

Xiao-Jun Allen Liu

Center for Ecosystem Science and Society
Northern Arizona University, Flagstaff, AZ, 86011
xj.allen.liu@gmail.com, <http://xjaliu.weebly.com>

EDUCATION

- Ph.D. 2017 Biology, Northern Arizona University, Flagstaff, AZ.
Advisor: Dr. Bruce A. Hungate
- M.S. 2012 Crop and Soil Environmental Sciences, Virginia Tech, VA.
Advisors: Dr. John Fike and Dr. John Galbraith
- M.S. 2008 Soil Science, Northwest A&F University, Yangling, China.
Advisor: Dr. Jianbin Zhou
- B.S. 2005 Agronomy, Henan Institute of Science and Technology, Xinxiang, China.

PROFESSIONAL EXPERIENCE

- 2017- Postdoctoral Research Associate, Department of Microbiology, University of Massachusetts, Amherst.
- 2013-2017 Graduate Research Assistant, Center for Ecosystem Science and Society and Department of Biological Sciences, Northern Arizona University.
- 2010-2013 Graduate Research Assistant, Crop and Soil Environmental Sciences, Virginia Tech.
- 2008-2010 Research Scientist, Northwest A&F University, China.
- 2007-2008 Visiting Scientist, Department of Soil Ecology, University of Bayreuth, Germany.
- 2005-2008 Graduate Research Assistant, Soil Science, Northwest A&F University, China.
- 2004-2005 Research Assistant, Agronomy, Henan Institute of Science and Technology, China.

MANUSCRIPTS IN PREPARATION

- 1) **Liu X.J.A.**, Mau R.L., Hayer M., Finley B.K., Schwartz E., Dijkstra P., Hungate B.A. Substrate inputs modulate soil carbon cycling by altering microbial community composition and structure (target journal: *The ISME Journal*).
- 2) Mau R.L., **Liu X.J.A.**, Hayer M., Morrissey E.M., Schwartz E., Dijkstra P., Hungate B.A. Connecting the microbial taxa to soil carbon cycling using the quantitative isotope probing technique (qSIP) (target journal: *Nature* Journal).
- 3) **Liu X.J.A.**, Dijkstra P., Hungate B.A. Piecing together the puzzle of priming effect: an interdisciplinary perspective (target journal: *Frontiers in Microbiology*).

MANUSCRIPTS IN REVIEW

- 1) Finley B.K., Dijkstra P., Hungate B.A., Rasmussen C., Schwartz E., Mau R.L., **Liu X.J.A.**, van Gestel N., Hungate B.A. Soil mineral assemblage and substrate quality affect microbial priming. *Biogeochemistry* (in review).
- 2) Liu H., Cao L., **Liu X.J.A.**, Li B. Soil stoichiometry of farmland and natural grassland in southwestern Tibet. *PLOS ONE* (in review).

PUBLISHED PAPERS (available at [Google Scholar](#) and [ResearchGate](#))

(10+ peer-reviewed journal publications. *Google Scholar* (XJA Liu): *H index* = 5, 70+ citations)

