Lianhong Gu

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Academic training

Ph.D., Environmental Sciences, University of Virginia, 1998
M.S., Ecology, Chinese Academy of Sciences, China, 1989
B.S., Physics, Xuzhou Normal University, China, 1986

Employment

2015- Oak Ridge National Laboratory, Environmental Sciences Division, Distinguished R&D Staff Scientist
2009-2015 Oak Ridge National Laboratory, Environmental Sciences Division, Senior R&D Staff Scientist
2002-2009 Oak Ridge National Laboratory, Environmental Sciences Division, R&D Staff Scientist (II, III)
2000-2002 University of California at Berkeley, Department of Environmental Sciences, Policy and Management, Project Scientist / Associate Specialist
1998-2000 University of Virginia, Department of Environmental Sciences, Research Associate
1995-1998 University of Virginia, Department of Environmental Sciences, Graduate Research Assistant
1994-1995 University of Maine at Orono, Department of Forest Ecosystem Science, Graduate Research Assistant
1986–1994 Chinese Academy of Sciences, Institute of Geographic Sciences and Natural Resources Research (formerly Commission for Integrated Survey of Natural Resources), Graduate Research Assistant - Research Associate - Research Assistant Professor

Awards / honors

2015 Distinguished Researcher of the Year, Oak Ridge National Laboratory
2012 World Meteorological Organization Norbert-Gerbier Mumm Award.
2004 United States Presidential Early Career Award Nominee
2004 The Stanley I. Auerbach Award for Excellence In Environmental Sciences, Environmental Sciences Division, Oak Ridge National Laboratory.
2004 World Meteorological Organization Norbert-Gerbier Mumm Award.
2004 Outstanding Early Career Award Finalist, UT-Battelle.
1997 Outstanding Graduate Student in Ecology, Department of Environmental Sciences, University of Virginia.
1997 DuPont Fellowship, Graduate School of Arts and Sciences, University of Virginia.
1997 Natural Science Award, Chinese Academy of Sciences.

1996 Dean's Reserve Fellowship, Graduate School of Arts and Sciences, University of Virginia, 1996.

Academic advising/mentoring

Summer Interns

*Ying Sun (*2009 & 2010*)*, Binyan Yan (2011), Wentin Fu (2011), and Maryia Halubok (2013), Department of Geological Sciences, University of Texas at Austin

Visiting scholars

Yuling Fu, Chinese Academy of Sciences, Institute of Geographic Sciences and Natural Resources Research, 2009 – 2010
Xiuping Liu, Chinese Academy of Science, 2017 – 2018
Fong Wang, Chinese Academy of Forestry, 2017 – 2018
Jimei Han, Shihezi University, 2017-2019
Ji Li, Nanjing University, 2019-2021

Postdoctoral researchers:

Daniel M. Ricciuto, Postdoctoral research associate, Oak Ridge National Laboratory, 2007-2010
Shuyong Li, Postdoctoral research associate, Oak Ridge National Laboratory, 2006 - 2008
Bai Yang, Postdoctoral research associate, Oak Ridge National Laboratory, 2004 -2007
Qing Liu, Postdoctoral research associate, Oak Ridge National Laboratory, 2004 - 2006

Postmaster researcher:

Jesse Miller, Postmaster research associate, Oak Ridge National Laboratory, 2006 - 2008

Academic services

Frequent panel member / reviewer for NSF, DOE, NASA, European Union, and other public or private funding agencies.

2020 Guest Editor, Advancing Foundational Sun-induced Chlorophyll Fluorescence Science, Agricultural and Forest Meteorology
2015 Chair, AmeriFlux PI Meeting
2010 Guest editor of the JGR-Biogeosciences Special Section on Biogeosciences of Extreme weather and climate events.
http://www.agu.org/journals/jg/special_sections.shtml?collectionCode=EXTREME1&journalCode=JG
2009 Panel member for DOE Early Career Grants
2008 Chair, Session on "Climate Variability, Extreme Events and Biospheric Impacts and Feedbacks", AGU Fall Meeting, San Francisco
2007 NASA Carbon Cycle and Ecosystems Panel Member
2006 - Reviewer, National Science Foundation
2005 - Editorial advisory board, *Journal of Integrated Plant Biology*
2004 - Editorial advisory board, *Tree Physiology*
2005 Chair, special session "*Impacts of Clouds and Aerosols on Terrestrial Carbon and Hydrological Cycles (ICATCH)*", Fall Meeting, American Geophysical Union
2005 Organizer, Session on "Technical issues in land surface data

assimilation", AmeriFlux Annual Science Meeting.

