Meeting, Indianapolis, Indiana. November 11–14.
50. Jarboe, D., C.R. Hurburgh, R.G. Ginder, and L.A. Johnson. 2001. Leveraging Outreach Resources Through Technology. 2001 Outreach Scholarship Conference. State College, Pennsylvania. October 15, 2001.
51. Fung, M.H., R.G. Ginder, D. Jarboe, J. Siska, and N. Ramesh. 2000. CornContract Explorer™ Software. 2000 Corn Utilization and Technology Conference, St. Paul, Minnesota. June 5–7.
52. Jarboe, D., C.R. Hurburgh, Jr., D. Farnham, R.G. Ginder, and L.A. Johnson. 2000. The Iowa Grain Quality Initiative. 2000 Corn Utilization and Technology Conference, St. Paul, Minnesota. June 5–7.
53. Jarboe, D. and C.R. Hurburgh, Jr. 1999. The Iowa Grain Quality Initiative. American Society of Agronomy Annual Meeting, Salt Lake City, Utah. November 3.
54. Ginder R.G., A. Naik, D. Jarboe, M.H. Fung, and J. Siska. 1999. SoyContract Explorer™ Software. American Society of Agronomy. Salt Lake City, Utah. November 1–5.
55. Jarboe, D. 1998. The Iowa Grain Quality Initiative: Your Value-added Grains Information Source. 53rd Annual Corn and Sorghum Research Conference, American Seed Trade Association, Chicago, Illinois. December 9–10.
56. Jarboe, D., R.G. Ginder, C.R. Hurburgh, Jr., and L.A. Johnson. 1998. Iowa Grain Quality Initiative. 1998 Corn Utilization and Technology Conference, St. Louis, Missouri. June 1–3.
57. Jarboe, D. and R. G. Ginder. 1999. SoyContract Explorer™. 6th World Soybean Research Conference VI, Chicago, Illinois. August 4–7.
58. Jarboe, D., C.R. Hurburgh, Jr., D. Farnham, R.G. Ginder, and L.A. Johnson. 1999. The Iowa Grain Quality Initiative: A Value-Added Grain Information Resource. 6th World Soybean Research Conference VI, Chicago, Illinois. August 4–7.
59. Jarboe, D. 1997. Iowa State University Extension. Academy of Agricultural Sciences, Baicheng City, China. July 11.
60. Jarboe, D. 1997. Value-Added Grains. Academy of Agricultural Sciences, Baicheng City, China. July 11.

EXTENSION AND OUTREACH PRESENTATIONS

1. Jarboe, D. 2023–2024. Agricultural Nutrient Management Program Update. Achieving Profit Through Increased Efficiency, MDA Nutrient Management Update, Annapolis and New Midway, Maryland. December 19 and January 9.

