VITA

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EDUCATION:

1996	B.S.	Crop Science	Agricultural University of Hebei, Baoding, China
2002	M.S.	Plant, Soil, and Environmental Science	West Texas A&M University, Canyon, Texas
2005	Ph.D.	Crop Science	Texas Tech University, Lubbock, Texas

PROFESSIONAL EXPERIENCE:

1996 - 1999	*Lecturer*, Department of Agronomy, Handan Agricultural College, Handan, China
2006 - 2008	*Part-time instructor*, Taught PSS 5329 - Precision Agriculture with other faculty members, Texas Tech University, Lubbock, TX
2006 - 2013	*Precision Agriculture Scientist*, South Plains Precision Ag, Plainview, TX
2013 - 2016	*Global Environmental Modeling Scientist*, Breeding Organization, Monsanto Company, St. Louis, MO
2016 - present	*Assistant Professor of Crop Ecophysiology/Precision Agriculture*, Department of Plant and Soil Science, Texas Tech University, Lubbock, TX
2019 - present	*Assistant Professor of Crop Ecophysiology/Precision Agriculture*, Texas A&M AgriLife Research, Lubbock, TX

LICENSES AND CERTIFICATIONS:

2004. SSToolbox Geographic Information System. SST Software.

2017. Remote Pilot Certificate. Federal Aviation Administration.

INTERNATIONAL EXPERIENCE:

2017. Hosted Visiting Professor from Agricultural University of Hebei, China: Aijun Zhang. Currently collaborating on irrigation and dryland agriculture research.

2017. Improving water use efficiency with precision agriculture technologies. Anyang, China. August 23, 2017. Invited presentation.

2018. Data-driven Precision Agriculture: State of the Art and Outlook. Agricultural University of Hebei, Baoding, China. June 29, 2018. Invited presentation.

2018. Data-driven Precision Agriculture: Opportunities and Challenges. Huazhong Agricultural University, Wuhan, China. July 5, 2018. Invited presentation.

2018-2019. Hosted Visiting Assistant Professor from Jinlin Agricultural University of Jilin, China: Liying Cao.

2019. Hosted Visiting Scholar from Chonnam National University, South Korea: Jonghan Ko.

2019-2020. Hosted Visiting Scholar from Huazhong Agricultural University, China: Le Xu.

2020-. Hosting visiting Scholar and postdoctoral research associate from University of Damanhour, Egypt: Ahmed Hammad.

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

Professional:

1. American Society of Agronomy, 2005 to present
2. Crop Science Society of American, 2005 to present
3. Soil Science Society of America, 2005 to present
4. American Geophysical Union, 2018 to present

HONORS AND AWARDS:

Honors:

1. Program Lead of Precision Agriculture Program at Texas Tech University as one of the 25 Best Colleges for Precision Agriculture by PrecisionAg.com, 2018.

Awards:

1. Above and Beyond Award, Monsanto Company, 2014
2. Technology Recognition, Monsanto Company, 2014
3. Breeding Operational Excellence Award, Monsanto Company, 2015
4. Breeding Operational Excellence Award, Monsanto Company, 2016

AREAS OF EXPERTISE:

1. High-throughput plant phenotyping using unmanned aerial systems (UAS);
2. Plant growth simulation and environmental modeling;
3. Precision agriculture including precision water and nutrient management integrating spatial technologies such as GPS, geographic information system, and remote sensing;
4. Irrigation scheduling;

5. Agricultural remote sensing and image analysis;
6. Computer programming and simulation;
7. Geospatial data analysis and mapping using various GIS programs.

PATENTS: total of 0.

PUBLICATIONS:

Books: total of 0

Refereed Book Chapters: total of 1

1. **Guo, W.**, S. Cui, J. Torrion, and N. Rajan. 2015. Data-Driven Precision Agriculture: Opportunities and Challenges. *In* Soil-Specific Farming: Precision Agriculture. L. Rattan and B. A. Stewart (*eds.*). CRC Press, Boca Raton, FL. P.353–372. doi: 10.1201/b18759-15.

