

Dr. Xuejun Dong

CONTACT INFORMATION	Assistant Professor Texas A&M AgriLife Research and Extension Center 1619 Garner Field Road Uvalde, TX 78801 USA	Tel: +1-830-278-9151 Fax: +1-830-278-1570 E-mail: xuejun.dong@ag.tamu.edu
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RESEARCH INTERESTS **Crop Ecophysiology** Soil-plant water relations in irrigated crop production; physiological traits in relation to crop water use efficiency in cropping system; modeling crop water use and production under irrigation management and changing environments.

EDUCATION **Institute of Botany, Chinese Academy of Sciences**, Beijing, China

Ph.D., Botany (Plant Ecophysiology), 1997

- Dissertation: *Ecophysiology of the Sandy Shrubs in the Mu Us Sandland: Structure and Function* (in English with journal articles published in [J. Arid Environ.], [Trees])
- Adviser: Professor Xinshi Zhang, Member of Chinese Academy of Sciences
- Department: Lab of Quantitative Vegetation Ecology (now National Key Lab of Vegetation and Environmental Change)

M.S., Botany (Plant Ecophysiology), 1991

- Thesis: *The Qualitative and Quantitative Interpretations of Water Relations of the Plants in the Soil-Plant-Atmospheric Systems in the Mu Us Sandland of China* (in Chinese)
- Adviser: Professor Xinshi Zhang
- Department: Lab of Quantitative Vegetation Ecology

Lanzhou University, Lanzhou, Gansu Province, China

B.S., Plant Physiology (with honor), 1987

- Thesis: *The Change in the Superoxide Dismutase Activity and Lipid Peroxidation in Radish Cotyledons During Senescence as Induced by Exotic Hormones* (in Chinese)
- Adviser: The late Professor Chenglie Zhang
- Department of Biology

PROFESSIONAL EXPERIENCE	Assistant Professor of Crop Physiology Texas A&M AgriLife Research and Extension Center - Uvalde, TX USA, and Department of Soil and Crop Sciences, College Station, TX USA	2013 to present
	Range Scientist/ Adjunct Professor Central Grasslands Research Extension Center (CGREC), North Dakota State University (NDSU), Streeter, ND USA	2010 to 2013
	Assistant Range Scientist/ Adjunct Professor NDSU-CGREC, Streeter, ND USA	2006 to 2010
	Assistant Range Scientist	2002 to 2006

NDSU-CGREC, Streeter, ND USA
Research Specialist 2000 to 2002
 NDSU-CGREC, Streeter, ND USA
Research Associate 1999 to 2000
 Department of Botany, Duke University, Durham, NC USA
Research Associate Professor 1997 to 1999
 Institute of Botany, Chinese Academy of Sciences, Beijing, China
Research Assistant Scientist 1991 to 1997
 Institute of Botany, Chinese Academy of Sciences, Beijing, China

INVITED BOOK CHAPTERS/PAPERS (3)
 [1] M. Liebig, X. Dong, J. McLain and C. Dell. 2012. Greenhouse gas flux from managed grasslands in the U.S. In: M. A. Liebig, A. J. Franzluebbers and R. F. Follett (eds): **Managing Agricultural Greenhouse Gases: Coordinated Agricultural Research Through GRACEnet to Address Our Changing Climate.** *Elsevier*. San Diego, CA. Pp 183–202.

[2] X.-D. Chen, X.-J. Dong and Z.-X. Chen. 1999. Shrub diversity and its restoration ecology in Ordos Plateau Sandland. In: K.-P. Ma (ed.): **Ecosystems Diversity in Key Areas of China**, In Chinese, published by Zhejiang Science and Technology Press, Hangzhou, China. Pp 109–153.

[3] X. Dong, B. Patton and P. Nyren. 2013. Responses of plant root and soil microbial respiration to seasonal rain events in a mixed-grass prairie under different grazing intensities. Invited paper presented to **International Symposium on Adaptation of Terrestrial Ecosystems to Climate Change and Future Earth**, Pp 148–158. Edited by G.-S. Zhou, Hubei Hotel-Beijing, China. Jun. 29 - Jul. 1, 2013.

REFEREED JOURNAL PUBLICATIONS (52)

[1] X. Liu, X. Dong and D. I. Leskovar. 2016. Ground penetrating radar for for underground sensing in agriculture: a review. **Int. Agrophys.** Vol 30(4). doi: 10.1515/intag-2016-00010

[2] D. Leskovar, Y. Othman, and X. Dong. 2016. Strip tillage improves soil biological activity, fruit yield and sugar content of triploid watermelon. **Soil & Tillage Res.** 163: 266-273.

[3] X. Dong, W. Xu, Y. Zhang, and D. Leskovar. 2016. Effect of irrigation timing on root zone soil temperature, root growth and grain yield and chemical composition in corn. **Agronomy** 6, 34. doi: 10.3390/agronomy6020034

[4] Z.-S. Zhang, Y. Zhao, X.-J. Dong, Y.-F. Shi, Y.-L. Chen, Y.-G. Hu. 2016. Evolution of soil respiration depends on biological soil crusts across a 50-year chronosequence of desert revegetation. **Soil Sci. Plant Nutrition** 62(2): 140149

[5] X. Dong. 2016. How to put plant root uptake into a soil water flow model. **F1000Research**, 5:43 (doi: 10.12688/f1000research.7686.1)

[6] Z.-S. Zhang, X.-J. Dong, B.-X. Xu, Y.-L. Chen, Y. Zhao, Y.-H. Gao, Y.-G. Hu and L. Huang. 2015. Soil respiration sensitivities to water and

temperature in a revegetated desert. **JGR - Biogeosciences** DOI: 10.1002/2014JG002805