2. Jarboe, D. 2023. Agricultural Nutrient Management Program Update. MDA Nutrient Management Committee Meeting, Annapolis Maryland. November 21.
3. Little, N.G. and D. Jarboe. 2023. Urban Agriculture Extension at UMD. 2023 Northeast Joint Summer Session of the Northeastern Regional Association of State Agricultural Experiment Station Directors and Association of Northeast Extension Directors, Annapolis, Maryland. June 6.
4. Jarboe, D. 2022. UME's Support of the Prince George's County Climate-Smart Local Producers Pilot Program. Prince George's County Climate-Smart Local Producers Pilot Program - USDA Grant Award Press Event, Bowie, Maryland. December 13.
5. Jarboe, D. 2022. Agriculture and Food Systems Extension Program Update. MASCD Annual Meeting and National Association of Conservation Districts Northeast Region Meeting, Cambridge, Maryland. August 29.
6. Jarboe, D. 2022. The Economic Impact of Climate Change on Our Region's Food Supply. Invited panelist. 2022 Summer Speaker Series, Bethesda Green. August 11. Virtual.
7. Jarboe, D. 2022. An Overview of Maryland Agriculture. Young Farmer Leadership Programs from Iowa, Michigan, Missouri, and Nebraska Corn Grower Associations and Promotion Boards. Grasonville, Maryland. July 12. Invited.
8. Jarboe, D. 2021. Agriculture and Food Systems Program Overview. Calvert County Calvert Agriculture Stakeholders Meeting. Prince Frederick, Maryland. October 12.
9. Kness, A., M. Morris, and D. Jarboe. 2019. New Extension Program Aims to Educate Ag Service Providers About Maryland Agriculture. University of Maryland Summit: Ensuring a Clean and Healthy Chesapeake Bay. College Park, Maryland. October 29.
10. Jarboe, D. 2019. Where Do We Go from Here as a Region? Invited panelist. Greater Washington Regional Food and Agriculture Supply Chains Studies "Movement Summit," Washington, DC. June 24.
11. Gangestad, M., J. Gimondo, M. Gross, Z. Wen, and D. Jarboe. 2017. New Algae Treatment Technology Addresses Stricter Wastewater Regulations for Rural Iowa. Research in the Capital, Iowa State University, Des Moines, Iowa. March 28.
12. Jarboe, D. 2015. CIRAS-CCUR Partnership. Wright County Manufacturers Day Event, Clarion, Iowa. October 13.
13. Jarboe, D., D. Grewell, and M. Kessler. 2015. Center for Bioplastics and Biocomposites Overview. Cultivation Corridor Group Visit, Ames, Iowa. August 12.
14. Jarboe, D. and D. Grewell. 2014. Biopolymers and Biocomposites. Cedar Rapids Industry Visit, Ames, Iowa. March 6.

15. Jarboe, D., and D. Grewell. 2013. Designing with Bioplastics. Proposed Center for Bioplastics and Biocomposites Industry & University Cooperative Research Center Planning Meeting, Ames, Iowa. October 9–11.
16. Wang, T., L. Yao, E. Cochran, and D. Jarboe. 2013. Renewable waxes. Proposed Center for Bioplastics and Biocomposites Industry & University Cooperative Research Center Planning Meeting, Ames, Iowa. October 9–11.
17. Grewell, D., and D. Jarboe. 2013. Proposed NSF Center for Bioplastics and Biopolymers. Executive Team, Iowa Soybean Association, Ankeny, Iowa. July 3.
18. Grewell, D., and D. Jarboe. 2013. Proposed NSF Center for Bioplastics and Biopolymers. Board of Directors, Iowa Farm Bureau Federation, West Des Moines, Iowa. September 3.
19. Grewell, D., and D. Jarboe. 2013. Proposed NSF Center for Bioplastics and Biopolymers. Demand Committee, Iowa Soybean Association, Ankeny, Iowa. September 4.
20. Grewell, D., J. Schrader, W. Graves, and D. Jarboe. 2013. Examining the latest development and innovations in bioplastics derived from plant protein. 3M, St. Paul, Minnesota. March 8.
21. Grewell, D., J. Schrader, J. Cooper, and D. Jarboe. 2013. Corn protein plastics for agricultural products. Minnesota Corn Research & Promotion Council Research, Shakopee, Minnesota. February 14.
22. Jarboe, D. 2013. Center for Crops Utilization Research Industry Assistance. Iowa Innovation Corporation Meeting, Ames, Iowa. July 11.
23. Jarboe, D. 2013. History of the Iowa Alliance for Cooperative Business Development. Iowa Alliance for Cooperative Business Development Industry Advisory Board Meeting, Ames, Iowa. May 22.
24. Jarboe, D., and B. Martin. 2013. The Industrial Fermentation Industry. ISU CIRAS Manufacturing Extension Partnership Team Meeting, Ames, Iowa. August 26.
25. Johnson, L., and D. Jarboe. 2013. Capabilities of the Iowa State University Center for Crops Utilization Research and BioCentury Research Farm. Valent BioSciences Corporation, Osage, Iowa. April 24.
26. Jarboe, D. and B. Martin. 2013. The Industrial Fermentation Industry. Manufacturing Extension Partnership Team, Center for Industrial Research and Service, Iowa State University. August 26.
27. Jarboe, D. and L.A. Johnson. 2012. Corn and Biofuels Production. Ukrainian Grain Association Delegation. July 18.
28. Martens, B.J. and D. Jarboe. 2011. Interim Report for Antecedents to Biomass Procurement: The Essentials for Producer Participation. Board Meeting, Iowa State University Biobased Industry Center. May 4.