Other Book Chapters: total of 0

Books and Book Chapters Edited: total of 0

Refereed Journals: total published 15 (8 after hire). Ranking of each journal is in format of Rank/Number of Journals in the corresponding category on scimagojr.com.

Published (names with an asterisk * are my graduate students; my name in **bold***)*:

1. Meng, Q., A. Meng, J. Wang, Z. Liu, **W. Guo**, and M. Cui. 1998. The path analysis of main quantity characters and dry leaf yield of *Stevia Rebaudiano* Bertoni. Journal of Jilin Agricultural University 20:17-19.
2. Todd, R., **W. Guo**, B.A. Stewart, and C. Robinson. 2004. Vegetation, phosphorus, and dust gradients downwind from a cattle feedyard. Journal of Range Management 57: 291-299 [impact factor: 0.859; citations: 26].
3. Todd, R.W., N.A. Cole, R.N. Clark, W.C. Rice, and **W. Guo**. 2008. Soil nitrogen distribution and deposition on shortgrass prairie adjacent to a beef cattle feedyard. Biology and Fertility of Soils. doi: 10.1007/s00374-008-0286-2 [impact factor: 3.808; citations: 8; Ranking: 130/2195 in Agricultural and Biological Sciences].
4. Ko, J., G. Piccinni, **W. Guo**, and E. Steglich. 2009. Parameterization of EPIC crop model for simulation of cotton growth in South Texas. Journal of Agricultural Science 147: 169-178 [impact factor: 2.891; citations: 28; Ranking: 747/2195 in Agricultural and Biological Sciences].
5. **Guo, W.**, and S.J. Maas. 2012. Terrace layout design utilizing geographic information system and automated guidance system. Applied Engineering in Agriculture 28:31-38 [impact factor: 0.497; citations: 5; Ranking: 1522/6810 in Engineering].
6. **Guo, W.**, S.J. Maas, and K.F. Bronson. 2012. Relationship between cotton yield and soil

electrical conductivity, topography, and Landsat imagery. Precision Agriculture 13: 678-692 [impact factor: 2.35; citations: 47; Ranking: 508/2195 in Agricultural and Biological Sciences].

7. Torrion, J. A., S. J. Maas, **W. Guo**, J. P. Bordovsky, and A.M. Cranmer. 2014. A three-dimensional index for characterizing crop water stress. Remote Sensing 6: 4025-4042 [impact factor: 3.406; citations: 8; Ranking: 159/1547 in Earth and Planetary Sciences Earth and Planetary Sciences (miscellaneous)].
8. Chen, T., R. Zeng, **W. Guo**, X. Hou, Y. Lan, and L. Zhang. 2018. Detection of stress in cotton (Gossypium hirsutum L.) caused by aphids using leaf level hyperspectral measurements. Sensors 18(9), 2798. doi:10.3390/s18092798 [impact factor: 2.677; citations: 4; Ranking: 1239/2142 in Biochemistry, Genetics and Molecular Biology].
9. **Guo, W.** 2018. Application of geographic information system and automated guidance system in optimizing contour and terrace farming. Agriculture 8(9): 142. doi: 10.3390/agriculture8090142 [Citescore Scopus: 1.93; citations: 4].
10. **Guo, W.** 2018. Spatial and temporal trends of irrigated cotton yield in the Southern High Plains. Agronomy 8(12): 298. doi:10.3390/agronomy8120298 [impact factor*:*1.419; Ranking: 74/355 in Agronomy and Crop Science; citations: 3].
11. *Neupane, J., and **W. Guo**. 2019. Agronomic basis, technology, and benefits of precision water management: a review. Agronomy 9(2): 87. doi:10.3390/agronomy9020087 [impact factor:1.419; Ranking: 74/355 in Agronomy and Crop Science; citations: 9].
12. Thompson, C., **W. Guo**, B. Sharma, and G. Ritchie. 2019. Using Normalized Difference Red Edge index to assess maturity in cotton. Crop Science, 59(5): 2167-2177 [impact factor: 1.635; Ranking: 56/355 in Agronomy and Crop Science]..
13. Gusso, A., **W. Guo**, and S. Rolim. Reflectance-based model for soybean mapping in United States at common land unit scale with Landsat 8. 2019. European Journal of Remote Sensing, 52(1): 522-531.
14. Pabuayon, I. L., Y. *Sun, W. Guo, and G. Ritchie. 2019. High-Throughput Phenotyping in Cotton: A review. *Journal of Cotton Research, 2*(1): 2-18.
15. *Sun, Y., **W. Guo**, D.C. Weindorf, F. Sun, S. Deb, G. Cao, J. *Neupane, and Z. *Lin, A. *Raihan. Field-scale calcium spatial variability: implications for site-specific soil management. Pedosphere (Accepted).