- [7] X. Dong and B. D. Patton. 2015. Predicting soil water retention curves based on particle-size distribution using a Minitab macro. **Afr. J. Soil Sci.** 3(1): 079-085.
- [8] X. Dong, J. Patton, L. Gu, J.-Z. Wang and B. Patton. 2014. Leaf photosynthesis and plant competitive success in a mixed-grass prairie: With reference to exotic grasses invasion. **J. Ecosys. Ecograph.** 4: 152. doi: 10.4172/2157-7625.1000152.
- [9] Z.-S. Zhang, Y.-L. Chen, B.-X. Xu, L. Huang, H.-J. Tan and X.-J. Dong. 2014. Topographic differentiations of biological soil crusts and hydraulic properties in fixed sand dunes, Tengger Desert. **J. Arid Land** 7(2): 205-215. doi: 10.1007/s40333-014-0048-y
- [10] X. Dong D. Leskovar, K. Crosby and T. Marek. 2014. Quantifying crop water use in arid and semi-arid regions: Opportunities based on soil-plant water relations. **J. Arid Land Studies.** 24-1: 141-144.
- [11] Y. Sun, L. Gu, R. E. Dickinson, S. G. Pallardy, J. Baker, Y. Cao, F. M. DaMatta, X. Dong, D. Ellsworth, D. Van Goethem, A. M. Jensen, B. E. Law, R. Loos, S. C. V. Martins, R. J. Norby, D. Weston, K. Winter. 2014. Effects of mesophyll conductance on fundamental photosynthetic parameters and their relationships estimated from leaf gas exchange measurements. **Plant Cell Environ.** 37: 978-994.
- [12] W.-H. Wang, J. Chen, T.-W. Liu, J. Chen, A.-D. Han, M. Simon, X.-J. Dong, J. He, H.-L. Zheng. 2014. Regulation of the calcium-sensing receptor in both stomatal movement and photosynthetic electron transport is crucial for water use efficiency and drought tolerance in Arabidopsis. **J. Exp. Bot.** 65: 223-234.
- [13] X. Dong, J. Patton, G. Wang, P. Nyren and P. Peterson. 2014. Effect of drought on biomass allocation in two invasive and two native grass species dominating the mixed-grass prairie. **Grass Forage Sci.** 69: 160-166.
- [14] F.-H. Wu, J. Chen, T.-W. Liu, Z.-J. Li, J. Chen, L. Chen, S.-H. Guan, T.-Y. Li, X.-J. Dong, J. Patton and H.-L. Zheng. 2013. Differential responses of *Abies fabri* and *Rhododendron calophytum* at two sites with contrasting pollution deposition and available calcium in southwestern China. **Plant Ecol.** 214:557569.
- [15] M. A. Liebig, S. L. Kronberg, J. R. Hendrickson, X. Dong, and J. R. Gross. 2013. CO₂ efflux from long-term grazing management systems in a semiarid region. **Agricult. Ecosyst. Environ.** 164: 137-144.
- [16] X. Dong, F.-C. Cheng, D.-J. Wang, G.-J. Wang, B. D. Patton and P. E. Nyren. 2013. Mixed-grass prairie rhizome biomass is influenced by cattle grazing intensity. **Grass Forage Sci.** 68: 199-204.

- [17] J. Chen, W.-H. Wang, F.-H. Wu, C.-Y. You, T.-W. Liu, X.-J. Dong, J.-X. He and H.-L. Zheng. 2013. Hydrogen sulfide alleviates aluminum toxicity in barley seedlings. **Plant Soil** 362: 301-318
- [18] Z.-S. Zhang, X.-J. Dong, Y.-B. Liu, X.-R. Li, R.-L. Jia, Y.-G. Hu, M.-Z. He, and L. Huang. 2012. Soil oxidases recovered faster than hydrolases in a 50-year chronosequence of desert revegetation. **Plant Soil** 358: 275–287.
- [19] X. Dong, B. Patton, P. Nyren, R. Limb, L. Cihacek, D. Kirby and E. Deckard, 2011. Leaf-water relations of a native and an introduced grass species in the mixed-grass prairie under cattle grazing. **Appl. Ecol. Environ. Res.** 9: 311–331.
- [20] W.-H. Wang, X.-Q. Yi, F.-H. Wu, A.-D. Han, X.-J. Dong, J.-X. He, Z.-M. Pei and H.-L. Zheng. 2011. Calcium-sensing receptor regulates stomatal closure through hydrogen peroxide and nitric oxide in response to extracellular calcium in Arabidopsis. **J. Exp. Bot.** doi:10.1093/jxb/err259.
- [21] X. Dong, B. Patton, A. Nyren, P. Nyren and L. Prunty. 2010. Quantifying root water extraction by rangeland plants through soil water modeling. **Plant Soil** 335: 181–198.
- [22] X. Dong, P. Nyren, B. Patton, A. Nyren, J. Richardson and T. Maresca, 2008. Wavelets for agriculture and biology: A tutorial with applications and outlook. **BioScience** 58: 445-453. Supplementary material is available from the CGREC home page.
- [23] S.-S. Huang, J. Chen, X.-J. Dong, J. Patton, Z.-M. Pei and H.-L. Zheng. 2011. Calcium and calcium receptor CAS promote Arabidopsis thaliana de-etiolation. **Physiol. Plant.** doi: 10.1111/j.1399-3054.2011.01523.x
- [24] J. Chen, F.-H. Wu, T.-W. Liu, L. Chen, Q. Xiao, X.-J. Dong, Z.-M. Pei and H.-L. Zheng. 2012. Emissions of nitric oxide from 79 plant species in response to simulated nitrogen deposition. **Environ. Pollut.** 160: 192-200.
- [25] X. Pan, D. Shen, X. Dong, B. Patton. 2011. Natural disaster occurrence and average global temperature. **Disaster Adv.** 4(4): 61-63.
- [26] J. Chen, F.-H. Wu, W.-H. Wang, C.-J. Zheng, G.-H. Lin, X.-J. Dong, J.-X. He, Z.-M. Pei and H.-L. Zheng. 2011. Hydrogen sulphide enhances photosynthesis through promoting chloroplast biogenesis, photosynthetic enzyme expression, and thiol redox modification in *Spinacia oleracea* seedlings. **J. Exp. Bot.** 62(13): 4481-4493.
- [27] T.-W. Liu, F.-H. Wu, W.-H. Wang, J. Chen, Z.-J. Li, X.-J. Dong, J. Patton, Z.-M. Pei and H.-L. Zheng. 2011. Effects of calcium on seed germination, seedling growth and photosynthesis of six forest tree species under simulated acid rain. **Tree Physiol.** 31:402-413.