- 1) **Liu X.J.A.**, van Groenigen K.J., Dijkstra P., Hungate B.A. Increased plant uptake of native soil nitrogen following fertilizer addition – not a priming effect? ([PDF](#)). *Applied Soil Ecology*. 114: 105-110. DOI: 10.1016/j.apsoil.2017.03.011
- 2) **Liu X.J.A.**, Sun J., Mau R.L., Finley B.K., Compson Z.G., van Gestel N., Brown J.R., Schwartz E., Dijkstra P., Hungate B.A. (2017). Labile carbon input determines the direction and magnitude of the priming effect ([PDF](#)). *Applied Soil Ecology*. 109: 7-13. DOI: 10.1016/j.apsoil.2016.10.002
- 3) **Liu X.J.A.**, Fike J.H., Galbraith J.M. and Fike W.B. (2015). Biosolids amendment and harvest frequency affect nitrogen use dynamics of switchgrass grown for biofuel production ([PDF](#)). *BioEnergy Research*. 8: 560-569. DOI 10.1007/s12155-014-9543-4
- 4) **Liu X.J.A.**, Fike, J. H., Galbraith, J. M., Fike, W. B., Parrish, D. J., Evanylo, G. K. and Strahm, B. D. (2015). Effects of harvest frequency and biosolids application on switchgrass yield, feedstock quality, and theoretical ethanol yield ([PDF](#)). *GCB Bioenergy*. 7: 112-121. DOI: 10.1111/gcbb.12124
- 5) **Liu X.J.A.**, Fike J.H., Galbraith J.M. and Fike W.B. (2014). Switchgrass Response to Cutting Frequency and Biosolids Amendment: Biomass Yield, Feedstock Quality, and Theoretical Ethanol Yield ([PDF](#)). *BioEnergy Research*. 7: 1191-1200. DOI: 10.1007/s12155-014-9454-4
- 6) Zhou J.B., Chen J.Z., **Liu X.J.**, Zhai B.N., Powlson D.S. (2010). Nitrate accumulation in soil profiles under seasonally open ‘sunlight greenhouses’ in northwest China and potential for leaching loss during summer fallow ([PDF](#)). *Soil Use and Management*. 26: 332-339. DOI: 10.1111/j.1475-2743.2010.00284.x
- 7) **Liu X.J.**, Zhou J.B., Chen Z.J., Wang Y., Ding X.L. (2010). Nitrate leaching from sunlight greenhouse soils with different cultivation years during summer fallow periods. *Transactions of the Chinese Society of Agricultural Engineering*. 26:272-278.
- 8) **Liu X.J.**, Chen Z.J., Zhang Y.L., Zhou J.B. (2009). Nutrient accumulation in the sunlight greenhouse soils with the different cultivating years. *Chinese Journal of Soil Science*. 40: 285-289.
- 9) Chen Z.J., Wang Y.Q., Zhou J.B., **Liu X.J.**, Zhou B. (2009). Quantity and intensity of potassium and its exchange relationship with calcium in sunlight greenhouse soils. *Plant Nutrition and Fertilizer Science*. 15: 1078-1084.
- 10) Zhou J.B., Wang C.Y., Liang B., **Liu X.J.**, Kalbitz K. (2009). Stock and distribution of organic carbon in the profiles of soil with long cultivating history. *Journal of Agro-Environment Science*. 12: 2540-2544.
- 11) Chen Z.J., Wang Y.Q., Zhou J.B., **Liu X.J.**, Zhou B. (2008). Effects of concentrations and ratios of K⁺ and Mg²⁺ ions on their adsorption to soils under sunlight greenhouse cultivation. *Journal of Soil and Water Conservation*. 22: 106-109.
- 12) Wu X.H., Peng K.Q., Liang Z.S., **Liu X.J.** (2008). Effects of nitrogen and phosphorus on root and shoot growth of *Isatis indigotica* Fort. *Acta Agriculturae Boreali-Occidentalis Sinica*. 17: 274-278.
- 13) Jiang A.F., Ren X.J., **Liu X.J.** (2005). New study of nitrate contents about vegetables in Xinxiang. *Journal of Henan Vocation-technical Teachers College*. 33: 53-55.

GRANT PROPOSAL

- 1) NSF-DDIG in the Directorate for Biological Sciences in 2015: “DISSERTATION RESEARCH: The microbial ecology of the soil priming”. PI: Bruce Hungate, **co-PI: Xiao-Jun Allen Liu** (\$19,760.00, not funded).

TEACHING EXPERIENCE

- 1) Teaching assistant in *spring and fall 2016, and spring 2017* for “**Fundamental techniques and experiments in microbiology (BIO 205L)**” in the Department of Biological Sciences at Northern Arizona University.
- 2) Teaching assistant in *fall 2012* for “**Fundamentals of Environmental Science (ENSC 3604)**” in the Department of Crop and Soil Environmental Sciences at Virginia Tech.

PROFESSIONAL AFFILIATIONS

- American Geophysical Union
- American Society for Microbiology
- Ecological Society of America
- Soil Science Society of America

AD HOC REVIEWER OF MANUSCRIPTS (27 manuscripts, verified by [publons](#))

- 1) Agronomy Journal
- 2) Applied Soil Ecology
- 3) European Journal of Soil Science
- 4) Global Change Biology Bioenergy
- 5) Plant and Soil
- 6) PLOS ONE
- 7) Soil Biology and Biochemistry

AWARDS

- 1) Graduate Travel Fund in Northern Arizona University for attending the 2014, 2015, and 2016 AGU Meetings in San Francisco, CA.
- 2) ***1st Place of presentation*** in the Graduate Research Symposium in 2012 at Virginia Tech (\$ 500).
- 3) Graduate Travel Fund in Virginia Tech for attending the 2011 and 2012 “ASA, CSSA, and SSSA International Annual Meetings in Cincinnati, OH” (\$ 265).

OUTREACH ACTIVITIES

- 1) Science cheerleader (microbiology, soil science) at Flagstaff Science Festival in 2015 and 2016.
- 2) Departmental Representative, Virginia Tech in 2013 and Northern Arizona University in 2014.
- 3) Reviewer of Graduate Student Symposium at Virginia Tech in 2011 and 2012.