Proceedings:

Refereed (Invited): 0

Refereed (Volunteered): 1 after hire

1. Nguyen, L., Zhu, J., *Lin, Z., Du, H., Yang, Z., **Guo, W**., Jin, F. 2019. Spatial-temporal Multi-Task Learning for Within-field Cotton Yield Prediction. The 23rd Pacific-Asia Conference on Knowledge Discovery and Data Mining. 14-17 April 2019 Macau, China.

Non-refereed (Volunteered) 10 before hire

1. **Guo, W**., Todd, R., Robinson, C., Stewart, B. A. 2002. Feedyard wind-blown dust effects on native rangeland soil chemical properties. Great Plains Foundation Symposium Meeting. Amarillo, TX.
2. Todd, R., **Guo, W**., Stewart, B. A., Robinson, C. 2003. Long-term changes in shortgrass prairie adjacent to a beef cattle feedyard. Society for Range Management 56th Annual Meeting. American Society of Range Management; Society for Range Management. Casper, WY.
3. Todd, R., **Guo, W.**, Stewart, B. A., Robinson, C. 2003. Vegetation and soil changes in shortgrass prairie near a beef cattle feedyard. American Water Resources Association 2003 Spring Specialty Conference Proceedings. American Water Resources Association. Kansas City, MO.
4. Maas, S., Lascano, R., Cooke, D., Richardson, C., Upchurch, D., Wanjura, D., Krieg, D., Mengel, S., Ko, J., Payne, W., Rush, C., Brightbill, J., **Guo, W.**, Bronson, K., Rajapakse, S. (2004). Within-season estimation of evapotranspiration and soil moisture in the High Plains using YieldTracker. Proceedings of High Plains Groundwater Resources Conference. Lubbock, TX.
5. Maas, S. J., Rajapakse, S., **Guo, W.**, Ko, J., Lascano, R., Booker, J. 2005. Relationship between RADARSAT imagery and cotton field characteristics. Proceedings of Beltwide cotton conferences. New Orleans, LA.
6. **Guo, W.**, Maas, S., Lascano, R., Brightbill, J. 2005. Mapping spatial and temporal variability of cotton yield in west Texas. Beltwide Cotton Conferences (pp. 2067--2073). New Orleans, LA.
7. **Guo, W.**, Bronson, K., Maas, S., Rajapakse, S., Brightbill, J. 2005. Electrical Conductivity, Elevation, Landsat Imagery, and Yield Maps to Delineate Management Zones in Irrigated Cotton. New Orleans, LA.
8. Maas, S., Torrion, J., Rajapakse, S., **Guo, W.** 2005. Using satellite imagery to radiometrically calibrate digital airborne multispectral imagery. 20th Biennial Workshop on Aerial Photography, Videography, and High Resolution Digital Imagery for Resource Assessment. Weslaco, TX.
9. Maas, S., **Guo, W.**, Brightbill, J., Hooton, J. 2005. Using aerial imagery in variable-rate cotton growth regulator application. 20th Biennial Workshop on Aerial Photography, Videography, and High Resolution Digital Imagery for Resource Assessment. Weslaco, TX.
10. **Guo, W.**, S. Maas, G. Moudy, J. Brightbill. 2008. Application of yield monitor, EC mapping, remote sensing, and topographic properties in precision agriculture. *In*

Proceedings of the 9th International Conference on Precision Agriculture. Denver, CO.

