CURRICULUM VITAE

JAMES A. IPPOLITO

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CONTENT:

EDUCATIONAL BACKGROUND:

Ph.D., Environmental Soil Quality/Chemistry, Colorado State University, **December 2001.**
Dissertation Title: Phosphorus adsorption/desorption of water treatment residuals and biosolids co-application effects.

M.S., Soil Chemistry/Fertility, Colorado State University, **August 1992.**
Thesis Title: Determination of salinity threshold levels for selected grass and legume forage species.

B.S., Plant Science - Agronomy Concentration, Microbiology Minor, University of Delaware, **May 1989.**

PROFESSIONAL EMPLOYMENT:

- Associate Professor (non-tenure tract), Soil Fertility/Environmental Soil Quality, Department of Soil and Crop Sciences, Colorado State University, 2016 to present
- Joint Appointment, Adjunct Associate Professor, Gansu Agricultural University, Lanzhou, Gansu, China, February 2018 to present
- Joint Appointment, Adjunct Associate Professor, Agricultural College, Shihezi University, Shihezi City, Xinjiang Province, China, 2017 to present
- Research Soil Scientist (GS14-6), USDA-ARS, 2016-2016
- Research Soil Scientist (GS14-5), USDA-ARS, 2013-2015
- Research Soil Scientist (GS14-4), USDA-ARS, 2011-2013
- Research Soil Scientist (GS13-6), USDA-ARS, 2009-2011
- Research Soil Scientist (GS13-4), USDA-ARS, 2007-2009
- Assistant Professor (non-tenure track), Environmental Soil Quality/Chemistry, Department of Soil and Crop Sciences, Colorado State University, 2002-2007
- Research Associate, Department of Soil and Crop Sciences, Colorado State University, 1991-2002
- Graduate Research Assistant, Colorado State University, 1989-1991

PUBLICATION RECORD:

Current Google Scholar Citation indices for Jim Ippolito:

	All	Since 2013
Citations	2910	2093
h-index	28	212
i10-index	55	41

Refereed:

Schechter, S., I. Zohar, M.S. Massey, **J.A. Ippolito**, and M.I. Litaor. 2018. Making phosphorus fertilizer from dairy wastewater with Al water treatment residuals. In preparation.

Ippolito, J.A., D.L. Bjorneberg, and S.W. Blecker. 2018. Soil phosphorus availability differs between sprinkler and furrow irrigation. In preparation.

Borchard, N., M. Schirrmann, M. Cayuela, C. Kammann, N. Wrage-Mönnig, J.M. Estavillo, T. Fuertes-Mendizabal, G. Sigua, K. Spokas, **J.A. Ippolito**, and J. Novak. 2018. Biochar reduces N_2O emissions by 38 percent: A Meta-analysis. In preparation.

Fuertes-Mendizábal, T., X. Huérfano, I. Vega-Mas, F. Torralbo, S. Menéndez, **J.A. Ippolito**, C. Kammann, N. Wrage-Mönnig, M.L. Cayuela, N. Borchard, K. Spokas, J. Novak, M.B. González-Moro, C. González-Murua, and J.M. Estavillo. 2018. Biochar reduces the efficiency of nitrification inhibitor 3,4-dimethypyrazole phosphate (DMPP) mitigating N_2O emissions. In preparation.

Cui, L., C. Yin, H. Gan, T. Chen. G. Quan, **J.A. Ippolito**, B. Xiao, M. Pan, B. Lui, J. Yan, C. Ding, Q. Hussain, and M. Umer. 2018. Biochar remediates halogens and improves microbial activity in contaminated soil. In preparation.

Ippolito, J.A., L. Cui, J.M. Novak, and M.G. Johnson. 2018. Biochar for mine land reclamation. In (Y.S. Ok, N. Bolan, D. Tsang, and J. Novak, Eds.) Biochar from Biomass and Waste. In review with Elsevier.

Zohar, I., **J. Ippolito**, and I. Litaor. 2018. Phosphorus fractionation in aluminum water treatment residuals (Al-WTRs) using a modified sequential extraction procedure. In review with Chemosphere.

Cui, L., C. Yin, T. Chen, G. Quan, B. Xiao, Y. Ma, M. Pan, Y. Liu, B. Liu, **J.A. Ippolito**, J. Yan, X. Han, C. Ding, M. Bian, and Q. Hussain. 2018. Biochar reduces transport and degrades 2,4,6-trichlorophenol. In review with J. Environ. Qual.

Cui, L., L. Li, T. Chen, J. Yan, **J.A. Ippolito**, C. Ding, C. Yin, T. Luo, and Q. Hussain. 2018. Iron-activated biochar sorbs cadmium and lead. In review with J. Environ. Qual.

Novak, J.M., **J.A. Ippolito**, M.G. Johnson, K.A. Spokas, and Y.S. Ok. 2018. Selection of designer biochar characteristics for rectification of soil health and enhancement of mine land reclamation. In review with Advances in Agronomy.