PRESENTATIONS IN PROFESSIONAL CONFERENCES

- 1) **Liu X.J.A.**, Mau RL, Hayer M, Finley B, Schwartz E, Dijkstra P and Hungate BA. Carbon and nitrogen inputs affect soil microbial community structure and function. *AGU Fall meeting* in San Francisco, CA, Dec. 12-16, 2016.
- 2) **Liu X.J.A.**, Sun J, Finley B, Dijkstra P, Schwartz E and Hungate BA. Amounts of substrate carbon and nitrogen control the decomposition of soil organic matter. *AGU Fall meeting* in San Francisco, CA, Dec. 14-18, 2015.
- 3) **Liu X.J.A.**, Sun J, Mau RL, Finley B, Compson ZG, Dijkstra P, Schwartz E and Hungate BA. A threshold of substrate addition rate predicts the direction of soil organic matter priming in different ecosystems. *AGU Fall meeting* in San Francisco, CA, Dec. 14-19, 2014.
- 4) **Liu X.J.**, Fike J., Galbraith J., Evanylo G. 2013. Management considerations for biofuel production systems. *American Forage and Grassland Council National Meeting* in Covington, KY. Jan. 6-8, 2013.
- 5) **Liu X.J.**, Fike J., Galbraith J., Evanylo G. 2012. Effects of biosolids application and harvest management on switchgrass biomass production and biofuel feedstock quality. 187-10. *ASA, CSSA and SSSA International Annual Meetings* in Cincinnati, OH. Oct.20-24, 2012.
- 6) **Liu X.J.**, Fike J., Galbraith J., Evanylo G. 2012. Effects of biosolids application and harvest management on soil carbon and nitrogen in biofuel production systems. 297-7. *ASA, CSSA and SSSA International Annual Meetings* in Cincinnati, OH. Oct.20-24, 2012.
- 7) **Liu X.J.**, Fike J., Galbraith J., Starner D. 2011. Effects of biosolids rates and harvest frequency on switchgrass yield and biomass feedstock quality. 326-10. *ASA, CSSA and SSSA International Annual Meetings* in San Antonio, TX. Oct. 16-19, 2011.

AMERICAN COLLABORATORS

- 1) Drs. Paul Dijkstra and Egbert Schwartz, Northern Arizona University, Flagstaff, AZ.
- 2) Drs. John Fike, John Galbraith, Gregory Evanylo, Brian Strahm, Virginia Tech, Blacksburg, VA.
- 3) Dr. Craig Rasmussen, The University of Arizona, Tucson, Arizona 85721.
- 4) Dr. Natasja van Gestel, Texas Tech University, Lubbock, TX.

INTERNATIONAL COLLABORATORS

- 1) Dr. Zacchaeus Compson, University of New Brunswick, New Brunswick, Canada.
- 2) Dr. Karsten Kalbitz, Dresden University of Technology, Dresden, Germany.
- 3) Dr. Heman Liu, Tibet University, Lasa, China.
- 4) Dr. David Powlson, Rothamsted Research, Harpenden, UK.
- 5) Dr. Kees Jan van Groenigen, University of Exeter, Exeter, UK.
- 6) Drs. Jianbin Zhou and Zhujun Chen, Northwest A&F University, China.

REFERENCES

- Bruce Hungate Fellow of American Academy of Microbiology
Regents' Professor in Microbial Ecology
Director of Center for Ecosystem Science and Society
Northern Arizona University, Flagstaff, AZ 86001
Email: Bruce.Hungate@nau.edu
Phone: 928-523-0925
- Egbert Schwartz Professor in Microbial Ecology
Center for Ecosystem Science and Society
Northern Arizona University, Flagstaff, AZ 86001
Email: Egbert.Schwartz@nau.edu
Phone: 928-523-6168
- Paul Dijkstra Associate Research Professor in Biogeochemistry
Center for Ecosystem Science and Society
Northern Arizona University, Flagstaff, AZ 86001
Email: Paul.Dijkstra@nau.edu
Phone: 928-523-0432
- John Fike Associate Professor in Cropping Systems and Biofuel Crops
Department of Crop and Soil Environmental Sciences
Virginia Tech, Blacksburg, VA 24061
Email: jfike@vt.edu
Phone: 540-231-8654
- John Galbraith Associate Professor in Soil Health and Hydrology
Department of Crop and Soil Environmental Sciences
Virginia Tech, Blacksburg, VA 24061
Email: ttcf@vt.edu
Phone: 540-231-9784
- Jianbin Zhou Professor in Nutrient Management in Dryland Ecosystems
College of Resources and Environment
Northwest A&F University, Yangling, China
Email: jbzhou@nwsuaf.edu.cn
Phone: 86-029-87082793