Abstracts: total of 17 after hire (Published abstracts were also presented at scientific meetings)

Volunteered Abstracts (17):

1. *Neupane, J., **Guo, W.**, *Raihan, A., *Lin, Z., Bennett, J. E., West, C. 2017. Cotton growth variability in relation to topography and soil physical properties in the High Plains. ASA-CSSA-CSA. Oct 22-25, 2017, Tampa, FL.
2. *Raihan, A., **Guo, W.** 2017. Multi-Sensor Data Fusion to Estimate Soil Moisture and Evapotranspiration for Irrigation Scheduling. ASA-CSSA-CSA. Oct 22-25, 2017, Tampa, FL.
3. **Guo, W.**, Acosta-Martinez, V., Cano, A., *Neupane, J., *Raihan, A., *Lin, Z. 2017. Relationship between microbial community composition, soil physicochemical properties and cotton yields at a field scale. ASA-CSSA-CSA. Oct 22-25, 2017, Tampa, FL.
4. *Raihan, A., **Guo, W.**, Deb, S., Zhu, Z., *Neupane, J., *Lin, Z., *Sun, Y., West, C. 2018. Application of Unmanned Aerial Systems for Estimating Soil Water Content in the Southern High Plains. International Aridlands Conference, Texas Tech University, August 13-14, 2018, Lubbock, TX.
5. *Sun, Y., **Guo, W.**, Weindorf, D., Sun, F., Deb, S., *Lin, Z., *Neupane, J., *Raihan, A., West, C. 2018. Identifying Soil Properties Using Proximal Sensors in the Southern High Plains. International Aridlands Conference, Texas Tech University, August 13-14, 2018, Lubbock, TX.
6. *Neupane, J., **Guo, W.**, Zhang, F., Deb, S., *Lin, Z., *Raihan, A., *Sun, Y., West, C. 2018. Irrigation Rates, Soil Physical Properties and Topography Effects on Cotton Yield in the Southern High Plains. International Aridlands Conference, Texas Tech University, August 13-14, 2018, Lubbock, TX.
7. *Neupane, J., **Guo, W.**, *Raihan, A., *Lin, Z., West, C. 2018. Cotton yield variability in relation to topography and soil physical properties in the Texas High Plains. ASA-CSSA-CSA. November 4-7, 2018, Baltimore, MD.
8. *Sun, Y., **Guo, W.**, Weindorf, D., Sun, F., Deb, S., *Lin, Z., *Neupane, J., *Raihan, A., West, C. 2018. Assessing within-field spatial variability of Ca using proximal and remote sensing. ASA-CSSA-CSA. November 4-7, 2018, Baltimore, MD.
9. *Sun, Y., **Guo, W**., Yang, X., Kovalskyy, V., Lin, Z., Neupane, J. (2019). *Assessing cotton water stress in Southern High Plains Using Unmanned Aerial Systems*. ASA-CSSA-SSSA.
10. *Neupane, J., **Guo, W.**, Acosta-Martinez, V., Lin, Z., Cano, A. (2019). *Assessing spatial pattern of soil microbial community at landscape scale for precision soil management*. ASA-CSSA-SSSA.
11. *Lin, Z., Guo, W., West, C., Jin, F., Sun, Y. (2019). *Unmanned Aerial Systems and Crop Modeling for Irrigation Scheduling in the Southern High Plains*. ASA-CSSA-SSSA.