29. Martens, B.J. and D. Jarboe. 2011. Final Report for Antecedents to Biomass Procurement: The Essentials for Producer Participation. Board Meeting, Iowa State University Biobased Industry Center. November 2.
30. Martens, B.J. and D. Jarboe. 2010. Antecedents to Biomass Procurement: The Essentials for Producer Participation. Board Meeting, Iowa State University Biobased Industry Center. October 12.
31. Jarboe, D. 2010. Biofuels and the BioCentury Research Farm. Ukrainian Ministry of Agriculture Delegation visit to the BioCentury Research Farm. September 24.
32. Jarboe, D. and L.A. Johnson. 2010. BioCentury Research Farm: A New Resource to Advance the Bioeconomy. 2010 Board Officers Training, Iowa Institute for Cooperatives. July 12.
33. Martens, B.J. and D. Jarboe. 2010. Antecedents to Biomass Procurement: The Essentials for Producer Participation. Board Meeting, Iowa State University Biobased Industry Center. April 22.
34. Jarboe, D.H. and L.A. Johnson. 2010. BioCentury Research Farm: A New Resource to Advance the Bioeconomy. 2010 Annual Meeting, Iowa Crop Improvement Association, Ames, Iowa. February 25.
35. Jarboe, D.H. 2010. Served on Student Panel that presented graduate school as a possible next step career option, AE/BSE/TSM 401 Seminar. January 27.
36. Hanna, H.M. and D.H. Jarboe. 2010. Clean-Out of Combines for Identity-Preserved Grain Production. Iowa Legislature Delegation to the Department of Agricultural and Biosystems Engineering, Ames, Iowa. January 25.
37. Jarboe, D.H., D.R. Raman, and L.A. Johnson. 2010. 2009 Intensive Program in Biorenewables. Iowa Legislature Delegation to the Department of Agricultural and Biosystems Engineering, Ames, Iowa. January 25.
38. Jarboe, D.H. 2009. Marketing CCUR and the BCRF. Iowa State University Center for Industrial Research and Service, Ames, Iowa. October 19.
39. Jarboe, D.H., D.R. Raman, and L.A. Johnson. 2009. 2009 Intensive Program in Biorenewables. Iowa State University Agricultural and Biosystems Engineering Graduate Organization Poster Symposium, Ames, Iowa. August 18.
40. Ginder, R.G., and D. Jarboe. 2009. The use of machinery sharing as a strategy for intergenerational transfer of farm assets. Leopold Center for Sustainable Agriculture Marketing Initiative and Value Chain Partnerships Workshop, Ames, Iowa. March 31.