- [28] J. Chen, F.-H. Wu, Q. Xiao, Z.-H. Yang, S.-K. Huang, J. Wang, Y.-G. Wu, X.-J. Dong, Z.-M. Pei and H.-L. Zheng. 2010. Diurnal variation of nitric oxide emission flux from a mangrove wetland in Zhangjiang River Estuary, China. **Est. Coast. Shelf Sci.** 90: 212-220.
- [29] X.-B. Pan, S.-P. Wang, P. E. Nyren, B. D. Patton, X.-J. Dong and A. Nyren. 2010. Studies on land use of North Dakota state and its instruction to China. **Guihaia** Issue 2 of 2010: 196–201.
- [30] J. Chen, Q. Xiao, F.-H. Wu, X.-J. Dong, J.-X. He, Z.-M. Pei and H.-L. Zheng. 2010. Nitric oxide enhances salt secretion and Na⁺ sequestration in a mangrove plant, *Avicennia marina*, through increasing the expression of H⁺-ATPase and Na⁺/H⁺ antiporter under high salinity. **Tree Physiol.** 30:1570-1585.
- [31] Z.-S. Zhang, X.-R. Li, X.-J. Dong, X.-H. Jia, M.-Z. He and H.-J. Tan. 2009. Rainfall interception by sand-stabilizing shrubs related to crown structure. **Sci. Cold Arid Regions** 1: 0107-0119.
- [32] X.-B. Pan, J.-H. Wang, S.-P. Wang, P. E. Nyren, B. D. Patton, X.-J. Dong and A. Nyren. 2008. Studies on optimum grazing rates in grasslands based on a multi-objectives weighting analysis. **Acta Pratacult. Sin.** 17: 149-158.
- [33] B. Patton, X. Dong, P. Nyren and A. Nyren, 2007. Effect of grazing intensity, precipitation and temperature on forage production. **Rangeland Ecol. Manage.** 60: 656-665.
- [34] Z.-Y. Huang, X.-J. Dong, G.-M. Jiang, W.-P. Yuan. 2002. Primary studies on the daily dynamic changes of photosynthesis and transpiration of *Salix psammophila*. **Acta Bot. Boreal.-Occident. Sin.** 22: 817–823.
- [35] X. Dong and X. Zhang. 2001. Some observations of functional adaptations of the sandy shrubs to the arid environment in the Mu Us Sandland: leaf water relations and anatomic features. **J. Arid Environ.** 48: 41–48.
- [36] X. Dong and X. Zhang. 2000. Special stomatal distribution in *Sabina vulgaris* in relation to its survival in a desert environment, **Trees: Struct. Funct.** 14: 369–375.
- [37] K. Guo, X. Dong and Z.-M. Liu. 2000. Soil water characteristics of the sand dunes in the Mu Us Sandland. **Acta Phytoecol. Sin.** 24: 275–279.
- [38] X.-J. Dong, Z.-X. Chen, J.-Z. Chen and Y.-X. Zhao. 1999. Water relations parameters of the sand-grown *Pinus tabulaeformis* trees influenced by different soil textures. **Acta Phytoecol. Sin.** 23: 385–392.
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- [40] Y. Tanaka, T. Masuda, X. Dong and H. Maenaka. 1999. Allometric relation and standing crop of *Salix psammophila* in the Ordos Plateau, **J. Japn. Inst. Landscape Architect.** 62: 595–598.
- [41] X.-J. Dong. 1998. Experimental measurement of the water relations parameters of nine shrubs and some ecological interpretations, **Acta Bot. Sin.** 40:657–664.
- [42] X.-R. Li, Z.-X. Chen, X.-D. Chen and X.-J. Dong. 1998. Study on the interconnections among several communities of desert shrubs in west Ordos Plateau. **Chin. Bul. Bot.** 15:56–62.
- [43] X. Dong, X. Zhang and B. Yang. 1997. A preliminary study on the water balance for some sandland shrubs based on the transpiration measurements in field conditions, **Acta Phytoecol. Sin.** 21: 208–225.
- [44] X.-R. Li, X.-J. Dong and H.-Y. Zhou. 1997. A preliminary study of the ecological adaptation strategies of the shrubs in different vegetation zones in the Ordos Plateau. **J. Desert Res.** 17(Supp. 3): 42–48.
- [45] Q. Gao, N. Liang and X. Dong. 1997. A modelling analysis on dynamics of hilly sandy grassland landscapes using spatial simulation, **Ecol. Model.** 98: 163–172.
- [46] Q.-S. Wang, X.-J. Dong, X.-X. Chen and B.-Z. Yang. 1997. Features of the *Artemisia ordosica* communities at different successional stages, **Acta Phytoecol. Sin.** 21:531–538.
- [47] Q. Gao, X.-J. Dong and N. Liang. 1996. A study on the optimal vegetation coverage for sandy grassland in northern China based on soil water budget, **Acta Ecol. Sin.** 16: 33–39.
- [48] K. Guo, X.-J. Dong, Y.-X. Zhao and Z.-M. Liu. 1996. Variation in transpiration rate of plant cuttings, **Acta Bot. Sin.** 38:661–665.
- [49] B.-Z. Yang, X.-J. Dong, Q. Gao, Z.-M. Liu and B. Alateng. 1994. Transpiration and water conditions of the *Artemisia ordosica* communities, **Acta Phytoecol. Sin.** 18: 161–170.
- [50] X.-J. Dong, B.-Z. Yang, K. Guo, Z.-M. Liu, B. Alateng, S. Han and Y.-X. Zhao. 1994. An investigation on the water phyio-ecological characteristics of some psammophytes. **Acta Phytoecol. Sin.**, 18: 86–94.
- [51] X.-J. Dong, Z.-C. Huang and H.-L. Zheng. 1993. The estimations of leaf areas for some sandy shrubs, **Arid Zone Res.** 10: 33–36.
- [52] H.-L. Zheng, Z.-C. Huang and X.-J. Dong. 1992. A study on the physiological ecology of *Artemisia ordosica* and *Cynanchum Komarovii* in Maowusu Sandland, **Acta Phytoecol. Sin.** 16: 197–208.