12. Guo, W. (2019). *Precision soil and crop management using sensor data*. Lubbock: After Design: Monitoring + Managing the Texas Landscape.
13. *Neupane, J., Guo, W., Wang, C. *Assessing profitability of variable rate irrigation management at landscape scale in the Southern High Plains*. Minneapolis, MN: International Society for Precision Agriculture. Submitted.
14. *Gu, H., Guo, W. *Monitoring surface soil water content using thermal and multispectral images from Landsat 8 and unmanned aerial systems*. Minneapolis, MN: International Society for Precision Agriculture. Submitted.
15. Rabia, A., Guo, W. *Within-Season Monitoring of Crop Evapotranspiration Using Google Earth Engine and METRIC Model*. Minneapolis, MN: International Society for Precision Agriculture. Submitted.
16. Rabia, A., Guo, W. *Crop Water Use Estimation using UAV and Thermal camera images to improve Irrigation Water Management*. Minneapolis, MN: International Society for Precision Agriculture. Submitted.
17. Guo, W., and Shelia, V. *Prediction of within-field cotton yield variability using DSSAT in the Southern High Plains*. Minneapolis, MN: International Society for Precision Agriculture. Submitted.

Invited Abstracts (2):

1. **Guo, W.** Assessing the value of variable rate irrigation on cotton production under limited well capacities. 2017. International Conference on Intelligent Agriculture (ICIA), China Agricultural University, Changchun, Jilin, China, International. August 13, 2017.
2. **Guo, W.**, *Neupane, J., *Raihan, A., *Sun, Y., *Lin, Z. 2018. Sensor-based Water Management in Precision Agriculture – a Case Study. ASA-CSSA-CSA. November 4 - 7, 2018, Baltimore, MD.

Technical Reports: total of 0

Other publications and media (popular press) total of 0:

Manuscripts under Review:

1. *Lin, Z., **Guo, W**. Sorghum Head Delineation and Count using Unmanned Aerial System Images and Deep Learning. *Frontiers in Plant Science* (in review).

PRESENTATIONS AND LECTURES: total of 17 (5 listed below plus all 12 listed in volunteered and invited abstracts above which were presented at scientific meetings).

Those listed below were invited seminar presentations.

1. October 15, 2017. UAV remote sensing in agriculture, opportunities and challenges. USDA-ARS, Mississippi State, MS.
2. January 3, 2018. Variable rate irrigation under limited well capacities in the Southern High Plains. Beltwide Cotton Conferences, National Cotton Council. San Antonio, TX.
3. July 4, 2018. Data-driven Precision Agriculture: Opportunities and Challenges. Huazhong Agricultural University. Wuhang, China.
4. July 30, 2018. Water Management using Precision Agriculture Technologies. Texas Tech University. First Workshop on Water Resource Management in Smart and Connected Communities. Lubbock, TX.
5. April 6, 2019. Art Exhibitions interdisciplinary research space between the fields of art and agriculture. Guest Speaker, Lubbock, Texas, US.

GRADUATE STUDENT COMMITTEES:

Completed: 6

Chaired: total of 4

M.S.: 4

1. Jasmine Neupane. Completed in December 2018. Title of thesis: Cotton Yield Variability in Relation to Irrigation Rates, Soil Physical Properties and Topography.
2. Abir Raihan. Completed in December 2018. Title of thesis: Surface Soil Moisture Estimation Using Unmanned Aerial System and Satellite Images.
3. Yazhou Sun. Completed in 2019. Title of thesis: Assessment of Cotton Water Stress with Unmanned Aerial Systems Remote Sensing.
4. Zhe Lin. Completed in 2018. Title of thesis: Unmanned Aerial Systems and Crop Modeling for Irrigation Scheduling in the Southern High Plains.

Ph.D.: 0

Co-Chaired: total of 0

Committee member of: total of 2:

1. Raphael Gikunda. Completed: December 2019. Agricultural Education and Communications.
2. Corey Thompson. Completed: December 2019. Plant and Soil Science.