41. Jarboe, D.H., R.G. Ginder and F. Olson. 2008. Producer Machinery and Labor Sharing Arrangements Workshops. Leopold Center Marketing and Food Systems Initiative Workshop, Ames, Iowa. March 11.
42. Jarboe, D.H. 2007. Working with CCUR to Commercialize Technologies. 2007. Bio-based Materials Networking Session, 2007 Iowa Biotechnology Association Annual Conference, Des Moines, Iowa. September 19.
43. Jarboe, D. 2007. An Introduction to CCUR-affiliated Technologies. Mid Iowa Growth Partnership, Fort Dodge, Iowa. January 11.
44. Jarboe, D., J.D. Lawrence, R.N. Wisner, and R.G. Ginder. 2007. Impacts on the Livestock Industry of an Expanded Biobased Economy. Summit Tiger Green Investments, Ames, Iowa. March 29.
45. Hanna, H.M., and D.H. Jarboe. 2005. Clean-out of Combines for Identity-Preserved Grain Production. 2005 Integrated Crop Management Conference, Ames, Iowa. November 30–December 1.
46. Moderator for Supply Chain Issues and Marketing Organic Grains Panel. 2004. Iowa Organic Conference, Ames, Iowa. November 1.
47. Jarboe, D. 2004. Assisting Producers with Grain Stewardship. 2004. Chinese Biotechnology Regulators. August 18.
48. Jarboe, D. and C.R. Hurburgh, Jr. 2004. The Iowa Grain Quality Initiative. Iowa Corn Promotion Board Visit to IGQI, Ames, Iowa. March 29.
49. Hanna, H. M., G. R. Quick, D. H. Jarboe, T. B. Kuennen, and B. L. Harris. 2004. Grain residue left in combines during and after clean-out. ASAE Agricultural Equipment Technology Conference, Louisville, KY. February 9–10.
50. Jarboe, D. 2004. Iowa Grain Quality Initiative. Iowa Corn Growers Association/Iowa Corn Promotion Board Biotechnology Committee Meeting, Johnston, Iowa. January 30.
51. Jarboe, D. 2004. Grain Quality Issues. ISU Extension Crop Advantage Conference, Waterloo, Iowa. January 16.
52. Jarboe, D. 2004. Grain Quality Issues. ISU Extension Crop Advantage Conference, Mason City, Iowa. January 15.
53. Jarboe, D., C.R. Hurburgh, Jr., and R.G. Ginder. 2003. Education Programs for Biotechnology Grain Producers. Food Science and Human Nutrition Department Open House, Iowa State University. Ames, Iowa. October 3.
54. Hanna, H.M., D.H. Jarboe, and G.R. Quick. 2002. Field equipment clean-out for identity-preserved grain production. Integrated Crop Management Conference, Ames, Iowa. December 4–5.

55. Jarboe, D. 2002. Information Management in Iowa Grain Production. Iowa Council for International Understanding, Clive, Iowa. October 3.
56. Ginder, R.G. and D. Jarboe. 2002. Estimating the Financial Impact of Production Contracts. Farm Progress Show, Alleman, Iowa. September 24.
57. Jarboe, D., C.R. Hurburgh, Jr. 2002. Tools for Systems Management in Grain. Farms, Food, and the Future Conference, Ames, Iowa. July 30.
58. Jarboe, D. and C.R. Hurburgh, Jr. 2001. Iowa Grain Quality Initiative. European Feed Manufacturers Association, Ames, Iowa. April 30.
59. Jarboe, D. and C.R. Hurburgh, Jr. 2000. The Iowa Grain Quality Initiative. Office of Science and Technology, French Consulate, Ames, Iowa. February 29.
60. Jarboe, D. and C.R. Hurburgh, Jr. 2000. The Iowa Grain Quality Initiative. Iowa Corn Promotion Board Research Committee, Ames, Iowa. March.
61. Jarboe, D. and R. G. Ginder. 1999. SoyContract Explorer™. Eastern Iowa Integrated Crop Management Conference, Cedar Rapids, Iowa. December 20.
62. Ginder, R.G. and D. Jarboe. 1999. SoyContract Explorer™ Software Demonstration, Integrated Crop Management Conference, Cooperative Extension Service, Iowa State University, Ames, Iowa. December 1–2.
63. Jarboe, D., and C.R. Hurburgh, Jr. 1999. The Iowa Grain Quality Initiative. 1999 Integrated Crop Management Conference, Ames, Iowa. December 1–2.
64. Jarboe, D. 1999. Value-Added Grain Opportunities in Iowa. Southeast Iowa Research Farm Field Day, Crawfordsville, Iowa. September 9.
65. Jarboe, D. and C.R. Hurburgh, Jr. 1999. The Iowa Grain Quality Initiative. Value-Added Agriculture Caravan, Iowa City, Iowa. September 8.
66. Ginder, R.G. and D. Jarboe. 1999. SoyContract Explorer™ Software. Iowa Cooperative Law Conference, Ames, Iowa. October 11.
67. Hurburgh, C.R., Jr., and D. Jarboe. 1999. Grain Quality and Specialty Grains in Iowa. Malaysia and Indonesia Trade Team, U.S. Grains Council, Ames, Iowa. October 7.
68. Jarboe, D. 1999. The IGQI in Cyberspace. Annual Information Seminar, Iowa Grain Quality Initiative, Ames, Iowa. July 19.
69. Jarboe, D. 1999. Soybean Quality in Iowa. Japanese Partnership Program Team, Iowa Soybean Association/Iowa Soybean Promotion Board, Ames, Iowa. July 6.

