Curriculum Vitae

Gang Dong, Ph.D.

EDUCATION:

Ph.D. (2011): Ecosystem Ecology, Northeast Normal University, Changchun, P.R. China
M.S. (2008): Grassland Ecology, Northeast Normal University, Changchun, P.R. China
B.S. (2006): Biological Science, Changchun Normal University, Changchun, P.R. China

WORK EXPERIENCE:

2011 – 2023: Associate Professor, School of Life Sciences, Shanxi University
2023 – Present: Research Associate , Center for Global Change and Earth Observations, Michigan State University

BIOGRAPHY:

Dr. Gang Dong is a broadly trained ecological scholar with strong interests in the ecosystem-atmosphere interactions in natural and managed ecosystems. His research focuses mainly on biophysical regulation of ecosystem carbon, water, and energy exchanges and their responses to climate change, management, and disturbance using field measurements (e.g., eddy covariance, chamber). He has also been working intensively on the retrieval of evapotranspiration and primary productivity via remote sensing and statistical modelling for the exploration of coupled natural and anthropogenic (e.g. LCLUC) impacts on ecosystem structures and functions. Gang is one of the earliest scholars to study carbon-water-energy fluxes in China, and had set up and maintained 16 eddy covariance towers across a variety of ecosystems, e.g., shrub-lands, grasslands, and croplands in China and Mongolia. The complete flux data processing and machine learning upscaling codes he developed runs validly in the field study.

Gang is first author or participating author of papers published in Ecohydrology, Scientific Data, Environmental Research Letters, Journal of Hydrology, Ecological Indicators, Ecological Processes, Sustainability and Land Degradation and Development, Science of the Total Environment. He is the core member of FLUXNET and US-China Carbon Consortium (USCCC), and the main organizer of the workshop in 2016, Taiyuan. He received his Ph.D. from the Institute of Grassland Science, Northeast Normal University, China in 2011, and visiting scholar from USDA Forest Service, U.S. in 2009. He finished his first postdoctoral research in the Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences.

RESEARCH INTERESTS

- Synthetic observations of carbon, water, and energy fluxes over the terrestrial ecosystems.
- Eco-hydrological processes under global climate change and LUCC scenarios.
- Upscaling tower-based observations with remote sensing for regional ecosystem functions.

SELECTED PUBLICATIONS

1. Han, L., Yu, G.-R., Chen, Z., Zhu, X.-J., **Dong Gang,** Zhang, W.-K., Wang, T.-J., et al; Spatiotemporal pattern of ecosystem respiration in China estimated by integration of machine learning with ecological understanding, *Global Biogeochemical Cycles*, 2022, 36.

2. Tsegaye, Legesse; Luping Qu; **Dong Gang**; Xiaobing Dong; Tida Ge; Nano Daba; Kiya Tadesse; Eba Sorecha; Qi Tong; Yuchun Yan; Baorui Chen; Xiaoping Xin; Shao Changliang*; Extreme wet precipitation and mowing stimulate soil respiration in the Eurasian meadow steppe, *Science of the Total Environment*, 2022, 851, 158130.

3. Xiaobing Dong; Luping Qu; **Dong Gang**; Tsegaye Legesse; Muhammad Akrama; Qi Tong; Shicheng Jiang; Yuchun Yan; Xiaoping Xin; Jianming Deng*; Changliang Shao*; Mowing mitigated the sensitivity of ecosystem carbon fluxes responses to heat waves in a Eurasian meadow steppe, *Science of the Total Environment*, 2022, 853, 158610.

4. Jingyan, Chen[1]; **Dong, Gang[1]**; Jiquan, Chen; Shicheng, Jiang; Luping Qu; Tsegaye, Legesse; Fangyuan, Zhao; Qi, Tong; Changliang, Shao; Xingguo, Han; Energy balance and partitioning over grasslands on the Mongolian Plateau, *Ecological indicators*, 2022, 135, 108560.

5. **Dong, Gang**; Zhao, Fangyuan; Chen, Jiquan; Qu, Luping; Jiang, Shicheng; Chen, Jingyan; Xin, Xiaoping*; Shao, Changliang*; Land uses changed the dynamics and controls of carbon-water exchanges in alkali-saline Songnen Plain of Northeast China, *Ecological indicators*, 2021, 133, 108353.