CONFERENCE
PAPERS (1)

- [1] S.C. Murray, L. Knox, B. Hartley, M.A. Mendez, G. Richardson, A. Thomasson, Y. Shi, N. Rajan, H. Neely, M. Bagavathiannan, X. Dong, W. Rooney. 2016. High clearance phenotyping systems for season-long measurement of corn, sorghum and other row crops to complement unmanned aerial vehicle systems. Proc. SPIE 9866, Autonomous Air and Ground Sensing Systems for Agricultural Optimization and Phenotyping, 986607 (17 May 2016); doi: 10.1117/12.2228323

OTHER
PUBLICATIONS
AND REPORTS
(17)

- [1] X. Dong, B. Speer, X. Liu and D. Leskovar. 2016. Sesame growth and yield responses to irrigation regimes in southwest Texas. **Progress report submitted to Sesaco Co.** (19 pages).
- [2] X. Dong, J. Patton and L. Gu. 2012. Photosynthetic capacity of 26 dominant plant species of the mixed-grass prairie. **NDSU Central Grasslands Research Extension Center 2012 Annual Report.** Pages 61-69.
- [3] X. Dong and B. Patton. 2012. Plant fine root decomposition in relation to biomass quality in a mixed-grass prairie under cattle grazing. **NDSU Central Grasslands Research Extension Center 2012 Annual Report.** Pages 70-73.
- [4] X. Dong and J. Patton. 2011. Biomass allocation in prairie grasses under drought stress. **NDSU Central Grasslands Research Extension Center 2011 Annual Report.** Pages 13–14.
- [5] X. Dong. 2010. From plant water use to rangeland carbon sequestration: Progress of eco-physiology studies at CGREC in 2010. **NDSU Central Grasslands Research Extension Center 2010 Annual Report.** Pages 7–8.
- [6] X. Dong, G. Patton, A. Nyren, B. Patton and P. Nyren. 2009. Managing biological journal citations: The use of a **BiBTeX** journal titles and abbreviations database in conjunction with **L^AT_EX** type-setting system. **Issues in Science & Technology Librarianship.** The 2009 Summer Issue (Number 58). Science and Technology Section, Association of College & Research Libraries. DOI:10.5062/F4GH9FVM
- [7] X. Dong. 2009. Quantifying plant water use on rangelands through soil water modeling . **NDSU Central Grasslands Research Extension Center 2009 Annual Report.** Page 12.
- [8] X. Dong. 2008. Carbon sequestration on grazing rangelands: the role of plants. **NDSU Central Grasslands Research Extension Center 2008 Annual Report.** Page 8.
- [9] X. Dong. 2007. Rangeland soil carbon sequestration: a contribution of plant roots. **NDSU Central Grasslands Research Extension Center 2007 Annual Report.** Pages 9–11.

- [10] X. Dong, P. Nyren, B. Patton, G. Wang, B. Kreft, A. Nyren, R. Limb, D. Kirby, and L. Cihacek. 2005. Basic plant and soil process measurements for range ecosystem modeling and management—updates for 2005. **NDSU Central Grasslands Research Extension Center 2005 Annual Report**. Pages 12–16.
- [11] X. Dong, P. Nyren, B. Patton, B. Kreft and A. Nyren. 2004. Basic plant and soil process measurements for range ecosystem modeling and management. **NDSU Central Grasslands Research Extension Center 2004 Annual Report**. Pages 22–23.
- [12] X. Dong, P. Nyren, B. Patton, B. Kreft and A. Nyren. 2004. How does cattle grazing affect the growth of grass leaves? A preliminary report. **NDSU Central Grasslands Research Extension Center 2004 Annual Report**. Pages 11–13.
- [13] X. Dong. 2003. Plant eco-physiology, range ecosystem modeling and management. **NDSU Central Grasslands Research Extension Center 2003 Annual Report**. Pages 13–15.
- [14] X. Dong, P. Nyren, B. Patton, A. Nyren. 2002. Modeling to aid production agriculture: Introduction to a grassland ecosystem study in the Missouri Coteau of North Dakota. **NDSU Central Grasslands Research Extension Center 2002 Annual Report**. Pages 15–20.
- [15] X. Dong, P. Nyren, B. Patton, A. Nyren, D. Hopkins, J. Richardson, W. Barker, M. Biondini, D. Kirby, J. Volk, E. Deckard. 2001. Quantifying plant water use in the native Coteau grasslands of North Dakota. **NDSU Central Grasslands Research Extension Center 2001 Annual Report**. Pages 17–23.
- [16] X. Dong, P. Nyren, B. Patton, B. Kreft, A. Nyren, 2001, Uses of ecosystem modeling for range management. **NDSU Central Grasslands Research Extension Center 2001 Annual Report**. Pages 8–9.
- [17] Y.-T. Pan and X.-J. Dong. 1989. On the methodology of Palaeoecology, **Encyclop. Knowledge (Bai-ke Zhi-shi)** 1989: No.9, 27–31.