2005 Invited participant, *Planning Workshop on the National Phenology Network*, National Science Foundation

2005 Invited participant, North American Carbon Program Data Workshop, NASA

2004 Invited participant, North American Carbon Program Midwest Intensive Workshop, NASA/DOE

2003 Panel member, NASA Ecology/ Land Cover/Biodiversity Program

2002 Guest editor, Fluxnet Special Issue, *Agricultural and Forest Meteorology*

2001 Convener / organizer, special session "*Water, energy, and carbon cycles in terrestrial systems: local-scale observations through Fluxnet and other micrometeorological tower sites*". Fall Meeting, American Geophysical Union

- Referee for *Nature, BioScience, Ecological Applications, Global Change Biology, Global Biogeochemical Cycles, Agricultural and Forest Meteorology, Geophysical Research Letters, Journal of Geophysical Research - Atmosphere, Journal of Geophysical Research - Biogeoscience, Journal of Applied Meteorology, The New Phytologist, Tree Physiology, Atmospheric Chemistry and Physics, International Journal of Biometeorology, Theoretical and Applied Climatology, Journal of Atmospheric and Oceanographic Technology, Tellus* etc.
- Memberships: Sigma Xi, American Geophysical Union, Ecological Society of America.

Public outreach

2015 BBC News (http://www.bbc.com/news/science-environment-29601644)

2015 Australian ABC News (http://www.abc.net.au/news/2014-10-14/carbon-levels-17pc-lower-than-predicted-study/5811610)

2015 MNN Network News (http://www.mnn.com/earth-matters/climate-weather/blogs/how-much-are-plants-helping-us-fight-climate-change)

2009 Earth 2100, American Broadcasting Company (ABC)

2008 Science Daily (http://www.sciencedaily.com/releases/2008/03/080303072651.htm)

2008 Climate War Game in Washington, DC

2005 The ORNL Reporter, June 2005

2003 ScienceNow, 28 March

2003 Scientific American, 28 March

2003 New York Times, 22 April

2003 ORNL Review, October

2002 Geotimes Magazine, March 2002

2001 NASA Science Top Story News Release, 10 December

Inventions

Fluorescence Auto-Measurement Equipment (FAME), US Patent Pending, licensed to Campbell Scientific, INC

Integrated Measurement And Control System for SIF (IMACSS), US Copyright, licensed to Campbell Scientific, INC

LeafWeb (www.leafweb.org), a free, online automatic community service tool for photosynthetic research

Peer-Reviewed Publications

2020

129 Chen A, Mao J, Ricciuto D, Xiao J, Frankenberg C, Li X, Thornton PE, Gu L, Knapp AK (2020) Moisture availability mediates the relationship between terrestrial gross primary production and solar-induced fluorescence: Insights from global scale variations. Global Change Biology (in press).

128 Li J, Zhang Y, Gu L, Li Z, Li J, Zhang Q, Zhang Z, Song L (2020) Seasonally varying relationship between sun-induced chlorophyll fluorescence and photosynthetic capacity from leaf to canopy in a paddy rice field. Journal of Experimental Botany (in press).

127 Chang CY, Zhou R, Kira O, Marri S, Skovira J, Gu L, Sun Y (2020) An Unmanned Aerial System (UAS) for concurrent measurements of solar-induced chlorophyll fluorescence and hyperspectral reflectance toward improving crop monitoring. Agricultural and Forest Meteorology 294. https://doi.org/10.1016/j.agrformet.2020.108145

126 Cao Y, Zhou B, Wang X, Gu L (2020) Resprouting responses dynamics of schima superba following a severe ice storm in early 2008 in southern China: a six-year study. Forests 11, 184; https://doi.org/10.3390/f11020184.