6. Zhu, Xiaoyu; **Dong, Gang**; Xin, Xiaoping*; Shao, Changliang*; Xu, Dawei; Yan, Ruirui; Xu, Lijun; Zhang, Jing; Miao, Chen; Li, Ming; Divergent socioeconomic drivers of land use at various times in the Hulunber grassland area, China, *Ecological indicators*, 2021, 132, 108243.

7. Tsegaye, Legesse; **Dong, Gang;** Shicheng, Jiang; Jingyan, Chen; Xiaobing, Dong; Nano, Daba; Eba, Sorecha; Luping, Qu; Li, Tian;* Changliang, Shao*; Small precipitation events enhance the Eurasian grassland carbon sink, *Ecological indicators*, 2021, 131, 108242.

8. Jiquan, Chen*; Ranjeet, John; Changliang, Shao; Zutao, Ouyang; Elizabeth, Mack; Geoffrey, Henebry; **Dong, Gang**; Ginger, Allington; Amber, Pearson; Fangyuan, Zhao; David, Roy; Peilei, Fan; Gabriela, Shirkey; Li, Tian; Maira, Kussainova; Jingyan, Chen; David, Reed; Michael, Abraha;
Towards a Single Integrative Metric on the Dynamics of Social-Environmental Systems. *Sustainability*, 2021, 13, 11246.

9. Pang, Haiyang; Zhang, Aiwu; Kang, Xiaoyan; He, Nianpeng; **Dong, Gang**; Estimation of the Grassland Aboveground Biomass of the Inner Mongolia Plateau Using the Simulated Spectra of Sentinel-2 Images, *Remote sensing*, 2020, 12, 4155.

10. **Dong, Gang**; Zhao, Fangyuan; Chen, Jiquan; Qu, Luping; Jiang, Shicheng; Chen, Jingyan; Shao, Changliang*; Divergent forcing of water use efficiency from aridity in two meadows of the Mongolian Plateau, *Journal of Hydrology*, 2021, 1, 593 (125799).

11. **Dong, Gang**; Zhao, Fangyuan; Chen, Jiquan; Zhang, Yaoqi; Qu, Luping; Jiang, Shicheng; Ochirbat, Batkhishig; Chen, Jingyan; Xin, Xiaoping; Shao, Changliang*; Non-climatic component provoked substantial spatiotemporal changes of carbon and water use efficiency on the Mongolian Plateau, *Environmental Research Letters*, 2020, 15 (9): 0-095009.

12. Qu, L., **Dong, Gang,** H. De Boeck, Tian, L., Chen, J., Tang, H., Xin, X., Chen, J., Hu, Y., Shao, C. Joint forcing of heat waves and mowing poses a threat to grassland ecosystems: Evidence from a manipulative experiment. *Land Degradation & Development*, 2019, 31. doi: 10.1002/ldr.3483.

13. Chen, J., Shao, C., Jiang, S., Qu, L., Zhao, F., **Dong, Gang*.** (2019). Changes of precipitation affect the energy and water balance of Songnen meadow steppe in northeastern China, Ecological Processes, 8(17):1-15. doi: 10.1186/s13717-019-0170-z

14. Qin, H., **Dong, Gang**, Zhang, F. (2019). Relative roles of the replacement and richness difference components of beta diversity following the ecological restoration of a mountain meadow, north China. Ecological Informatics 52: 159-165. doi: 10.1016/j.ecoinf.2019.05.009

15. Chen, J., John, R., Sun, G., Fan, P., Henebry, G., Fernández-Gimenez, M., Zhang, Y., Park, H., Tian, L., Groisman, P., Ouyang, Z., Allington, G., Wu, J., Shao, C., Amarjargal, A., **Dong, Gang,** Gutman, G.,

Huettmann, F., Lafortezza, R., Crank C. and Qi J. (2018). Prospects for the sustainability of Social-Ecological System (SES) on the Mongolian Plateau: Five critical issues. *Environmental research letters*. 13(12) doi: 10.1088/1748-9326/aaf27b

