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EDUCATION

- 2017 Ph.D. in Soil Microbiology, Northern Arizona University, Flagstaff, AZ.
- 2012 M.S. in Crop and Soil Environmental Sciences, Virginia Tech, VA.
- 2008 M.S. in Soil and Plant Sciences, Northwest A&F University, Yangling, China.
- 2005 B.S. in Agronomy, Henan Institute of Science and Technology, Xinxiang, China.

PROFESSIONAL EXPERIENCE

- 2021- Postdoctoral Researcher (Microbial Ecology and Community Genomics), Institute for Environmental Genomics, University of Oklahoma.
- 2017-2021 Postdoctoral Associate (Soil Microbial Ecology), Department of Microbiology, University of Massachusetts.
- 2016-2017 Graduate Teaching Assistant in Biology, Northern Arizona University.
- 2013-2016 Graduate Research Assistant in Biology, Northern Arizona University.
- 2010-2013 Graduate Research Assistant in Crop and Soil Environmental Sciences, Virginia Tech.
- 2008-2010 Research Scientist in Plant Nutrition and Soil Science, Northwest A&F University, China.
- 2007-2008 Visiting Scientist in Soil Ecology, University of Bayreuth, Germany.
- 2005-2008 Graduate Research Assistant in Soil and Plant Sciences, Northwest A&F University, China.
- 2004-2005 Research Assistant in Life Sciences, Henan Institute of Science and Technology, China.

MANUSCRIPTS IN PREPARATION

- Liu X.J.A., Frey S.D., Melillo J.M., DeAngelis K.M. Substrate complexity reduces the efficiency of microbes utilizing soil organic matter.
- Liu X.J.A., Pold G., Domeignoz-Horta L.A., Frey S.D., Melillo J.M., DeAngelis K.M. Enrichment levels of H₂O influence the microbial efficiency.
- Dai J., Ouyang Y., Gupte R., Liu X.J.A., Li Y., Yang F., Chen S., Jayaraman A., Provin T., van Shaik E., Samuel J.E., de Figueiredo P., Zhou A., Zhou J., Han A. Amended culture media in microfluidic droplet cultivation improves soil extractable cells diversity.
- Liu Y., Liu X.J.A. Responses of soil nutrients and microbial communities to tillage and organic matter amendment.
- Chen N.A., Liu X.J.A., Domeignoz-Horta L.A., DeAngelis K.M., Keiluweit M. Organic matter decomposition and microbial gene expressions are mediated by manganese across redox interfaces.

MANUSCRIPTS IN REVIEW

- Han X., Ning D., Liu X.J.A., Jian S., Yang Z., Wu L., Feng J., Guo X., Yang Y., Tiedje J.M., Zhou J. Climate warming reduces nematode diversity. *Nature Microbiology* (in review).
- Liu X.J.A., Frey S.D., Melillo J.M., DeAngelis K.M. Microbial responses to long-term warming vary across soil microenvironments. *The ISME Journal* (in review).
- Tao X., Yang Z., Feng J., Jian S., Yang Y., Bates C.T., Wang G., Guo X., Ning D., Kemper M.L., Liu X.J.A., Ouyang Y., Wu L., Zeng Y., Kuang J., Zhang Y., Zhou X., Shi Z., Qin W., Wang J., Firestone M.K., Tiedje J.M., Zhou J. Climate warming accelerates positive soil priming in a temperate grassland ecosystem. *Nature Communications* (in review).

- Han S, **Liu X.J.A.** Climate change, human activity, and soil nutrient availability mediate continental-scale bacterial diversity in forest ecosystems. *Soil Biology and Biochemistry* (in review).
- Liang Y., Zhu Z., Fang Y., Shahbaz M., **Liu X.J.A.**, Li B., Wei X., Hassanpouraghdam M.B., Wu J., Kuzyakov K., Ge T. C:N:P stoichiometry of available nutrients determines microbial life strategies and priming effects in paddy soil. *Soil Biology and Biochemistry* (in review).
- Li J, Mau R.L., Stone B.W., Dijkstra P., Koch B.J., Morrissey E.M., Blazewicz S.J., Hofmockel K., **Liu X.J.A.**, Mau R.L., Hayer M., Pett-Ridge J., Schwartz E., Hungate B.A. Divergent microbial traits in regulating plant and microbial cell wall residue degradation. *The ISME Journal* (in review).