In progress: 11

Chaired: total of 3

M.S.: 0

Ph.D.

1. Jasmine Neupane. Anticipated completion date December 2021. Precision irrigation and spatial variability of soil physical properties.
2. Haibin Gu. Anticipated completion date December 2022. Precision nitrogen management and cotton phenotyping using UAS imaging.
3. Zhe Lin. Anticipated completion date December 2022. Plant phenotyping using UAS imaging and irrigation scheduling using remote sensing.

Committee member of: total of 6

M.S.

1. Robert Ballesteros. Anticipated completion date May 2018. Plant and Soil Sciences.
2. Mark Mayo. Anticipated completion date May 2020. Plant and Soil Sciences.
3. Ubaldo Torres. Anticipated completion date December 2020. Plant and Soil Sciences.

Ph.D.

1. Yi Chen. Anticipated completion: August 2019. Agricultural and Applied Economics
2. Duda Bogdan. Anticipated completion: unknown. Plant and Soil Science.
3. Kaniz Farzana. Anticipated completion: December 2021. Plant and Soil Science.

Non-Thesis M.S. Students in Progress (2):

1. Spencer Cox. Anticipated completion date August, 2022.
2. Cole VonOhlen. Anticipated completion date August, 2019.

UNDERGRADUATE ADVISING: 0

TEACHING RESPONSIBILITIES:

1. PSS 6301: Quantitative Agricultural Remote Sensing (3 credits; 100% responsibility)
2. PSS 6301-D: Quantitative Agricultural Remote Sensing (3 credits; 100% responsibility)
3. PSS 5323: Environmental Crop Physiology (3 credits; 50% responsibility)

4. PSS 5323-D: Environmental Crop Physiology (3 credits; 50% responsibility)
5. PSS 5323-X: Environmental Crop Physiology (3 credits; 50% responsibility)
6. PSS 5329: Precision Agriculture (3 credits; 100% responsibility)
7. PSS 6302: Plant Growth Modeling (3 credits; 100% responsibility)
8. PSS 4340: Irrigation Management Seminar (3 credits; 7% responsibility)
9. PSS5001. Problems in Plant and Soil Science (3 credits; 100% responsibility).

Other Teaching Responsibilities:

2017

1. PSS 7000, Research. Total 4 students

2018

1. PSS 6000, Master's Thesis. Total 4 students.
2. PSS 7000, Research. Total 9 students

2019

1. PSS 6000, Master's Thesis. Total 5 students.
2. PSS 7000, Research. Total 9 students

GRANTS AND AWARDS:

Total funded at Texas Tech University and Texas A&M AgriLife Research, $1,693,276 (My portion of total amount is **$678,131**).

1. PI: Wenxuan Guo. 2016. Water Use, Irrigation Scheduling, and Climatic Effects – Task 5: Water Management Research and Development. Texas Alliance for Water Conservation – Texas Water Development Board. **$156,000** (*Transferred to me after hire*).
2. PI: Wenxuan Guo. 2017. On-farm precision water management for sustainable agriculture in the Southern High Plains of Texas. Cotton Incorporated. **$20,000**.
3. CO-PI: Wenwei Xu, Wenxuan Guo, Qingwu Xue. 2017. Genetics and Irrigation Scheduling for Sustainable Intensification of Corn under Limited Irrigation Cropping System in the Texas High Plains. USDA-ARS Ogallala Aquifer Program. $60,333 (my portion $**9,984**).
4. CO-PI: Joseph Young, Glen Ritchie, Wenxuan Guo, Sanjit Deb, David Weindorf, Eric Bernard. 2017. Enhancing water conservation through remote sensing from unmanned systems. USDA-ARS Ogallala Aquifer Program. $96,247 (my portion, **$9,561**).