16. Qu, L., Chen, J., **Dong, Gang** Shao, C. (2018). Heavy mowing enhances the effects of heat waves on grassland carbon and water fluxes. *Science of The Total Environment*, 627: 561-570. doi: 10.1016/j.scitotenv.2018.01.287
17. Shao, C., Chen, J., Chu, H., Lafortezza, R., **Dong, Gang**, Abraha, M., Batkhishig, O., John, R., Ouyang, Z., Zhang, Y. (2017). Grassland productivity and carbon sequestration in mongolian grasslands: the underlying mechanisms and nomadic implications. *Environmental Research*, 159: 124-134.
18. Qin, H., **Dong, Gang**, Zhang, Y.. Zhang, F., Wang, M. (2017). Patterns of species and phylogenetic diversity of Pinus tabuliformis forests in the eastern Loess Plateau, China. *Forest Ecology and Management* 394: 42-51.
19. Shao C., Chen, J., L. Li, **Dong, Gang**, J. Han., M. Abraha., R. John. (2017). Grazing effects on surface energy fluxes in a desert steppe on the Mongolian Plateau. *Ecological Applications* 27(2): 485-502.
20. Qin, H., Wang, Y., Zhang, F., Chen, J., Zhang, G., **Dong, Gang.** (2016). Application of species, phylogenetic and functional diversity to the evaluation on the effects of ecological restoration on biodiversity. *Ecological Informatics* 32: 53-62.
21. Qu L. P., Chen, J., **Dong, Gang**, S. Jiang, L. Li, J. Guo, C. Shao (2016). Heat waves reduce ecosystem carbon sink strength in a Eurasian meadow steppe. *Environmental Research* 144: 39-48.
22. Chen, J., R. John, C Shao, Y. Fan, Y. Zhang, A. Amarjargalj, D. G. Brown, J. Qi, J Han, R. Lafortezza, **Dong, Gang** (2015). Policy shifts influence the functional changes of the CNH systems on the Mongolian Plateau. *Environmental Research Letters* 10 (8): 10.1088/1748-9326/10/8/085003.
23. Chen, J., R. John, Y. Zhang, C. Shao, D. G. Brown, O. Batkhishig, A. Amarjargal, Z. Ouyang, **Dong, Gang** , D. Wang, and J. Qi. (2015). Divergences of Two Coupled Human and Natural Systems on the Mongolia Plateau. *Bioscience* 65(6): 559-570.
24. Shao C.L., Li L.H., **Dong, Gang**, Chen J.Q. (2014). Spatial variation of net radiation and its contribution to energy balance closure in grassland ecosystems. *Ecological Processes* 3(7): 1-11.
25. Xiao J., Sun G., Chen J., Chen H., Chen S.P., **Dong, Gang**, Gao S.H., Guo H.Q., Guo, J.X., Han S.J., Kato T., Li Y.L., Lin G.H., Lu W.Z., Ma M.G., Steven M., Shao C.L., Wang X.F., Xie X., Zhang X.D., Zhang Z.Q., Zhao B., Zhou G.S., Zhou J. (2013). Carbon fluxes, evapotranspiration, and water use efficiency of terrestrial ecosystems in China. *Agricultural and Forest Meteorology* 182–183(0): 76-90.
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27. **Dong, Gang**, Guo J.X., Chen J.Q., Sun G., Gao S., Hu L.J., Wang Y.L. (2011). Effects of Spring Drought on Carbon Sequestration, Evapotranspiration, and Water Use Efficiency in the Songnen Meadow Steppe in Northeast China. *Ecohydrology*(4:211-224).
28. Zhao, X., Qin X., **Dong, Gang**, Zhang, F., (2014). Taxonomic diversity of the plant communities in Pangquangou Nature Reserve, Shanxi Province, China. The Journal of Applied Ecology 25(12):3437-42
29. **Dong, Gang**, Xiao J.F., Sun G., Hao L. Zhang Z.Q, 2019. Afforestation and Reforestation: Drivers, Dynamics, and Impacts, Forests, MDPI, Switzerland, 196 pp (ISBN: 9783039214488)
30. Guo H., Shao C., **Dong, Gang**, 2016. Eddy Covariance: A Practical Guide to Measurement and Data Analysis. Marc Aubinet, TimoVesala, Dario Papale (Eds). Higher Education Press, Beijing, 438 pp (ISBN: 9787040451764).

AWARDS AND HONORS

- **Dong Gang,** *et al.*, 2021, Second Prize of Jilin Provincial Science and Technology Progress Award, China