125 Liu X, Liang J, Gu L (2020) Photosynthetic and environmental regulations of the dynamics of soil respiration in a forest ecosystem revealed by analyses of decadal time series. Agricultural and Forest Meteorology 282–283, https://doi.org/10.1016/j.agrformet.2019.107863

124 Wang F, Pan X, Gerlein-Safdi C, Cao X, Wang S, Gu L, Wang D, Lu Q (2020) Vegetation restoration in N orthern China: A contrasted picture. Land Degradation & Development 31: 669-676.

123 Chang CY, Guanter L, Frankenberg C, Köhler P, Gu L, Magney TS, Grossmann K, Sun Y (2020) Systematic assessment of retrieval methods for canopy far-red solar-induced chlorophyll fluorescence (SIF) using high-frequency automated field spectroscopy. Journal of Geophysical Research: Biogeosciences e2019JG005533.

122 Walker AP, De Kauwe MG, Bastos A, Belmecheri S, Georgiou K, Keeling R, McMahon SM, Medlyn BE, Moore DJP, Norby RJ, Zaehle S, Anderson-Teixeira KJ, Battipaglia G, Brienen RJW, Cabugao KG, Cailleret M, Campbell E, Canadell J, Ciais P, Craig ME, Ellsworth D, Farquhar G, Fatichi S, Fisher JB, Frank D, Graven H, Gu L, et al. (2020). Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO2. New Phytologist https://doi.org/10.1111/nph.16866.

121 Eckert D, Jensen AM, Gu L (2020) The maximum carboxylation rate of Rubisco affects CO2 refixation in temperate broadleaved forest trees. Plant Physiology and Biochemistry 155: 330-337.

2019

120 Gu L, Han J, Wood JD, Chang CY, Sun Y (2019) Sun-induced Chl fluorescence and its importance for biophysical modeling of photosynthesis based on light reactions. New Phytologist 223: 1179–1191. DOI: 10.1111/nph.15796

119 Gu, L., Wood, J. D., Chang, C. Y.-Y., Sun, Y., & Riggs, J. S. (2019). Advancing terrestrial ecosystem science with a novel automated measurement system for sun-induced chlorophyll fluorescence for integration with Eddy covariance flux networks. Journal of Geophysical Research: Biogeosciences, 124, 127–146. https://doi.org/10.1029/ 2018JG004742

118 Wood JD, Sadler EJ, Fox NI, Greer ST, Gu L, Guinan PE, Lupo AR, Market PS, Rochette SM, Speck A, White LD (2019) Land-atmosphere responses to a total solar eclipse in three ecosystems with contrasting structure and physiology. Journal of Geophysical Research: Atmospheres 124: 530-543

117 Liang J, Wang G, Ricciuto DM, Gu L, Hanson PJ, Wood J, MA Mayes MA (2019) Evaluating the E3SM land model version 0 (ELMv0) at a temperate forest site using flux and soil water measurements. Geoscientific Model Development (Online) 12 (4)

116 Yan B, Mao J, Shi X, Hoffman FM, Notaro M, Zhou T, Mcdowell N, Dickinson RE, Xu M, Gu L, Ricciuto DM (2019) Predictability of tropical vegetation greenness using sea surface temperatures. Environmental Research Communications 1 (3), 031003.

2018

115 Ge X, Zhou B, Wang X, Li Q, Cao Y, Gu L (2018) Imposed drought effects on carbon storage of moso bamboo ecosystem in southeast China: results from a field experiment. Ecological Research 33 (2), 393-402.

114 Lu, D., Ricciuto, D., Stoyanov, M., & Gu,L. (2018). Calibration of the E3SM landmodel using surrogate-based global optimization. Journal of Advances in Modeling Earth Systems,10, 1337–1356.