70. Jarboe, D. 1999. The Iowa Grain Quality Initiative. Iowa State University Value-Added Agriculture Caravan, Ames, Iowa. September 8.
71. Jarboe, D. 1999. The Iowa Grain Quality Initiative. Extension Field Specialist Inservice, Ames, Iowa. August 17.
72. Jarboe, D. 1999. The Iowa Grain Quality Initiative. Iowa Master Farmers, Wallaces Farmer, Des Moines, Iowa. March 25.
73. Jarboe, D. 1999. Iowa Grain Quality Initiative Contract Evaluation Tools, Neely-Kinyon Research Farm Annual Meeting, Greenfield, Iowa. January.
74. Jarboe, D. 1998. Contracting Issues and Evaluation Tools, Iowa Soybean Association Business Management Club, Wallace Research Farm, Atlantic, Iowa.
75. Hurburgh, C.R., Jr. and D.H. Jarboe. 1998. Grain quality information to use in variety selection. Proc. 1998 Integrated Crop Management Conference, Cooperative Extension Service, Iowa State University, Ames, Iowa.

WORKSHOPS

- Jarboe, D. 2023. 2023 Summer In-Service. Agriculture and Food Systems Extension Program, UMD, Annapolis, Maryland. June 13.
- Howard, J.W., N.I. Fields, J. Kim, D. Jarboe, W. Hubbard. 2020. Developing Meaningful Impact Statements, UME Workshop. October 29.
- Jarboe, D., N. Fiorellino, and J. Lewis. 2019. Field Trial Seminar Series for Field Faculty. Agriculture and Food Systems Extension Program, UMD, Wye Research and Education Center, Queenstown, Maryland. March 15 and 29.
- Jarboe, D. and V. Rosenkranz. 2018. 2018 Summer In-Service. Agriculture and Food Systems Extension Program, UMD, Ocean City, Maryland. June 20.

TEACHING EXPERIENCE

Biorenewable Resources and Technology 501, Iowa State University (Raj Raman, Lead Instructor, spring 2010): Developed and taught the section on biomass production and costs (~15% of the course) for this graduate level class. The material developed was used in spring 2011 and the corn production unit was used in a graduate level biorenewables technology course at the University of Kentucky.

2009 Intensive Program in Biorenewable Resources and Technology: Member of the five-person team that developed a two-week intensive program in biorenewables for 45 graduate students selected from universities in Asia, Europe, South America, and the United States.

Extension Programs: Developed and delivered outreach programs on grain and seed quality management, crop production, business management, farm machinery sanitation, agricultural technology, and biobased products.

Faculty Mentoring

Dr. Colby Silvert, Assistant Professor and Graduate Coordinator, Agricultural and Extension Education, Department of Plant Science and Landscape Architecture, Mentoring Committee, 2024–present. Committee member.

Graduate Student Committee

J. Austin Gimondo, Master's Student, Department of Horticulture, Iowa State University, graduated, 2018. Committee member.

LEAD Maryland Mentoring

- Chris Brown, Cecil Soil Conservation District, Maryland, 2022–2024
- Katherine Crawford, Skyward App Co., 2019–2022
- Harry Huntley, Environmental Policy Innovation Center, 2024–present
- Andrew Kness, University of Maryland Extension, 2019–2022
- Charles Sasscer III, University of Maryland Extension, 2024–present

REVIEWER EXPERIENCE

Journals

- *Journal of Biotechnology Advances*, 2017 (1 manuscript)
- *Food and Energy Security*, The Association of Applied Biologists, 2017 (1 manuscript)
- *Journal of Environmental Management*, 2015 (1 manuscript)

Reviewing Activities for External Organizations

- *Department of Agriculture and Natural Resources, Rutgers Cooperative Extension, New Jersey Agricultural Experiment Station, Rutgers, The State University of New Jersey*, application for promotion to Agent I (Professor), external reviewer, 2024.
- *Florida Cooperative Extension Service, University of Florida*, application for promotion to Extension Agent IV, external reviewer, 2024.
- *Maryland Farm Bureau*, peer review interview with a team of four Farm Bureau staff from across the country, June 11, 2021.
- *School of Plant and Environmental Sciences, Virginia Tech University*, application for promotion to Professor, external reviewer, 2020.
- *Agriculture and Natural Resources Extension Program, Ohio State University*, member, External Program Review Team, 2020.
- *Technical Evaluation Review, Maryland Industrial Partnerships Program*, external reviewer, 2015.

