

JOSE G. FRANCO, JR.
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EDUCATION

- Ph.D. 2015 Ecosystem Science and Management. Texas A&M University. Dissertation: “Evaluating Plant Functional Diversity in a Low-Input Intercropping System”. Co-advisors: Dr. Astrid Volder and Dr. David D. Briske
- M.Sc. 2007 Range Science. New Mexico State University. Advisor: Dr. Kirk C. McDaniel
- B.Sc. 2004 Biological Sciences. University of Texas at El Paso.
- 1993-1995 Biology. Occidental College.

OTHER RELEVANT EDUCATION

- 2019 Diversity and Inclusion Certificate. Cornell University.
- 2014 Certificate in International Agriculture and Resource Management. Borlaug Institute. Texas A&M University.
- 2013 Graduate Teaching Academy Certificate. Texas A&M University.

POSITIONS HELD

Research Ecologist/Agronomist, Dale Bumpers Small Farms Research Center, USDA – Agricultural Research Service. 2019-present.

Adjunct Faculty, Department of Plant Sciences, North Dakota State University. 2017-2019.

Postdoctoral Research Agroecologist, Northern Great Plains Research Laboratory, USDA – Agricultural Research Service. 2015-2019.

Crop Management Consultant, Seebu Farm. Pattison, Texas. 2015.

Graduate Teaching Assistant, Department of Horticultural Sciences, Texas A&M University. 2014-2015.

Field Assistant, Texas A&M AgriLife Extension, Texas A&M University. 2014-2015.

Graduate Teaching Assistant, Department of Ecosystem Science and Management, Texas A&M University. 2011-2013.

Farm Assistant, Veggie Kings Farm (formerly Millican Farms). Millican, Texas. 2011-2012.

Graduate Research Assistant, Department of Ecosystem Science and Management, Texas A&M University. 2010-2014.

Graduate Research Assistant, Department of Biological and Agricultural Engineering, Texas A&M University. 2009-2010.

Agricultural Statistician, Oregon Agricultural Statistics Office, USDA – NASS. 2007-2008.

Graduate Research Assistant, Department of Animal and Range Sciences, New Mexico State University. 2005-2007.

RESEARCH

Publications (Refereed and Extension):

Nieman, C.C., M.P. Popp, D.M. Schaefer, K.A. Albrecht, and **J.G. Franco**. Evaluating Sod-Seeded Annuals in Cool Season Perennial Pastures for Wisconsin Cow-Calf Operations. *Journal of American Society of Farm Managers and Rural Appraisers*. Accepted January 29, 2020.

Mallinger, R.E., **J.G. Franco**, J.R. Prasifka, and D.A. Prischmann-Voldseth. 2019. Annual Cover Crops for Managed and Wild Bees: Optimal Plant Mixtures Depend on Pollinator Enhancement Goals. *Agriculture, Ecosystems and Environment* 273(1):107-116; doi.org/10.1016/j.agee.2018.12.006.

Franco, J.G., S.E. Duke, J.R. Hendrickson, M.A. Liebzig, D.W. Archer, and D.L. Tanaka. 2018. Spring Wheat Yields Following Perennial Forages in a Semiarid No-Till Cropping System. *Agronomy Journal* 110(5):1-9; doi.org/10.2134/agronj2018.01.0072.

Sunoj, S., S.N. Subhashree, S. Dharani, C. Igathinathane, **J.G. Franco**, R.E. Mallinger, J.R. Prasifka, D. Archer. 2018. Sunflower Floral Dimension Measurements using Digital Image Processing. *Computers and Electronics in Agriculture* 151:403-415; doi.org/10.1016/j.compag.2018.06.026.

Franco, J.G., S.R. King, J. Masabni, and A. Volder. 2018. Intercropped Watermelon for Weed Suppression in a Low-Input Organic System. *HortTechnology*. 28(2):172-181; doi.org/10.21273/HORTTECH03940-17.

Simpson, C., **J.G. Franco** (co-first authors), S.R. King, and A.Volder. 2018. Intercropping Halophytes to Mitigate Salinity Stress in Watermelon. *Sustainability*. 10(3):681; doi.org/10.3390/su1003068.

Liebzig, M.A., J.R. Hendrickson, **J.G. Franco**, K. Nichols, and D.L. Tanaka. 2018. Near-Surface Soil Property Responses to Forage Production in a Semiarid Region. *Soil Science Society of America Journal*. 82:223-230; doi.org/10.2136/sssaj2017.07.0237.