STUDY NOTES
AND TUTORIALS
(13)

- [1] X. Dong. 2014. Notes on Luenberger dynamical systems. 24 pages, unpublished
- [2] X. Dong. 2012. A study note on nonlinear curve-fitting using R. 37 pages, unpublished
- [3] X. Dong and H. Li. 2010. Calculating wavelet variance associated with discrete wavelet transform (DWT). 6 pages
- [4] X. Dong. 2010. Numerical solution to the Richards equation for 1-D soil water flow problems in agriculture. 95 pages, unpublished
- [5] X. Dong. 2009. Probability simulations using Minitab and True Basic: with selected examples. 18 pages

- [6] X. Dong. 2009. L^AT_EX for efficient scientific presentation- an illustration using a simple example. 25 pages
- [7] X. Dong. 2008. A study note on Fortran (g77) under Cygwin. 2 pages, unpublished
- [8] X. Dong. 2006. A tutorial of linear programming using True Basic program OPTLP. 5 pages
- [9] X. Dong. 2006. A review on statistical comparisons of non-linear curves obtained from experimental measurements. 9 pages including Gnuplot code, unpublished
- [10] X. Dong. 2006. A study note on *Soil Physics with Basic: Transport Models for Soil-Plant systems*: Soil oxygen profile, soil temperature and soil water infiltration and redistribution. 17 pages, unpublished
- [11] X. Dong. 2005. The impact of clouds on hourly solar radiation on prairie. 9 pages
- [12] X. Dong. 2005. Scaling of leaf level gas exchange measurements to canopy. 3 pages
- [13] X. Dong. 2005. On the recalculation of microbial biomass data. 5 pages

POSTERS AND
ABSTRACTS (23)

- [1] R. Raman, B. Speer, X. Dong, S. Murray, W. Rooney. 2016. *Soil water depletion and growth of maize and sorghum hybrids under different irrigation regimes in southwest Texas (tentative title)*, The 28th Annual Conference of Texas Plant Protection Association. Dec. 8-9, 2016. Bryan, TX.
- [2] X. Liu, X. Dong, Q. Xue, A. Ibrahim, C.B. Neely, D. Leskovar and T. Marek. 2016. *Path Analysis of Root/Shoot Traits and Grain Yield in Winter Wheat in Texas Wintergarden and High Plains*, ASA-CSSA-SSSA Annual Meeting, Phoenix, AZ, Nov. 6-9, 2016.
- [3] S.C. Murray*, G. Richardson, L. Malambo, Y. Shi, B. Hartley, J. Demieville, J. Pekar, J. A. Thomasson, S. Popescu, D. Cope, J. Valasek, J. Olsenholler, M.P. Bishop, X. Dong, W.L. Rooney, G. Oliver, C. Ratcliff, D. Baltensperger, M. Maeda, J. Jung, M. Starek, M.J. Brewer, J.A. Landivar. 2016. *Temporal estimates of maize plant growth in a breeding program using ground based and unmanned aerial vehicle systems*, ASA-CSSA-SSSA Annual Meeting, Phoenix, AZ, Nov. 6-9, 2016.
- [4] X. Liu, X. Dong, D. Hathcoat, C. Neely, A. Ibrahim, D. Leskovar. 2016. *Testing winter wheat varieties under different irrigation regimes considering heat and disease stress in southwest Texas*. Small Grains Workers Meeting, College Station, TX, August 3-4, 2016.
- [5] Y. Zhang, X. Dong, B. Speer, D. Leskovar. *Leaf gas exchange and water use of two cotton varieties under different irrigation regimes*. The 27th Annual Conference of Texas Plant Protection Association. Dec. 8-9, 2015. Bryan, TX.