113 Walker AP, Ye M, Lu D, De Kauwe MG, Gu L, Medlyn BE, Rogers A, Serbin SP (2018) The multi-assumption architecture and testbed (MAAT v1. 0): R code for generating ensembles with dynamic model structure and analysis of epistemic uncertainty from multiple sources. Geoscientific Model Development (Online) 11 (8).

112 Filella I, Zhang C, Seco R, Potosnak M, Guenther A, Karl T, Gamon J, Pallardy S, Gu L, Kim S, Balzarolo M, Fernandez-Martinez M and Penuelas J (2018). A MODIS Photochemical Reflectance Index (PRI) as an estimator of isoprene emissions in a temperate deciduous forest. Remote Sens., 10, 557, doi:10.3390/rs10040557.

111 Wood JD, Knapp BO, Muzika RM, Stambaugh MC, Gu L (2018) The importance of drought–pathogen interactions in driving oak mortality events in the Ozark Border Region. Environmental Research Letters, 13, 015004.

110 Pallardy, S.G., Gu, L., Wood, J.D., Hosman, K. P., Sun, Y., and hook, Les. Predawn Leaf Water Potential of Oak-Hickory Forest at Missouri Ozark (MOFLUX) Site: 2004-2017. United States: N. p., 2018. Web. doi:10.3334/CDIAC/ORNLSFA.004.

109 Jiang X, Guenther A, Potosnak, M, Geron C, Seco R, Karl T, Kim S, Gu L, Pallardy S (2018). Isoprene emission response to drought and the impact on global atmospheric chemistry. Atmospheric Environment, 183, 69-83.

2017

108 Sun Y, Frankenberg C, Wood JD, Schimel DS, Jung M, Guanter L, Drewry DT, Verma M, Porcar-Castell A, Griffis TJ, Gu LH, Magney TS, Köhler P, Evans B, Yuen K. 2017. OCO-2 advances photosynthesis observation from space via solar-induced chlorophyll fluorescence. Science 358, eaam5747 (2017). DOI: 10.1126/science.aam5747.

107 Zheng YQ, Unger N, Tadić JM, Seco R, Guenther AB, Barkley MP, Potosnak MJ, Murray L, Michalak AM, Qiu XM, Kim S, Karl T, Gu LH, Pallardy SG. 2017. Drought impacts on photosynthesis, isoprene emission and atmospheric formaldehyde in a mid-latitude forest. Atmospheric Environment 167: 190-201.

106 Norby RJ, Gu LH, Haworth IC, Jensen AM, Turner BL, Anthony P Walker AP, Warren JM, Weston DJ, Xu C, Winter K. 2017. Informing models through empirical relationships between foliar phosphorus, nitrogen and photosynthesis across diverse woody species in tropical forests of Panama. New Phytologist 215: 1425-1437.

105 Walker, A. P., K. R. Carter, L. Gu, P. J. Hanson, A. Malhotra, R. J. Norby, S. D. Sebestyen, S. D. Wullschleger, and D. J. Weston (2017), Biophysical drivers of seasonal variability in Sphagnum gross primary production in a northern temperate bog, J. Geophys. Res. Biogeosci., 122, 1078–1097, doi:10.1002/ 2016JG003711.

104 Hanson, P. J., Riggs, J. S., Nettles, W. R., Phillips, J. R., Krassovski, M. B., Hook, L. A., Gu, L., Richardson, A. D., Aubrecht, D. M., Ricciuto, D. M., Warren, J. M., and Barbier, C.: Attaining whole-ecosystem warming using air and deep-soil heating methods with an elevated CO2 atmosphere, Biogeosciences, 14, 861-883, https://doi.org/10.5194/bg-14-861-2017, 2017

103 Zhou BZ, Wang XM, Cao YG, Ge XG, Gu LH, Meng JL. 2017. Damage assessment to subtropical forests following the 2008 Chinese ice storm. iForest 10: 406-415.

102 Zhang JX, Gu LH, Zhang JB, Wu R, Wang F, Lin GH, Wu B, Lu Q, Meng P. (2017) The interaction between nitrogen and phosphorous is a strong predictor of intra-plant variation in nitrogen isotope composition in a desert species. Biogeosciences 14 (1), 131-144.