Franco, J.G., S. King, and A. Volder. 2018. Component Crop Physiology and Water Use Efficiency in Response to Intercropping. *European Journal of Agronomy*. 93:27-39; doi.org/10.1016/j.eja.2017.11.005.

Franco, J.G. and J.G. Masabni, 2017. Harvest Gains from Intercropping. Texas A&M AgriLife Extension Service. EHT-095.

Masabni, J. and **J.G. Franco**, 2016. Soil Solarization. Texas A&M AgriLife Extension Service. EHT-087.

Franco, J.G., S.R. King, J. Masabni, and A. Volder, 2015. Plant Functional Diversity Improves Short-Term Yields in a Low-Input Intercropping System. *Agriculture, Ecosystems and Environment*. 203:1-10; doi.org/10.1016/j.agee.2015.01.018.

Invited Book Chapters:

Archer, D.W., **J.G. Franco**, J.J. Halvorson, and K.P. Pokharel, 2018. Integrated Farming Systems. *In* S.A. Elias (Ed.), *Reference Module in Earth Systems and Environmental Sciences*. Elsevier. Amsterdam: ISBN: 978-0-12-409548-9.

In Review:

Rering, C.C., **J.G. Franco**, K.M. Yeater, and R.E. Mallinger. Drought Stress Changes Floral Volatile Emissions, and Reduces Nectar, Pollinator Visitation, and Seed Set in a Globally Grown Plant *Fagopyrum esculentum*. Re-submitted to *Ecosphere*. February 12, 2020.

In Revision:

Sanderson, M.A., M.A. Liebig, D. Archer, J. Halvorson, **J.G. Franco**, D. Toledo, S. Kronberg, J. Hendrickson, A. Sindelar, M. Schmer, V. Jin, B. Wienhold, S. Osborne, W. Riedell, and S. Papiernik. Looking Forward by Looking Back: Sustaining Agriculture in the U.S. Northern Great Plains. To be submitted to *Sustainability*.

In Preparation:

Franco, J.G., G.G. Gramig, K. Beamer. Multi-Species and Monoculture Cover Crop Productivity under Contrasting Management and Climates in North Dakota, U.S.A. To be submitted to *Sustainability*.

Franco, J.G., S.E. Duke, J.R. Hendrickson, M.A. Liebig, K.A. Nichols, and D.L. Tanaka. Perennial Forages in Annual Crop Rotations: Yield Stability Comparison and Evaluation of Perennial Competition Dynamics. To be submitted to *Agriculture, Ecosystems and Environment*.

Subhashree, S.N., S. Sunoj, C. Igathinathane, **J.G. Franco**, R.E. Mallinger, J.R. Prasifka, D. Archer. Digital Image Processing for Classification and Quantification of Flowers for Pollinator Interactions. To be submitted to *Computers and Electronics in Agriculture*.

Published Abstracts (15 most recent):

Clemensen, A.K, M.A. Grusak, S.E. Duke, J.R. Hendrickson, **J.G. Franco**, M.A. Liebig. 2020. Perennial Forages Influence Mineral Quality in Annual Cropping Systems. Ecological Society of America Annual Meeting. Salt Lake City, UT. *Submitted*.

Franco, J.G., and C.C. Nieman. 2020. Identifying the Gaps to Help Prioritize Agroforestry Research. 5th European Agroforestry Conference. Nuoro, Italy. *Submitted*.

Nieman, C.C., D. Philipp, K.P. Coffey, **J.G. Franco**. 2020. Sorghum-Sudangrass sown with cowpea and baled at two moisture levels for greater baleage nutritive value. American Forage and Grassland Council Annual Meeting. Greenville, SC.

Hendrickson, J.R., D.W. Archer, M.A. Liebig, S.L. Kronberg, **J.G. Franco**. 2019. Do We Sacrifice Our Grasslands for Crop Production. Tri-Societies (ASA-CSSA-SSSA) Annual Meeting. San Antonio, TX.

R.E. Mallinger, **J.G. Franco**, C.C. Rering. 2019. Plant Drought Stress Alters Floral Volatile Emissions, and Reduces Floral Rewards, Pollinator Attraction, and Plant Reproductive Success. International Pollinator Conference. Davis, CA.

Gramig, G., **J.G. Franco**, K. Beamer. 2019. Weed Suppression by Warm Season Cover Crops: Polycultures vs. Monocultures. Western Society of Weed Science Annual Meeting. Denver, CO.

Subhashree, S.N., S. Sunoj, C. Igathinathane, **J.G. Franco**, R.E. Mallinger, D. Archer. 2019. Web Tool for Classification and Quantification of Flowers for Pollinator Interactions using R. American Society of Agricultural and Biological Engineers Annual International Meeting. Boston, MA.