- [6] Y. Zhang, M. Hou, H. Xue, L. Liu, H. Sun, X. Dong, C. Li. *Using Photochemical Reflectance Index and Solar-Induced Fluorescence to Assess Cotton Photosynthesis Under Water-Deficit Stress*. ASA-CSSA-SSSA Annual Meeting, Minneapolis, MN, Nov. 15-18, 2015
- [7] X. Dong, P. Nyren, B. Patton, M. A. Liebig, A. Chatterjee, L. J. Cihacek. *Plant Vs. Environmental Influences on Soil Respiration in a Mixed-Grass Prairie Under Cattle Grazing: A Path Analysis*. ASA-CSSA-SSSA Annual Meeting, Minneapolis, MN, Nov. 15-18, 2015
- [8] X. Dong, B. Speer, Y. Zhang, D. Hathcoat, A.M.H. Ibrahim, C.B. Neely, Q. Xue, T. Marek, J.C. Rudd, D. Leskovar. *Cultivar-Irrigation Interactions in Shoot/Root Traits of 15 Wheat Varieties in Wintergarden Region*. ASA-CSSA-SSSA Annual Meeting, Minneapolis, MN, Nov. 15-18, 2015
- [9] X. Dong, W. Xu, B. Speer, Y. Zhang, J. Christman, D. Leskovar. *Can Irrigation Timing Ameliorate High Night Temperature Stress on Corn?* ASA-CSSA-SSSA Annual Meeting, Minneapolis, MN, Nov. 15-18, 2015
- [10] C.L.S. Morgan, J.M. Bell, P.B. DeLaune, X. Dong, K.L. Lewis, J.L. Foster. *Agronomic Management Strategies in Texas: Securing Soil and Improving the Efficiency of Water Use*. ASA-CSSA-SSSA Annual Meeting, Minneapolis, MN, Nov. 15-18, 2015
- [11] Dong, X. 2014. *Wavelets for Big Data in Plant/Soil Research*. Abstract submitted to the 26th Texas Plant Protection Conference, to be held at Brazos Center, Bryan TX, December 10 & 11, 2014.
- [12] X. Dong, P. Nyren, B. Patton, G. Wang, X. Pan, S. Wang, A. Nyren, R. Limb, D. Kirby and L. Cihacek. 2011. *Ecosystem CO₂ Exchange in a Mixed-Grass Prairie*. Unsubmitted poster
- [13] X. Dong, B. Patton, A. Nyren, P. Nyren and L. Prunty. 2011. *Water uptake by rangeland plants: a modeling analysis*. A poster based on *Plant and Soil*, 335 (1-2): 181–198.
- [14] X. Dong, J. Patton and P. Nyren. 2010. *Drought strategies of invasive Kentucky bluegrass vs. native western wheatgrass*. **Forage Focus**, The May 2010 Issue, Page 22. Midwest Forage Association, St. Paul, MN, USA.
- [15] X. Dong, B. Patton and P. Nyren. 2009. *Managing Kentucky Bluegrass Invasion in Native Prairies*. **Forage Focus**, The August 2009 Issue, Page 21. Midwest Forage Association, St. Paul, MN, USA.
- [16] X. Dong, P. Nyren, B. Patton, B. Kreft, A. Nyren. 2008. *Long-term cattle grazing affected specific leaf area and its components in two range plant species*. *Proceedings of the 2008 joint Meeting of the XXI International Grassland Congress and the VIII International Rangeland Congress*. Volume 1, P178. Hohhot, China, June 29 to July 5th, 2008.

- [17] X. Dong, P. Nyren, B. Patton, G. Wang, B. Kreft, A. Nyren, R. Limb, D. Kirby and L. Cihacek. 2008. *Photosynthesis and soil respiration from a mixed-grass prairie: Effects of cattle grazing and drought. Proceedings of the 2008 joint Meeting of the XXI International Grassland Congress and the VIII International Rangeland Congress. Volume 1, P177. Hohhot, China, June 29 to July 5th, 2008.*
- [18] X. Dong, J.-Z. Wang, G.-J. Wang, D.-J. Wang, J.-H. Wang, X.-Y. Zhao, B. D. Patton, S.-P. Wang and P. E. Nyren. 2008. *Plant root biomass and respiration on rangelands of south-central North Dakota: Impact from 18 years of cattle grazing. The 2008 Joint Annual meetings of The American Forage and Grassland Council and The Society of Range Management to be held in Louisville, Kentucky. January 26-31, 2008.*
- [19] X. Dong, P. Nyren, B. Patton, B. Kreft, A. Nyren. 2007. *Specific leaf area, leaf thickness and density of two range plant species influenced by long-term cattle grazing. The 2007 Joint Congress of Botanical Society of America and American Society of Plant Biologists. With Section of Environmental Physiology (ASPB), Poster number 90. Chicago, Illinois. July 7-11, 2007.*
- [20] X. Dong, P. Nyren, B. Patton, A. Nyren, J. Richardson and T. Maresca. 2007. *Wavelet analysis: a toolbox for agricultural sciences. The 2007 Joint Congress of Botanical Society of America and American Society of Plant Biologists. With Section of Ecophysiology (BSA), Poster Number 1906. Chicago, Illinois. July 7-11, 2007.*
- [21] X. Dong. 2006. *Soil water budget and optimal grazing management in a mixed-grass prairie: Considering drought. Unpublished Poster.*
- [22] X. Dong, B. Patton, P. Nyren, B. Kreft and A. Nyren. 2005. *Effects of long-term cattle grazing on leaf water relations of two cool-season grasses in the Missouri Coteau of North Dakota. Society of Range Management 58th Annual Meeting, Fort Worth, TX. Feb. 05-11, 2005.*
- [23] X. Dong, P. Nyren, B. Patton, A. Nyren. 2004. *Plant water relations and gas exchange in a grassland with cattle grazing in the Missouri Coteau of North Dakota. Society of Range Management 57th Annual Meeting, Salt Lake City, Utah, Feb. 2004.*

TALKS (32)

- [1] *Root Water Uptake: Integrating Measurements and Modeling Approaches. Graduate Lecture as part of "Root Biology Part II. Field Applications and Breeding", WCBA 290, Texas A&M University, College Station, TX. March 22, 2016. (Invited)*
- [2] *Ecophysiology of Cropping Systems: An Experience in Southwest Texas, Heep Center, Texas A&M University, College Station, TX. October 21, 2015.*
- [3] *Dong, X. Root distribution and its representation for quantifying plant water uptake: An applied perspective. The 2015 Annual Meeting of ASHS New Orleans, Louisiana. August 4-7, 2015. (Invited)*