2016

101 Gu L, Pallardy SG, Yang B, Hosman KP, Mao J, Ricciuto D, Shi X, Sun Y (2016) Testing a land model in ecosystem functional space via a comparison of observed and modeled ecosystem flux responses to precipitation regimes and associated stresses in a central USA forest. Journal of Geophysical Research - Biogeosceinces 121, 1884-1902.

100 Kravitz B, Guenther A, Karl T, Gu, L, Pallardy S, Seco R, Potosnak M (2016) A new paradigm of quantifying ecosystem stress through chemical signatures. Ecosphere 7:DOI: 10.1002/ecs2.1559.

99 Shao J, Zhou X, Luo Y, Li B, Aurela M, Billesbach D, Blanken P, Bracho R, Chen J, Fischer M, Fu Y, Gu L, Han S, He Y, Kolb T, Li Y, Nagy Z, Niu S, Oechel W, Pinter K, Shi P, Suyker A, Torn M, Varlagin A, Wang H, Yan J, Yu G, Zhang J (2016) Direct and indirect effects of climatic variations on the interannual variability in net ecosystem exchange across terrestrial ecosystems. Tellus – B 68, 30575, http://dx.doi.org/10.3402/tellusb.v68.30575.

98 Liu S, Zhuang Q, Chen M, Gu L (2016) Quantifying spatially and temporally explicit CO2 fertilization effects on global terrestrial ecosystem carbon dynamics. Ecosphere, DOI: 10.1002/ecs2.1391

97. Gu L, Pallardy SG, Hosman KP, Y Sun (2016) Impacts of precipitation variability on plant species and community water stress in a temperate deciduous forest in the central US. Agricultural and Forest Meteorology 217: 120-136.

96. Geron C, Daly R, Harley P, Rasmussen R, Seco R, Guenther A, Karl T, Gu L (2016) Large drought-induced variations in oak leaf volatile organic compound emissions during PINOT NOIR 2012. Chemosphere 146:8-21.

95. Liu S, Zhuang Q, Chen J, Gu L, Noormets A (2016) Evaluating atmospheric CO2 effects on gross primary productivity and net ecosystem exchanges of terrestrial ecosystems in the conterminous United States using the AmeriFlux data and an artificial neural network approach. Agricultural and Forest Meteorology 220: 38-49.

2015

94. Sun Y, Fu R, Dickinson R, Joiner J, Frankenberg C, Gu L, Xia Y, Fernando N (2015) Satellite solar-induced chlorophyll fluorescence reveals drought onset mechanisms: Insights from two contrasting extreme events. JGR-Biogeosciences DOI: 10.1002/2015JG003150

93 Pallardy, S. G., L. Gu, K. P. Hosman, and Y. Sun (2015), Predawn leaf water potential of oak-hickory forest at Missouri Ozark (MOFLUX) site: 2004–2014, Carbon Dioxide Inf. Anal. Cent., Oak Ridge Natl. Lab., U.S. Dep. of Energy, Oak Ridge, Tenn. [Available at 10.3334/CDIAC/ornlsfa.004.]

92. He Y, Yang J, Zhuang Q. Harden J, McGuire AD, Liu Y, Wang G, Gu L (2015) Incorporating microbial dormancy dynamics into soil decomposition models to improve quantification of soil carbon dynamics of northern temperate forests. JGR-Biogeosciences DOI: 10.1002/2015JG00313

91. Huang N, Gu L, Black TA, Wang L, Niu Z (2015) Remote sensing-based estimation of annual soil respiration at two contrasting forest sites. JGR-Biogeosciences 120: 2306-2325.

90. Liu S, Zhuang Q, Chen M, Gu L (2015) Quantifying spatially explicit CO2 fertilization effects on global terrestrial ecosystem carbon dynamics. Environmental Research Letters (accepted).

89. Gu L, Pallardy SG, Hosman KP, Y Sun (2015) Drought-influenced mortality of tree species with different predawn leaf water dynamics in a decade-long study of a central US forest. Biogeosciences 12: 2831-2845.