Franco, J.G., Gramig, G.G., Beamer, K.P. 2018. Multi-Species and Monoculture Cover Crop Productivity under Contrasting Management Systems and Climates in the Northern Great Plains. American Society of Agronomy/Crop Science Society of America Annual Meeting. Baltimore, MD.

Franco, J.G., D.W. Archer, J.J. Halvorson, J.R. Hendrickson, S.L. Kronberg, M.A. Liebig, M.A. Sanderson. 2018. Inter-Annual Rainfall Variability Impacts on Cover Crop Productivity during the Organic Transition Period. American Society of Agronomy/Crop Science Society of America Annual Meeting. Baltimore, MD.

Archer, D.W., M.A. Liebig, S.L. Kronberg, J.R. Hendrickson, **J.G. Franco**, J.J. Halvorson. 2018. Cover Crop Systems for the Northern Great Plains: Long-Term Performance and Economics. American Society of Agronomy/Crop Science Society of America Annual Meeting. Baltimore, MD.

Mallinger, R.E., C.C. Rering, **J.G. Franco**. 2018. Drought-Induced Effects on Buckwheat (*Fagopyrum esculentum*) Floral Traits and Honey Bee Visitation. American Chemical Society Annual Meeting. Boston, MA.

Sunoj, S., S.N. Subhashree, S. Dharani, C. Igathinathane, **J.G. Franco**, R.E. Mallinger, J.R. Prasifka, D. Archer. 2018. Sunflower Head, Disc, and Petal Dimension Measurements Using Image Processing. Accepted. American Society of Agricultural and Biological Engineers (ASABE) Annual Meeting. Detroit, MI.

Subhashree, S.N., S. Sunoj, C. Igathinathane, **J.G. Franco**, R.E. Mallinger, J.R. Prasifka, D. Archer. 2018. Digital Image Processing for Classification and Quantification of Flowers for Pollinator Interactions. Accepted. American Society of Agricultural and Biological Engineers (ASABE) Annual Meeting. Detroit, MI.

Franco, J.G., D.W. Archer, J.J. Halvorson, J. Hendrickson, S.L. Kronberg, M.A. Liebig, M.A. Sanderson. 2018. Organic Transition to Facilitate Conservation Tillage in the Northern Great Plains. Organic Farming Research Foundation Research Conference. Rutgers University, New Brunswick, NJ.

Franco, J.G., K. Beamer, G. Gramig. 2017. Cover Crop-Weed Dynamics in Two Contrasting Management Systems in the Northern Great Plains. Western Society of Weed Science Annual Meeting. Coeur d'Alene, ID.

Grants and Contracts in Support of Research:

- Over \$1,200,000 worth in grant proposals currently under review (2020).

- **\$71,300.** Texas Department of Agriculture, USDA's Specialty Crop Block Grant Program: Awarded a one-year grant to co-investigate intercropping strategies with halophytes to reduce salinity stress on watermelon and introduce value-added crops (2012).
- **\$10,000.** USDA's Southern Sustainable Agriculture Research and Education (SARE): Awarded a two-year Graduate Student Research Grant to investigate the role of plant functional diversity in enhancing ecosystem services and improving yields in an organic vegetable crop production system (2011).
- **\$1,500.** Texas Water Resources Institute W.G. Mills Memorial Scholarship: Awarded a scholarship to fund water-related research, specifically for evaluating water-use efficiency in an organic vegetable intercropping system (2011).

TEACHING

Green Roof Experiential Learning: Instructor, Fall 2014, Spring 2015

- Responsible for the instruction of an experiential learning course on green roof and green wall construction and maintenance. This included supervising 5 students per semester with plantings and plant surveys, facilitating idea sharing, maintaining irrigation system and environmental sensors, purchasing seed, transplant material and other supplies as needed. Supervised student-run trials assessing the survival of various small fruit, vegetable and herb crops and varieties grown on green roofs and green walls.

Plant Propagation: Teaching Assistant, Spring 2014

- Taught 1 undergraduate laboratory section of 20 students, to include laboratory preparation, lecturing, demonstration of propagation techniques, overseeing laboratory assignments, reviewing laboratory notebooks, grading laboratory reports and meeting with students.

Fundamentals of Ecology: Teaching Assistant for Lecture Sections, Fall 2013

- Assist with exam proctoring, report grading, meeting with students during office hours individually, managing eCampus online course management system and online virtual learning community for 2 undergraduate lecture sections of 200 students each.

Introduction to Plant Physiology: Grader, Fall 2011, Fall 2012

- Graded mid-term and final exams for an undergraduate course of 60 students.