- [4] Dong, X., Jones, A., Speer, B., Cothren, J.T., and D. Leskovar. 2015. Leaf stomatal conductance, transpiration and leaf area growth patterns of four cotton varieties under different irrigation regimes in southern Texas. *The Beltwide National Cotton Conference, January 5-7, 2015. San Antonio, TX.*
- [5] Dong, X., Forbes, D., Speer, B., Shallock, J., Rowland and D., Morgan. *Effects of tillage and reduced irrigation on cotton yield in southern Texas. The 2014 Annual Meeting of ASA-CSSA-SSSA, Long Beach, CA. November 2-5, 2014.*
- [6] Dong, X., Leskovar, D., Pierson, B., Pierson L.S., Sharma, S.P., A. Gibby and G. Pape. *Ag1000 soil amendment increased root growth and intrinsic leaf water use efficiency in corn. The 2014 Annual Meeting of ASA-CSSA-SSSA, Long Beach, CA. November 2-5, 2014.*
- [7] *Yield responses of 15 winter wheat varieties to irrigation in Uvalde. A talk given at the 2014 Small Grains Workers Meeting, College Station, TX, August 12, 2014.*
- [8] *Role of Breeding to Enhance Plant Roots/Rhizosphere Communities. A talk given to the Grand Networks for Grand Challenges Min-Symposia, Organized by Texas A&M University, College of Agriculture and Life Sciences, College Station, TX. May 15, 2014.*
- [9] *Physiological Traits and Wheat Performance in the Wintergarden Region. A talk given at the Combined Wheat and Vegetable Field Day, Texas A&M AgriLife Research & Extension Center, Uvalde, TX, April 23, 2014.*
- [10] *Can leaf-level photosynthesis help explain the success of cool-season invasive grasses? A talk given at the Cool-Season Grasses of the Northern Great Plains Workshop, Holiday Inn, Fargo, ND, March 18-19, 2014 (presented by Bob Patton).*
- [11] *From soil water to soil respiration: An experience in the mixed-grass prairie. A talk given at Texas A&M AgriLife Research & Extension Center, Amarillo, TX, December 18, 2013.*
- [12] *Photosynthetic capacity of 26 range plant species and its ecological implication. A talk given at the Forage Production Seminar & Research Review, NDSU-Central Grasslands Research Extension Center, Streeter, North Dakota. Mar. 19, 2013.*
- [13] *Effect of grazing on grassland soil respiration and photosynthesis. A talk to be given to the public on the 31th Annual field tour of NDSU-Central Grasslands Research Extension Center, Streeter, North Dakota. Jun. 27, 2012.*
- [14] *Soil respiration and its efficiency for rangeland forage production. Oral presentation planned for the NCCC31 2012 Annual Meeting, Bloomington, MN. Jun. 19-21, 2012.*

- [15] *Soil respiration partitioning in a Missouri Coteau rangeland. A talk given at the Grass & Beef Research Review of NDSU-Central Grasslands Research Extension Center, Streeter, North Dakota. Jan. 25 2012.*
- [16] *Alfalfa-tall fescue mixtures at CGREC- a part of a multi-regional project in north-central USA. A talk given to the public on the 30th Annual field tour of NDSU-Central Grasslands Research Extension Center, Streeter, North Dakota. Jun. 29, 2011.*
- [17] *Water cycle, transpiration and root water uptake in plants. A talk given to the 6th Grade class at Medina Public School, ND, USA. Apr. 13, 2011.*
- [18] *Effect of drought on biomass partitions between two introduced grasses and two native grasses in south-central North Dakota. Oral presentation at NCCC31 2011 Annual Meeting, West Lafayette, IN. Mar. 30-31, 2011.*
- [19] *Effect of grazing intensity on soil health and how it relates to beef production and carbon sequestration (with Bob Patton and Guojie Wang). A talk given to the public on the 29th Annual field tour of NDSU-Central Grasslands Research Extension Center, Streeter, North Dakota. Jun 23, 2010.*
- [20] *Soil water dynamics and root water uptake compensation on a mixed-grass prairie: A simulation analysis with implications to forage research and management. Oral presentation at NCCC31 2010 Annual Meeting, Blacksburg, VA. Mar. 31-Apr. 1, 2010.*
- [21] *Nutrient cycling in a Kentucky bluegrass dominated rangeland: Root water uptake, rhizome growth and root decomposition. An invited talk given to the “Kentucky Bluegrass Ecology Workshop: Identifying what we think we know, what we don’t know, and future direction”, hosted by the “Range Forum” and the N. D. Chapter of Society for Range Management. Mar.16, 2010. Mandan, ND.*
- [22] *Decomposition of below-ground plant litter: the effects of season and grazing intensity. Oral presentation at NCCC31 2009 Annual Meeting, Grand Rapids, MI. Jun. 24, 2009.*
- [23] *Wavelet transform in Biological Sciences: Principle, Examples and Outlook. Lecture given to Department of Economics and Management, Northwestern Nationality University, Lanzhou, China (28 June, 2008), Department of Forestry, Inner Mongolia Agricultural University, Huhhot, Inner Mongolia, China (4 July, 2008) and College of Resources and Environment, The Graduate University of Chinese Academy of Sciences, Beijing, China (10 July, 2008) .*
- [24] *Effects of grazing on rangeland root biomass: a resampling-aided analysis. Oral presentation at NCCC31 2008 Annual Meeting, Ardmore, OK. Mar. 12-14, 2008.*
- [25] *Plant roots and soil carbon sequestration on rangelands of South-central North Dakota. A talk given at the Grass & Beef Research Review of*

NDSU-Central Grasslands Research Extension Center, Streeter, North Dakota. Jan. 2008.