88. Gu L (2015) Fluxes as functions of ecosystem and drivers of atmosphere (book review). Ecology 96: 1737-1738.

87. Zhang J, Gu L, Bao F, Cao Y, Hao Y, He J, Li J, Li Y, Ren Y, Wang F, Wu R, Yao B, Zhao Y, Lin G, Wu B, Lu Q and Meng P (2015) Nitrogen control of 13C enrichment in heterotrophic organs relative to leaves in a landscape-building desert plant species. Biogeosciences 12: 15-27.

86. Seco R, Karl T, Guenther A, Hosman KP, Pallardy SG, Gu L, Geron C, Harley P & Kim S (2015) Ecosystem-scale VOC fluxes during an extreme drought in a broad-

leaf temperate forest of the Missouri Ozarks (central USA). Global Change Biology DOI: 10.1111/gcb.12980.

85. Wohlfahrt G, Gu L (2015) Opinion: The many meanings of gross photosynthesis and their implication for photosynthesis research from leaf to globe. Plant Cell and Environment DOI: 10.1111/pce.12569.
84. Wohlfahrt G, Amelynck C, Ammann C, Arneth A, Bamberger I, Goldstein AH, Gu L, Guenther A, Hansel A, Heinesch B, Holst T, Hörtnagl L, Karl T, Laffineur Q, Neftel A, McKinney K, Munger JW, Pallardy SG, Schade GW, Seco R, Schoon N (2015) An ecosystem-scale perspective of the net land methanol flux: synthesis of micrometeorological flux measurements. Atmospheric Chemistry and Physics 15, 7413-7427.
83. Shao J, Zhou X, Luo Y, Li B, Aurela M, Billesbach D, Blanken P, Bracho R, Chen J, Fischer M, Fu Y, Gu L, Han S, He Y, et al. (2015) Biotic and climatic controls on interannual variability in carbon fluxes across terrestrial ecosystems. Agricultural and Forest Meteorology 205, 11-22.
82. Wu X, Ju W, Zhou Y, He M, Law B, Black T, Margolis H, Cescatti A, Gu L, Montagnani L, et al. (2015) Performance of Linear and Nonlinear Two-Leaf Light Use Efficiency Models at Different Temporal Scales. Remote Sensing 7, 2238-2278.

2014

81. Weston D, Timm C, Walker A, Gu L, Muchero W, Schmutz J, Shaw A, Tuskan G, Warren J, Wullschleger S (2014) Sphagnum physiology in the context of changing climate: Emergent influences of genomics, modeling and host-microbiome interactions on understanding ecosystem function. Plant Cell & Environment 38: 1737:1751, doi: 10.1111/pce.12458.
80. Shao J, Zhou X, He H, Yu G, Wang H, Luo Y, Chen J, Gu L, Li B (2014) Partitioning Climatic and Biotic Effects on Interannual Variability of Ecosystem Carbon Exchange in Three Ecosystems. Ecosystems 17 (7), 1186-1201.
79. Dong X, Patton J, Gu L, Wang J, Patton B (2014) Leaf photosynthesis and plant competitive success in a mixed-grass prairie: With reference to exotic grasses invasion. Ecosystem and Ecography 4,1:9.
78. Yu H, Orteg J, Smith JN, Guenther AB, Kanawade VP, You Y, Liu Y, Hosman K, Karl T, Seco R, Geron C, Pallardy SG, Gu L, Mikkilä J & Shan-Hu Lee SH (2014) New particle formation and growth in an isoprene-dominated Ozark forest: From sub-5 nm to CCN-active sizes. Aerosol Science and Technology 48:1285-1298.
77. Xiao J, Ollinger S, Frolking S, Hurtt G, Hollinger D, Davis K, Pan Y, Zhang X, Deng F, Chen J, Baldocchi D, Law B, Arain M, Desai A, Richardson A, Sun G, Amiro B, Margolis H, Gu L, Scott R, Blanken P, Suyker A (2014) Data-driven diagnostics of terrestrial carbon dynamics over North America. Agricultural and Forest Meteorology 197, 142-157.
76. Sun Y, Gu L, Dickinson RE, Norby RJ, Pallardy SG, Hoffman FM (2014) Impact of mesophyll diffusion on estimated global land CO_2 fertilization. Proceedings of the National Academy of Sciences of the United States of America 111: 15774–15779, doi: 10.1073/pnas.1418075111.