Introduction to Geographic Information Systems: Teaching Assistant, Spring 2013

- Taught 2 graduate and undergraduate laboratory sections, 30 students per section, to include lecturing, assisting with GIS software navigation, projects and assignments, grading, meeting with students, and proctoring lecture exams.

Vegetation Inventory and Analysis: Teaching Assistant, Fall 2012

- Taught 2 undergraduate laboratory sections, 25 students per section, to include assisting with field trips, methodology training, statistical analysis assistance, reviewing homework assignments and grading term papers, and meeting with students.

Range and Forest Watershed Management: Teaching Assistant, Spring 2011, Spring 2012

- Taught 4 undergraduate laboratory sections, 20 students per section, to include lecturing, leading field trips, grading quizzes and term papers, and meeting with students on one-on-one basis.

Invited Lectures and Seminars:

Business as Unusual Agriculture? Integrating Alternative Systems & Crops for Multiple Functions: Spring 2020

- Invited seminar for ARS researchers and faculty Texas Tech University. Lubbock, TX.

Integrated Approaches for Multifunctional Agricultural Systems: Fall 2019

- Invited seminar for faculty across multiple departments at the University of Wisconsin-Madison.

The Role of Annual and Perennial Forages and Dual-Use Crops in Sustainable Agriculture: Fall 2019

- Invited guest lecture for upper level undergraduate and graduate students in Agronomy 302 – Forage Management and Utilization, University of Wisconsin-Madison.

Integrated Approaches for Multifunctional Systems: Spring 2019

- Invited seminar for faculty across multiple departments at the University of Arkansas. Fayetteville, AR.

No-Till Organic Transition, With and Without Grazing: Winter 2018

- Invited seminar hosted by Manitoba Organic Alliance for producers throughout Manitoba, Saskatchewan, Alberta, North Dakota and Minnesota. Online webinar (coffee shop talk).

From Okra to Oats: Alternative Systems Research to Sustainably Intensify Crop Production: Fall 2018

- Invited seminar for students and faculty of the Environmental Science & Research program at United Tribes Technical College. Bismarck, ND.

Diversified Crop Production Systems for Multiple Ecosystem Services and Diverse Stakeholders: Spring 2017

- Invited seminar for a group of wildlife scientists at U.S. Geological Survey's Northern Prairie Wildlife Research Center on cropping systems experiments that address multiple ecosystem services in diverse landscapes of North Dakota. Jamestown, ND.

Cover Crops in Sustainable Cropping Systems: Summer 2016

- Presented a lecture on current research projects involving cover crops for a group of secondary education teachers participating in the North Dakota Geographical Summer Institute. Mandan, ND.

The Role of Ecology in Modern Agriculture: Winter 2016

- Invited seminar on the topic of agroecology in the Department of Biological Sciences at North Dakota State University. Fargo, ND.

Agroecology: Summer 2014

- Guest lectured a course in agroecology and intercropping for student interns at World Hunger Relief, Inc. Waco, TX.

Ecology of Urban Landscapes: Spring 2013

- Guest lectured a graduate horticulture course at Texas A&M University on the topic of urban farming, sustainable food systems and integrated crop management. College Station, TX.

SERVICE

Graduate Committees:

- Kenneth Beamer - M.S. student. Department of Plant Sciences, North Dakota State University (2018).

Mentorship:

- Directly mentored two interns from École Nationale Supérieure Agronomique de Toulouse in France (2018).
- Directly supervised and assisted with the supervision of four summer hires at the Northern Great Plains Research Laboratory (2016-2018).
- Trained and supervised a total of 6 undergraduate and graduate student workers while at Texas A&M University (2012-2014).
- Mentored one undergraduate student research project at Texas A&M University (2011).

Professional Involvement:

- **Associate editor (AE) for Agronomy Journal (2019-2021).**
- Advisory board member – Savanna Institute (2019-present).

- Crop Science Society of America's Committee on Crop Science Teaching Improvement (2019-2021).
- Advisory board member - North Dakota Department of Agriculture's Organic Advisory Board (2015-2019).
- Session moderator at the American Society of Agronomy/Crop Science Society of Agronomy/Canadian Society of Agronomy annual meeting (2018).
- Currently serve on the Students of Agronomy, Soil & Environmental Sciences National Club Poster Presentation Contest Committee, American Society of Agronomy (2018-present).
- Served as a judge for various undergraduate and graduate student oral and poster competitions at the American Society of Agronomy/Crop Science Society of Agronomy annual meetings (2017, 2018).
- Served as a judge for graduate student oral competitions at the Western Society of Weed Science annual meeting in Coeur d'Alene, Idaho (2017).
- Served as a judge for graduate student poster presentations during Texas A&M University's Student Research Week (2014).
- Volunteered for the ESA-Agroecology section during the 2013 Ecological Society of America annual meeting in Minneapolis, Minnesota (2013).
- Served as a judge for undergraduate student poster presentations during Texas A&M University's Student Research Week (2013).
- Served on a graduate student panel on obtaining research grants (2012).
- Served as a judge for undergraduate student oral research presentations during Texas A&M University's Student Research Week (2012).