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

- Stone B.W.G., Blazewicz S.J., Koch B.J., Dijkstra P., Hayer M., Hofmockel K.S., **Liu X.J.A.**, Mau R.L., Pett-Ridge J., Schwartz E., Hungate B.A. (2023) Nutrients strengthen density dependence of per-capita growth and mortality rates in the soil bacterial community. *Oecologia* ([PDF](#)).
- Stone B.W.G., Dijkstra P., Finley B.K., Fitzpatrick R., Foley M.M., Hayer M., Hofmockel K.S., Koch B.J., Li J., **Liu X.J.A.**, Martinez A., Mau R.L., Marks J., Monsaint-Queeney V., Morrissey M.M., Propster J., Pett-Ridge J., Purcell A.M., Schwartz E., Hungate B.A. (2023) Life history strategies among soil bacteria—dichotomy for few, continuum for many. *The ISME Journal* ([PDF](#)).
- Neri et al. (**Liu X.J.A.** as a consortia author) (2022). Expansion of the global RNA virome reveals diverse clades of bacteriophages. *Cell*. 185 (21): 4023-4037 ([PDF](#)).
- **Liu X.J.A.**, Hayer M., Mau R.L., Schwartz E., Dijkstra P., Hungate B.A. (2021). Substrate stoichiometric regulation of microbial respiration and community dynamics across four different ecosystems. *Soil Biology and Biochemistry*. 163, 108458 ([PDF](#)).
- You M.Y., **Liu X.J.A.**, Li L.J. (2021). Editorial: Climate Change and Anthropogenic Impacts on Soil Organic Matter. *Frontiers in Environmental Science*. 9, 811735 ([PDF](#)).
- **Liu X.J.A.**, Frey S.D., Melillo J.M., DeAngelis K.M. (2021). Microbial carbon efficiency and soil physical protection in response to chronic warming. *Soil Biology and Biochemistry*. 159, 108298 ([PDF](#)).
- Stone B.W., Li J., Koch B.J., Blazewicz S.J., Dijkstra P., Hayer M., Hofmockel K.S., **Liu X.J.A.**, Mau R.L., Morrissey E.M., Pett-Ridge J., Schwartz E., Hungate B.A. (2021) Nutrients cause consolidation of soil carbon flux to small proportion of bacterial community. *Nature Communications*. 12, 3381 ([PDF](#)).
- **Liu X.J.A.**, Pold G., Domeignoz-Horta L.A., Geyer K.M., Caris H., Nicolson H., Kemner K.M., Frey S.D., Melillo J.M., DeAngelis K.M. (2021). Soil aggregate-mediated microbial responses to long-term warming. *Soil Biology and Biochemistry*. 152, 108055 ([PDF](#)).
- Waring B.G., Sulman B., Reed S., Smith A.P., Averill C., Creamer C., Cusack D., Hall S.J., Jastrow J.D., Jilling A., Kemner K., Kleber K., **Liu X.J.A.**, Pett-Ridge J., Schulz M. (2020). From pools to flow: the PROMISE framework provides new insights on soil carbon cycling in a changing world. *Global Change Biology* ([PDF](#)).
- Domeignoz-Horta L.A., Pold G., **Liu X.J.A.**, Frey S.D., Melillo J.M., DeAngelis K.M. (2020). Microbial diversity drives CUE in a model soil. *Nature Communications*. 11, 3684 ([PDF](#)).
- **Liu X.J.A.**, Finley B.K., Mau R.L., Schwartz E., Dijkstra P., Bowker M.A., Hungate B.A. (2020). The soil priming effect: Consistent across ecosystems, elusive mechanisms. *Soil Biology and Biochemistry*. 140, 107617 ([PDF](#)).
- Li J, Mau R.L., Dijkstra P., Koch B.J., Schwartz E., **Liu X.J.A.**, Morrissey E.M., Blazewicz S.J., Pett-Ridge J., Stone B.W., Hayer M., Hungate B.A. (2019). Predictive genomic traits for bacterial growth in culture versus actual growth in soil. *The ISME Journal*. 13: 2162-2172 ([PDF](#)).
- Morrissey E.M., Mau R.L., Hayer M., **Liu X.J.A.**, Schwartz G., Dijkstra P., Koch B.J., Allen K., Blazewicz S., Hofmockel K., Pett-Ridge J., Hungate B.A. (2019). Evolutionary history constrains microbial traits across environmental variation. *Nature Ecology and Evolution*. 3: 1064-1069 ([PDF](#)).