75. Joiner J, Yoshida Y, Vasilkov AP, Schaefer K, Jung M, Guanter L, Zhang Y, Garrity S, Middleton EM, Huemmrich KF, Gu LH, Marchesini LB (2014) The seasonal cycle of satellite chlorophyll fluorescence observations and its relationship to vegetation phenology and ecosystem-atmosphere carbon exchange. Remote Sensing of the Environment 152, 375-391.
74. Walker A, Beckerman A, Gu L, Kattge J, Cernusak L, Domingues T, Scales J, Wohlfahrt G, Wullschleger S, Woodward F (2014) The relationship of leaf photosynthetic traits–Vcmax and Jmax–to leaf nitrogen, leaf phosphorus, and specific leaf area: a meta-analysis and modeling study. Ecology and Evolution 4, 3218-3235.
73. Wang GS, Jagadamma S, Mayes MA, Schadt CW, Steinweg JM, Gu LH, Post WM, (2014) Microbial dormancy improves development and experimental validation of ecosystem model. The ISME Journal，doi: 10.1038/ismej.2014.120.
72. Van Goethem D, Potters G, De Smedt S, Gu LH, Samson R (2014) Seasonal, diurnal and vertical variation in photosynthetic parameters in Phyllostachys humilis bamboo plants. Photosynthesis Research 120: 331-346
71. Wang DL, Xu Y, Thornton P, King A, Steed C, Gu LH, Schuchart J (2014) A functional test platform for the Community Land Model. Environmental Modeling and Software 55: 25-31. DOI: 10.1016/j.envsoft.2014.01.015.
70. Gu L & Sun Y (2014) Artefactual responses of mesophyll conductance to CO2 and irradiance estimated with the variable J and online isotope discrimination methods. Plant Cell & Environment 37: 1231-1249.
69. Sun Y, Gu L, Dickinson RE, Pallardy SG, Baker J, Cao Y, DaMatta FM, Dong X, Ellsworth D, Goethem DV, Jensen AM, Law BE, Loos R, Martins SCV, Norby RJ, Warren J, Weston D, Winter K (2014) Asymmetrical effects of mesophyll conductance on fundamental photosynthetic parameters and their relationships estimated from leaf gas exchange measurements. Plant Cell and Environment 37, 978-994.
68. Potosnak MJ, LeStourgeon L, Pallardy SG, Hosman KP, Gu LH, Karl T, Gerone C & Guenther AB (2014) Observed and modeled ecosystem isoprene fluxes from an oak-dominated temperate forest and the influence of drought stress. Atmospheric Environment 84: 314-322.
67. Wang GS, Mayes MA, Gu LH, Schadt CW (2014) Representation of Dormant and Active Microbial Dynamics for Ecosystem Modeling. Plos One 9, Article Number: e89252, DOI: 10.1371/journal.pone.0089252.
66. Huang N, Gu L, Niu Z (2014) Estimating soil respiration using spatial data products: A case study in a deciduous broadleaf forest in the Midwest USA. Journal of Geophysical Research - Atmosphere 119: 6393-6408.

2013
65. Gu LH (2013) An eddy covariance theory of using O_2 to CO_2 exchange ratio to constrain measurements of net ecosystem exchange of any gas species. Agricultural and Forest Meteorology 176, 104-110.
64. Barr, A.G., A.D. Richardson, D.Y. Hollinger, D. Papale, M.A. Arain, T.A. Black, G. Bohrer, D. Dragoni, M. Fischer, L. Gu, B.E. Law, H.M. Margolis, J.H. McCaughey, J.W. Munger, W. Oechel, K. Schaeffer (2013) Use of change-point

detection for friction-velocity threshold evaluation in eddy-covariance studies. Agricultural and Forest Meteorology 171/172, 31-45.
63. Niu, S., Y. Fu, L. Gu, and Y. Luo (2013) Temperature sensitivity of canopy photosynthesis phenology in northern ecosystems. Chapter 27 in *Phenology: An Integrated Environmental Science*. M.D. Schwartz (ed.), Phenology: An Integrative Environmental Science, DOI 10.1007/978-94-007-6925-0_27, © Springer Science+Business Media B.V. 2013.