Reviewing Activities for Internal Organizations

- McIntire Stennis Proposal Review, MAES, UMD, 2023.

Financial Impact Reviews of Maryland Legislation

2024

- HB991/SB1074 – Environment – Industrial Sludge Utilization Permit – Establishment
- HB0163 – Food Waste and Solid Waste Reduction – Grants Fund, and Surcharge
- SB1082 – Solar Energy and Energy Storage – Development and State Procurement

2023

- HB0063 – Certified Local Farm and Chesapeake Invasive Species Provider Program – Establishment
- HB0152 – Department of Agriculture - Urban Agriculture Grant Fund
- HB1204 – Hemp and Hemp Extract Product Requirements
- SB0019 – Establish Baltimore City Soil Conservation District
- SB0124 – Maryland Food System Resiliency Council
- SB0158 – Pesticide Registration – PFAS Testing Requirements
- SB0830 – Environmental Health Specialists and On-Site Sewage Disposal Systems – Reform
- SB0836 – Native Plants Certification Program.

2022

- HB 540/SB 437: Agriculture – University of Maryland Extension – Urban Farmer Assistance
- HB 1070: Solid Waste Disposal and Diversion and On-Farm Composting and Compost Use
- HB 1216: Department of Agriculture – Urban Agriculture Grant Fund

2021

- HB 472: Agriculture – Use of Glyphosate – Prohibition
- SB 616: Baltimore City – Soil Conservation District – Authority to Establish

2020

- SB 19: Agriculture – Management-Intensive Farming and Grazing
- SB 300: Pesticides – Use of Chlorpyrifos – Prohibition
- SB 353: Black Bear Damage Reimbursement Fund – Pets

PROFESSIONAL AFFILIATIONS

Maryland Association of County Agricultural Agents (2018–present)

National Association of County Agricultural Agents (2018–present)

Epsilon Sigma Phi, National Extension Honorary Fraternity (2004–2014, 2019–present)

American Society of Agricultural and Biological Engineers (2010–present)

American Society of Agronomy (1998–present)

Crop Science Society of America (1998–present)

Association of Technology, Management, and Applied Engineering (2008–2012)

Epsilon Pi Tau, Honor Society of Industrial Technology (2008)

Gamma Sigma Delta, Honor Society of Agriculture (2006)

WEB SITES MANAGED

BioCentury Research Farm (www.biocenturyresearchfarm.iastate.edu) (2009–2018)

Center for Crops Utilization Research (www.ccur.info) (2004–2018)

Iowa Alliance for Cooperative Business Development (www.isucoops.org) (2003–2016)

Plant Sciences Institute Biorenewables Research Initiative

(www.ag.iastate.edu/centers/ccur/biorenewables) (2005–2009)

Tailoring Lignocellulosic Feedstocks for Bioenergy and Biobased Products

(www.ag.iastate.edu/centers/ccur/lignocellulose/home.htm) (2005–2006)

Market ChoicesSM (www.marketchoices.info) (2000–2005)

Grain Quality Laboratory (www.grainlab.org) (1997–2004)

Iowa Grain Quality Initiative (www.iowagrains.org) (1996–2004)

CONTINUING EDUCATION

LEAD21, Class 15, Association of Public and Land-grant Universities (APLU) (2019–2020)

Responsible Conduct of Research in Science and Engineering, Iowa State University, Fall Semester (2015)

Write Winning Grant Proposals, Grant Writers' Seminars and Workshops, LLC (2012)

12+ Supervisory Leadership Program, Iowa State University (2006–2007)

Guide to a Competitive Grant Application, Grant Writers' Seminars and Workshops, LLC (Fall Semester, 2002)