- Finley B.K., Dijkstra P., Rasmussen C., Schwartz E., Mau R.L., **Liu X.J.A.**, van Gestel N., Hungate B.A. (2018). Soil mineral assemblage and substrate quality affect microbial priming ([PDF](#)). **Geoderma**. 322: 38-47.
- **Liu X.J.A.**, van Groenigen K.J., Dijkstra P., Hungate B.A. (2017). Increased plant uptake of native soil nitrogen following fertilizer addition – not a priming effect? ([PDF](#)). **Applied Soil Ecology**. 114: 105-110.
- **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.
- **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.
- **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.
- **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.
- 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.
- **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 (Chinese with English abstract).
- **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 (Chinese with English abstract).
- 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 (Chinese with English abstract).
- 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 (Chinese with English abstract).
- 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 (Chinese with English abstract).
- 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 (Chinese with English abstract).
- 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 (Chinese with English abstract).

GRANT PROPOSALS

- Zheng Shi, **Xiao-Jun Allen Liu**. Long Term Research in Environmental Biology (LTREB, NSF), 2023. \$500,000 (in review).
- Jizhong Zhou, Tim Filley, Wei Qin, Zheng Shi, Daliang Ning, Naijia Xiao, Liyou Wu, Siyang Jian, Ya Zhang, Yang Ouyang, **Xiao-Jun Allen Liu**, Jennifer Pett-Ridge. Predictive understanding of subsoil microbial feedbacks to climate warming. DOE-BER System Biology Enabled Microbiome Research program. 2022. \$3,600,000 (high priority, not funded).

- Daniel Schachtman, Sophie Alvarez and **Xiao-Jun Allen Liu**. Plant-soil-microbe interactions mediate nutrient use efficiency in bioenergy systems. DOE-BER Genomic Science Program (Systems Biology for Sustainable Bioenergy). 2019. \$500,000 (high priority, not funded).
- **Xiao-Jun Allen Liu**, Serita D. Frey, Jerry M. Melillo, and Kristen M. DeAngelis. Responses of microbial carbon use efficiency to soil physical protection and temperature over long-term warming. NEON-ESA Early Career Scholar funded by NSF. 2018. \$1,800.
- **Xiao-Jun Allen Liu** and Kristen M. DeAngelis. Disentangling the relative contributions of the microbiome and physical protection in soil response to long-term environmental stress. Community Science Program supported by the Joint Genome Institute (JGI) of DOE. Awarded 2017. \$24,000.
- **Xiao-Jun Allen Liu**, Rebecca Mau, Michaela Hayer, Brianna Finley, Egbert Schwartz, Paul Dijkstra, and Bruce Hungate. Responses of microbial communities and soil organic matter decomposition following labile carbon and nitrogen inputs. TerraGenome Young Scientist Grant from the NSF research coordination network. 2017. \$1,500.
- Bruce Hungate and **Xiao-Jun Allen Liu**. The microbial ecology of the soil priming. DDIG from the Directorate for Biological Sciences (NSF). 2015. \$19,760 (high priority, not funded).

PROFESSIONAL ACTIVITIES

- **Review editor** for *Frontiers in Microbiology* (2019–).
- **Subject editor** for *Soil Biology and Biochemistry* (2019–).
- **Review editor** for *Frontiers in Environmental Science* (2019–).
- **Guest editor** for *Agriculture, Ecosystem, and Environment* (2022–).
- **Invited reviewer for over 20 journals** (>90 manuscripts, verified by [ORCID](#)): Agronomy Journal, Applied Soil Ecology, Biogeochemistry, Earth-Science Reviews, Environmental Microbiology, European Journal of Soil Science, Frontiers in Microbiology, Geoderma, Global Change Biology, Global Ecology and Biogeography, ISME Communications, Journal of Visualized Experiments (JoVE), Nature Geoscience, Plant and Soil, PLOS One, Science of the Total Environment, Soil Biology and Biochemistry, Soil Research.
- **Ad hoc reviewer for funding agencies**: Excellence in Research (# 2101234, HBCU-EiR, NSF, 2020), Office of Polar Programs Postdoctoral Research Fellowship (# 2219629, OPP-PRF, NSF, 2022), Faculty Early Career Development (CAREER) (# 2340545, DEB, NSF, 2023).

TEACHING EXPERIENCE

- Graduate teaching assistant for “Fundamental techniques and experiments in microbiology (BIO 205L)” in spring and fall 2016, and spring 2017 at Northern Arizona University.
- Graduate teaching assistant for “Fundamentals of Environmental Science (ENSC 3604)” in fall 2012 at Virginia Tech University.