Service as External Reviewer for Scientific Journals:

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| • Agronomy Journal | • European Journal of Agronomy |
| • Agriculture, Ecosystems and Environment | • Journal of Crop Improvement |
| • Scientia Horticulturae | • Weed Biology and Management |
| • HortTechnology | • Sustainability |
| • International Journal of Vegetable Science | • Transactions of the Royal Society of South Africa |
| • Crop, Forage & Turfgrass Management | • Ecology and Evolution |
| • Agronomy | • Agroecology and Sustainable Food Systems |
| • Organic Agriculture | • Journal of Plant Growth Regulation |
| • Renewable Agriculture and Food Systems | • AoB Plants |
| | • Geoderma |

Professional Affiliations:

- Member of the Association for Temperate Agroforestry (2019-present).
- Member of the Crop Science Society of America (2011-present).
- Member of the American Society of Agronomy (2011-present).
- Member of the American Society for Horticultural Science (2013-present).
- Member of the Ecological Society of America (2005-present).
- Member of the TAMU Sustainable Agriculture Student Association, vice president (2011).

News and Media:

- Featured article in Brownfield Ag News on intercropping yield benefits. September 11, 2017. <http://brownfieldagnews.com/news/intercropping-study-shows-soil-yield-benefits/>
- Featured article in AgriLife Today, Texas AgriLife Research and Extension, on boosting vegetable yields with intercropping. September 5, 2017. <https://today.agrilife.org/2017/09/05/intercropping-boosts-vegetable-production/>
- Featured on “Rethinking Green”, a local Brazos County Texas talk show, and discussed intercropping and urban farming that will be aired on Houston public radio. January 29, 2014. <http://rethinkinggreen.org/>
- Featured on “Rethinking Green” to discuss a collaborative project I co-PI’d involving the use of halophytes intercropped with watermelon to reduce salinity stress on watermelon. April 16, 2014. <http://rethinkinggreen.org/>
- Plant Biodiversity Increases Yields in Organic Intercropping System Study Finds. Southern Sustainable Agriculture Research and Education (SARE) Press Release, December 6, 2013. <http://www.southernsare.org/News-and-Media/Press-Releases/Plant-Biodiversity-Increases-Yields-in-Organic-Intercropping-System-Study-Finds>

Honors, Awards and Recognitions:

- Received one of five American Society of Agronomy/Crop Science Society of America travel grants for doctoral and post-doctoral scientists to attend the International Crop Science Congress meeting in Beijing, China (2016).
- Received one of three Soil Science Society of America travel awards to attend the Soil Carbon Conference in Reykjavik, Iceland (2013).
- Received an Ecological Society of America-Agroecology section professional enhancement travel award, honorable mention (2012).
- Awarded a USDA National Needs Program Fellowship (2009-2010).
- Awarded an Alfred P. Sloan Foundation graduate scholarship (2009-2012).
- Received a New Mexico State University graduate assistantship award (2006-2007).
- Nominated by the University of Texas at El Paso Department of Biological Sciences for Outstanding Graduate in Biology (2004).

Certifications/Training:

- Food Safety Modernization Act training (2018)
- North Dakota Commercial Pesticide Applicators License: Ground Core, Agricultural Pest Control, and Greenhouse (2018)

Professional Enhancement (most recent):

- Benefits of Native Grasses. Webinar sponsored by the American Society for Horticultural Science and the International Plant Nutrition Institute (January 30, 2019).
- Organic Farming and Soil Health in the Western U.S. Webinar sponsored by the Organic Farming Research Foundation (January 23, 2019).
- Principles and applications of cover cropping in specialty crops. Webinar sponsored by the American Society for Horticultural Science (November 14, 2018).
- R Bootcamp. Workshop sponsored by the American Society of Agronomy and the Crop Science Society of America at the 2018 annual meeting in Baltimore, MD (November 4, 2018).
- Grantsmanship Fundamentals short course. Webinar sponsored by USDA-ARS, Partnerships and Grants, Office of National Programs (Fall 2017).