2012

62. Sun, Y., Gu, L., and Dickinson, R. (2012) A numerical issue in calculating the coupled carbon and water fluxes in a climate model. Journal of Geophysical Research – Atmosphere 117, Article Number: D22103 DOI: 10.1029/2012JD018059
61. Sun, Y., Gu, L., Dickinson, R. and Zhou, B. (2012) Forest greenness after the massive 2008 Chinese ice storm: integrated effects of natural processes and human intervention. Environ. Res. Lett. 7 (2012) 035702.
60. Schaefer K, Schwalm C, Williams C, Arain M, Barr A, Chen JM, Davis K, Dimitrov D, Hilton T, Hollinger D, Humphreys E, Poulter B, Raczka B, Richardson A, Sahoo1 A, Thornton P, Vargas R, Verbeeck H, Anderson R, Baker I, Black T, Bolstad P, Chen J, Curtis P, Desai A, Dietze M, Dragoni D, Gough C, Grant R, Gu LH, et al (2012) A Model-Data Comparison of Gross Primary Productivity: Results from the North American Carbon Program Site Synthesis. Journal of Geophysical Research – Biogeosciences 117 Article Number: G03010 DOI: 10.1029/2012JG001960.
59. Warren, JM, Iversen, CM, Garten, CT, Norby, RJ, Childs, J, Brice, D, Evans, RM, Gu, L, Thornton, P, Weston, DJ. (2012) Timing and magnitude of C partitioning through a young loblolly pine (Pinus taeda L.) stand using C-13 labeling and shade treatments. Tree Physiology 32: 799-813 DOI: 10.1093/treephys/tpr129.
58. Niu, SL; Luo, YQ; Fei, SF; Yuan, WP; Schimel, D; Law, BE; Ammann, C; Arain, MA; Arneth, A; Aubinet, M; Barr, A; Beringer, J; Bernhofer, C; Black, TA; Buchmann, N; Cescatti, A; Chen, JQ; Davis, KJ; Dellwik, E; Desai, AR; Etzold, S; Francois, L; Gianelle, D; Gielen, B; Goldstein, A; Groenendijk, M; Gu, LH, et al. (2012) Thermal optimality of net ecosystem exchange of carbon dioxide and underlying mechanisms. New Phytologist 194, 775-783.
57. Gu, L., W.J. Massman, R. Leuning, S.G. Pallardy, T. Meyers, P.J. Hanson, J.S. Riggs, K.P. Hosman, B. Yang (2012) The fundamental equation of eddy covariance and its application in flux measurements. Agricultural and Forest Meteorology 152, 135-148.
56. Ryu, Y; Baldocchi, DD; Black, TA; Detto, M; Law, BE; Leuning, R; Miyata, A; Reichstein, M; Vargas, R; Ammann, C; Beringer, J; Flanagan, LB; Gu, LH; Hutley, LB; Kim, J; McCaughey, H; Moors, EJ; Rambal, S; Vesala, T (2012), On the temporal upscaling of evapotranspiration from instantaneous remote sensing measurements to 8-day mean daily-sums. AGRICULTURAL AND FOREST METEOROLOGY, 152, 212-222, DOI: 10.1016/j.agrformet.2011.09.010.
55. Warren J, Garten C, Iversen C, Norby R, Thornton P, Weston D, Gu L, Brice D, Childs J, Evans R (2012) Partitioning in trees and soil (PiTS)-a experimental

approach to improve knowledge of forest carbon dynamics. Tree Physiology 32, 799-813.

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