INVITED SEMINARS/INTERVIEWS

- School of Food and Agriculture, University of Maine, January, 2024.
- Department of Biological Sciences, Southeastern Louisiana University, December, 2023.
- Department of Plant and Environmental Science, New Mexico State University. May, 2023.
- School of Life Sciences, University of Nevada Las Vegas. February, 2023.
- School of Agriculture and Applied Sciences, Langston University. January, 2023.
- Department of Biology, University of North Texas. November, 2022.
- Department of Plant and Soil Sciences, University of Kentucky. February, 2022.
- School of Public and Environmental Affairs, Indiana University, December, 2021.
- School of Natural Resources, University of Missouri. May, 2020.
- School of Agriculture, University of Massachusetts Amherst. February, 2020.

- Department of Biology, Austin Peay State University. January, 2020.
- Department of Environmental Science, Westfield State University. November, 2019.
- Department of Agricultural Science, Truman State University. November, 2019.
- Department of Biology, Rhodes College. October, 2019.
- Department of Environmental Science, The University of Texas at San Antonio. December, 2018.
- Department of Biosystems Engineering/Soil Science, University of Tennessee. November, 2018.

PROFESSIONAL AFFILIATIONS

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

AWARDS

- Best Dissertation Award in Biology Department, Northern Arizona University (2017).
- Travel awards for attending AGU Meetings in San Francisco, CA (2014-2016).
- 1st Place of presentation in the Graduate Research Symposium at Virginia Tech (2012).
- Travel awards for attending “ASA, CSSA, and SSSA” Meetings (2011-2012).

PROFESSIONAL SERVICES AND OUTREACH ACTIVITIES

- Convenor for Biogeosciences Session (B045) at the 2020 AGU Fall meeting: Advances in understanding and predicting microbial functions in earth system processes under climate change.
- Committee member of the Microbial Technical Working Group at National Ecological Observatory Network (NEON, 2019–), supported by the NSF.
- Mentor for high school students – 2018/2019 Student Spaceflight Experiments Program (SSEP) sponsored by NASA and International Space Station: microgravity and microbiology.
- Presider for ESA 2018 meeting: 1) Session COS 55: Biogeochemistry: Biogeo Patterns Along Environmental Gradients, and 2) Session COS 108: Agriculture.
- Judge for the best student research talk of Biogeosciences Section at ESA 2018 meeting.
- Proposal reviewer for ASM Microbe 2018: Late-breaker.
- Science cheerleader (microbiology, soil science) at Flagstaff Science Festival in 2015 and 2016.
- Departmental Representative, Virginia Tech in 2013 and Northern Arizona University in 2014.
- Reviewer for the Graduate Student Symposium at Virginia Tech in 2011 and 2012.

PRESENTATIONS IN PROFESSIONAL CONFERENCES

- **Liu X.J.A.**, Han S., Jian S., Yang Z., Ning D., Zhou J. Active microbial communities and their efficiency of utilizing soil carbon under long-term warming and drought (144573). ASA, CSSA and SSSA International Annual Meetings, Baltimore, MD, Nov. 6-9, 2022.
- Han S., **Liu X.J.A.**, Jian S., Yang Z., Ning D., Zhou J. Climate warming strengthens predation effect in temperate grassland (144577). ASA, CSSA and SSSA International Annual Meetings, Baltimore, MD, Nov. 6-9, 2022.
- Chen N.A., **Liu X.J.A.**, Domeignoz-Horta L.A., DeAngelis K.M., Keiluweit M. Manganese availability controls microbial-mediated organic matter degradation across redox interfaces. AGU Fall meeting, New Orleans, LA, Dec. 13-17, 2021.