- [26] *Statistical resampling of data to increase the sensitivity of statistical tests. Second part of a special talk given to the “Range Forum”, hosted by the N. D. Chapter of Society for Range Management. Nov.19, 2007. Mandan, ND.*
- [27] *The effects of grazing on root biomass and respiration of perennial plants. First part of a special talk given to the “Range Forum”, hosted by the N. D. Chapter of Society for Range Management. Nov.19, 2007. Mandan, ND.*
- [28] *Soil respiration with plant influence: a multidisciplinary research. Oral presentation at NCCC31 2007 Annual Meeting, Columbus, Ohio. Mar. 14-15, 2007.*
- [29] *Carbon sequestration and exchange: a research overview. A talk given to the public on the occasion of the 25th Anniversary of the NDSU-Central Grasslands Research Extension Center, Streeter, North Dakota. Jun 28, 2006.*
- [30] *Ecosystem CO₂ exchange in a mixed-grass prairie: effects of grazing and drought. Oral presentation at NCCC31 2006 Annual Meeting, Eureka Springs, Arkansas. Mar. 13-14, 2006.*
- [31] *Photosynthesis-light curves of 3 seeded species in a Conservation Reserve Program study field. Oral presentation at the Society of Range Management 58th Annual Meeting, Fort Worth, TX. Feb. 05-11, 2005.*
- [32] *Modeling to assist production agriculture. Oral presentation at the NDSU Central Grasslands Research Extension Center 2002 Grass & Forage Research Review, Jan 20, 2002.*

TRANSLATION
(1)

- [1] X.-J. Dong and S.-Y. Wang. 1999. How to Assess Sustainability? A Chinese translation of an article by Robert Prescott Allen, given at the **IUCN 50th Anniversary Symposium Conference** (3c), pp193–214.

COMPUTER
PROGRAMS (11)

- [1] X. Dong, 2016. A 'calculator' for leaf-to-canopy gas exchange scaling. (in preparation).
- [2] X. Dong, 2015. A program for searching optimal root parameters in plant water uptake modeling. Zenodo. [10.5281/zenodo.42702](https://zenodo.org/record/105281)
- [3] X. Dong, 2015. A plant root water uptake model. Zenodo. [10.5281/zenodo.42663](https://zenodo.org/record/105281)
- [4] X. Dong, 2015. A Minitab macro for estimating parameters of water retention curves based on particle-size distribution and bulk density data
This is part of **Afri. J. Soil Sci.** 3(1): 079-085.

- [5] X. Dong, 2011. A True Basic program to test differences in forb/shrub counts between moderately and heavily grazed pastures using bootstrap resampling
Supporting material for “Mixed-grass prairie rhizome biomass is influenced by cattle grazing intensity”, **Grass Forage Sci.** doi: 10.1111/j.1365-2494.2012.00889.x. In press.
- [6] X. Dong, 2009. A True Basic program for hypothesis testing with linear regressions using permutation resampling.
- [7] X. Dong, 2009. A True Basic program for estimating confidence intervals of linear regressions using bootstrap resampling.
- [8] X. Dong, 2008. A True Basic program for hypothesis testing for true correlation between two non-independent variables.
Supplementary material for article “Leaf-water relations of a native and an introduced species in the mixed-grass prairie: Contrasted responses to cattle grazing” by Xuejun Dong, Bob Patton, Paul Nyren, Larry Cihacek, Don Kirby and Ed Deckard, 2011. **Appl. Ecol. Environ. Res.** 9: 311-331.
- [9] X. Dong, 2008. A True Basic program for the Haar discrete wavelet transform
The most recent update of this program (accepts data series length of up to 65536 and is capable of computing wavelet variance decomposition).
- [10] X. Dong, 2008. Using two simple True Basic programs to process raw data recorded in LI-COR 6400 Portable Photosynthesis System.
- [11] X. Dong, 2005. A Minitab macro for statistical comparison of linear regressions.

PROFESSIONAL
AFFILIATIONS

- *Ecophysiological Aspects of Forage Management (NCCC-31)*. Served as North Dakota State University representative (2004 - 2013); secretary for the 2010 and 2011 annual meetings and chairperson for the 2012 annual meeting.
- *American Institute of Biological Sciences* (2008 - 2012).
- *Society for Range Management* (2002 - 2012).
- *Crop Science Society of America, American Society of Agronomy, Soil Science Society of America*(2013 - present).

REVIEW SERVICE FOR INTERNATIONAL JOURNALS (22)

African Journal of Agricultural Research; Agriculture, Ecosystems and Environment; Agronomy Journal; Analytica Chimica Acta; Arid Land Research and Management; Botany; Caspian Journal of Environmental Sciences; Crop Science; Ecological Research; Environmental Management; Environmental Pollution; Grass and Forage Science; HortScience; Irrigation Science; Journal of Animal Science; Journal of Arid Land; Journal of Arid Land Studies; Mathematical Geosciences; The Open Ecology Journal; Photosynthetica; PLOS ONE; Rangeland Ecology and Management

EDITORIAL
APPOINTMENTS

- *Irrigation Science*, Associate Editor (2016 - present).
- *Photosynthetica*, On Editorial Board (2008 - 2009); Associate Editor (2010 - 2013); On Editorial Board (2014 - 2015); Associate Editor (2015 - present).
- *Arid Land Research and Management*, Associate Editor (2009 - present).

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