5. CO-PI: Joseph Young, Glen Ritchie, Sanjit Deb, Wenxuan Guo. 2017. Enhancing Water Conservation through Remote Sensing Technology on Golf Courses. USGA- Green Research Section. $95,618 (my portion, **$9,561**).
6. PI: Wenxuan Guo. 2018. On-farm precision water management for sustainable agriculture in the Southern High Plains of Texas. Cotton Incorporated. **$20,000**.
7. PI: Wenxuan Guo and Zhe Zhu. 2018. Quantifying Cotton Water Stress using Unmanned Aerials Systems and Satellite Remote Sensing. Monsanto Company. $130,000 (my portion: **$104,000**).
8. CO-PI: Glen Ritchie, Wenxuan Guo. 2019. Minimizing effects of field variability in plot research through imagery. Cotton Incorporated. $15,000 (my portion, **$6,000**).
9. PI: Wenxuan Guo, Kermit Price, Cory Mills, and Lorenzo Aleman-Sarinana. 2019. Cotton stress assessment using multispectral and thermal sensors on unmanned aerial systems. Project Revolution. **$133,156**.
10. PI: Wenxuan Guo. 2019. On-farm precision water management for sustainable agriculture in the Southern High Plains of Texas. Cotton Incorporated. **$20,000**.
11. PI: Wenxuan Guo. 2019. Crop water stress and disease monitoring using remote sensing and smartphone photographs. Monsanto Company. **$119,550**.
12. PI: Wenxuan Guo, Sanjit Deb, Katie Lewis, Glen Ritchie, and Chenggang Wang. 2019. Optimizing Nitrogen Management in Dryland Cotton using Precision Agriculture Technologies in the Southern High Plains. Cotton Inc. **$30,000** (my portion: **$18,000**).
13. Co-PI: David Montague, Edward Hellman, Wenxuan Guo. 2019. Improving High Plains Vineyard Irrigation Scheduling for Enhanced Water Use Efficiency. **$69,201**. USDA-ARS (my portion **$10,380**).
14. Co-PI: Jane Dever, Terry Wheeler, Tom Isakeit, Libo Shan, Ping He, David Stelly, Cecilia Monclova-Santana, Murilo Maeda, Joel Arce, Orlando Flores, and Wenxuan Guo. 2019. Fov4 in Texas Cotton Strategic Research Initiative. Texas A&M AgriLife Research (my portion **$32,000**).
15. CO-PI: West, C., Slaughter, L., Hudson, M., Williams, R., Burow, M., Mitchell, D., Singh, S., Guo, W., Deb, S. K. 2019. OAP: Precipitation and Irrigation Management to Optimize Profits from Crop Production. USDA Agricultural Research Service. Total $257,468 (my portion: **$19,500**).

SERVICE TO PROFESSIONAL ORGANIZATIONS

National:

1. Early Career Grant Writing Programs at ASA conference, Volunteer, 2018.
2. Vice Leader, ASA US-Sino Research Community, 2018.

3. Presiding leader, ASA US-Sino Research Community 2019.
4. Vice-Leader for the ASA Sensor-Based Water Management Community, 2020.

OTHER PROFESSIONAL SERVICE:

1. Reviewed seven manuscripts for scientific journals including Agronomy, Remote Sensing, Geoderma, and European Journal of Agronomy

CONSULTING ACTIVITIES: 0

SERVICE TO:

UNIVERSITY:

None

COLLEGE (college of Agricultural Sciences and Natural Resources; CASNR):

1. 2016-present. Member of TAWC management team.

DEPARTMENT (Plant and Soil Sciences, PSS):

1. 2016-present. Member of Curriculum committee.
2. 2016-present. Member of Awards committee.

COMMUNITY:

1. Presented precision water management technologies at Workshop of Water Resource Management in Smart and Connected Communities. July 30, 2018. Smarter Management of the Ogallala Aquifer for Efficient Irrigation.
2. Worked with local producers Brightbill Farms on precision water management.
3. Worked with local producer Brosch Farms on precision nitrogen management.