- Chen N.A., **Liu X.J.A.**, Domeignoz-Horta L.A., DeAngelis K.M., Keiluweit M. Manganese availability regulates Mn(III)-driven organic matter across oxic-anoxic interfaces. Goldschmidt Conference, Lyon, France, July 4-9, 2021.
- **Liu X.J.A.**, DeAngelis K.M. Microbial functional responses to long-term warming in different soil aggregates. AGU Fall meeting, San Francisco, CA, Dec. 7-11, 2020.
- Stone B.W., Blazewicz S.J., Koch B.J., Dijkstra P., Hayer M., **Liu X.J.A.**, Mau R.L., Pett-Ridge J., Schwartz E., Hungate B.A. Nutrients strengthen density dependence of per-capita growth and mortality rates across all major phyla of soil bacteria. Ecological Society of America, Salt Lake City, UT, Aug. 5-10, 2020.
- **Liu X.J.A.**, Pold G., Domeignoz-Horta L., Frey S.D., Melillo J.M., DeAngelis K.M. Physical protection enhances acclimation of microbial efficiency to chronic soil warming. AGU Fall meeting, San Francisco, CA, Dec. 9-13, 2019.
- **Liu X.J.A.**, Pold G., Domeignoz-Horta L., Frey S.D., Kemner K.M., Melillo J.M., Mishra B., DeAngelis K.M. Adaptation of microbial physiology in a warming world. The 14th Annual DOE Joint Genome Institute – Genomics of Energy and Environment Meeting, San Francisco, CA, Apr. 2-5, 2019.
- Waring B., Creamer C., Cotrufo F., Hall S.J., Jastrow J.D., Kleber M., **Liu X.J.A.**, Pett-Ridge J., Reed S.C., Smith A.P., Salman B.N. Soil Carbon Meeting at Utah State University, Logan, UT, Jan. 21-23, 2019.
- **Liu X.J.A.**, Frey S.D., Kemner K.M., Melillo J.M., Mishra B., DeAngelis K.M. Microbial carbon efficiency but not soil physical protection creates a negative climate feedback over long-term warming. AGU Fall meeting, Washington, D.C., Dec. 9-14, 2018.
- **Liu X.J.A.**, Frey S.D., Melillo J.M., DeAngelis K.M. Responses of microbial carbon use efficiency to soil physical protection over long-term warming. Ecological Society of America, New Orleans, LA, Aug. 5-10, 2018 (invited).
- **Liu X.J.A.**, Frey S.D., Kemner K.M., Melillo J.M., Mishra B., DeAngelis K.M. Resolving conflicting physical and biochemical feedbacks to climate in response to long-term warming. Environmental System Science PI Meeting, Potomac, MD, May 1-2, 2018.
- **Liu X.J.A.**, Mau RL, Hayer M, Finley B, Schwartz E, Dijkstra P and Hungate BA. Responses of microbial communities and soil organic matter decomposition following labile carbon and nitrogen inputs. Multi-omics for Microbiomes-EMSL Integration Conference, Pasco, WA, Aug. 1-3, 2017.
- **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, San Francisco, CA, Dec. 12-16, 2016.
- **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, San Francisco, CA, Dec. 14-18, 2015.
- **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, San Francisco, CA, Dec. 14-19, 2014.
- **Liu X.J.**, Fike J., Galbraith J., Evanylo G. 2013. Management considerations for biofuel production systems. American Forage and Grassland Council National Meeting, Covington, KY. Jan. 6-8, 2013.
- **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, Cincinnati, OH. Oct.20-24, 2012.
- **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, Cincinnati, OH. Oct.20-24, 2012.

- **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, San Antonio, TX. Oct. 16-19, 2011.

PAST AND ONGOING AMERICAN COLLABORATORS

- Drs. Blazewicz, Pett-Ridge (LLNL).
- Drs. Creamer, Reed (USGS).
- Dr. Cusack (Colorado State University).
- Dr. DeAngelis (University of Massachusetts Amherst).
- Drs. Dijkstra, Hungate, Schwartz, Bowker (Northern Arizona University).
- Drs. Fike, Galbraith, Evanylo, Strahm (Virginia Tech).
- Dr. Firestone (UC Berkley).
- Dr. Frey (University of New Hampshire).
- Dr. Hall (University of Wisconsin).
- Dr. Hofmockel (PNNL).
- Drs. Jastrow, Kemner (ANL).
- Dr. Jilling (University of South Carolina).
- Dr. Kleber (Oregon State University).
- Dr. Melillo (Marine Biological Lab).
- Dr. Morrissey (West Virginia University).
- Dr. Rasmussen (University of Arizona).
- Drs. Schachtman, Alvarez (University of Nebraska Lincoln).
- Dr. Smith (Texas A&M University).
- Dr. Sulman (ORNL).
- Dr. Schulz (USGS).
- Dr. Tiedje (Michigan State University).
- Dr. van Gestel (Texas Tech University).
- Dr. Zhou (University of Oklahoma).

PAST AND ONGOING INTERNATIONAL COLLABORATORS

- Dr. Averill, ETH Zürich, Switzerland.
- Dr. Keiluweit, University of Lausanne, Switzerland.
- Dr. Kalbitz, Dresden University of Technology, Germany.
- Dr. Li, Chinese Academy of Sciences, Harbin, China
- Dr. Mishra, University of Leeds, UK.
- Dr. Powlson, Rothamsted Research, UK.
- Dr. van Groenigen, University of Exeter, UK.
- Dr. Wang, Wuhan University, China.
- Dr. Waring, Imperial College, UK.
- Dr. Yang, Tsinghua University, China.
- Dr. Zhou, Northwest A&F University, China.