Vithanage, M., S.S. Mayakaduwa, A.U. Rajapaksha, M. Ahmad, D.C.W. Tsang, K. Kim, A. Abduljabbar, M.I. Al-Wabel, **J.A. Ippolito**, and Y.S. Ok. 2018. Environmental

management of carcass disposal locations: Implications for sustainable biochar use. In review with Agric. Ecosys. Environ.

Massey, M.S., I. Zohar, **J.A. Ippolito**, and I.M. Litaor. 2018. X-ray spectroscopic analysis of phosphorus sorption to aluminum-based water treatment residuals reacted with dairy wastewater. Accepted for publication in J. Environ. Qual.

Zohar, I., Litaor, M.I., **J.A. Ippolito**, and M. Massey. 2018. Phosphorus sorption characteristics in aluminum-based water treatment residuals reacted with dairy wastewater, part 1: Isotherms, XRD and SEM-EDS analysis. Accepted for publication in J. Environ. Qual.

Novak, J.M., **J.A. Ippolito**, T.F. Ducey, M.G. Johnson, D.W. Watts, K.M. Trippe, K.A. Spokas, and G.C. Sigua. 2018. *Miscanthus* biochar and lime have different impacts on mine spoil health characteristics. Accepted for publication in Chemosphere.

Ippolito, J.A., D.L. Bjorneberg, D.E. Stott, and D.L. Karlen. 2017. Soil quality improvement through conversion to sprinkler irrigation. Soil Sci. Soc. Am. J. 81:1505-1516.

Mehmood, K., E. Chávez Garcia, M. Schirrmann, B. Ladd, C. Kammann, N. Wrage-Mönnig, C. Siebe, J.M. Estavillo, T. Fuertes, M. Cayuela, G. Sigua, K. Spokas, A.L. Cowie, J. Novak, **J.A. Ippolito**, and N. Borchard. 2017. Biochar research activities and their relation to development and environmental quality. A meta-analysis. Agron. Sustain. Dev. 37:22.

Kammann, C., N. Borchard, M. Cayuela, N. Hagemann, **J. Ippolito**, S. Jeffery, J. Kern, D. Rasse, S. Sanna, H-P. Schmidt, K. Spokas, and N. Wrage-Mönnig**.** 2017. Biochar as a tool to reduce the agricultural greenhouse burden – Knowns, unknowns and future research needs. J. Environ. Engineer. Landscape Management. 25:114-139.

Dungan, R., A. Leytem, **J. Ippolito**, and D. Tarkalson. 2017. Greenhouse gas emissions from an irrigated dairy forage rotation as influenced by fertilizer and manure applications. Soil Sci. Soc. Am. J. 81:437-545.

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Barbarick, K.A., **J.A. Ippolito**, and J. McDaniel. 2017. Meta-analysis of biosolids effect in dryland wheat agroecosystems. J. Environ. Qual. 46:452-460.

Spokas, K.A, R. Weis, G. Feyereisen, D.W. Watts, J.M. Novak, T.J. Lee, and **J.A. Ippolito**. 2017. Biomass or biochar – Which is better at improving soil hydraulic properties? Acta Horticulturae. 1146.31:235-242.

Laird, D.A., J.M. Novak, H.P. Collins, **J.A. Ippolito**, D.L. Karlen, R.D. Lentz, K.R. Sistani, K. Spokas, and R.S. Van Pelt. 2017. Multi-year and multi-location soil quality and crop biomass yield responses to hardwood fast pyrolysis biochar. Geoderma. 289:46-53.

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Novak, J.M., **J.A. Ippolito**, R.D. Lentz, K.A. Spokas, C.H. Bolster, K. Sistani, K.M. Trippe, and M.G. Johnson. 2016. Soil health, crop productivity, microbial transport, and mine spoil response to biochars. Bioenerg. Res. 9:454-464.

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Thomazini, A., K. Spokas, K. Hall, **J. Ippolito**, R. Lentz, and J. Novak. 2015. GHG impacts of biochar: Predictability for the same biochar. Agric. Ecosys. Environ. 207:183-191.
Bjorneberg, D.L., A.B. Leytem, **J.A. Ippolito**, and A.C. Koehn. 2015. Phosphorus losses from an irrigated watershed in the northwestern U.S.: Case study of the Upper Snake Rock Watershed. J. Environ. Qual. 44:552-559.
Ippolito, J.A., K.A. Spokas, J.M. Novak, R.D. Lentz, and K.B. Cantrell. 2015. Biochar elemental composition and factors influencing nutrient retention. In: Lehmann, J., and S. Joseph (Eds.), Biochar for Environmental Management: Science, Technology and Implementation. 2nd Ed. Routledge. New York, NY. pp. 137-161.
Barbarick, K.A., **J.A. Ippolito**, and J. McDaniel. 2015. Uptake coefficients for biosolids-amended dryland winter wheat. J. Environ. Qual. 44:286-292.
Lentz, R.D., **J.A. Ippolito**, and K.A. Spokas. 2014. Biochar and manure effects on net N mineralization and greenhouse gas emissions from calcareous soil under corn. Soil Sci. Soc. Am. J. 78:1641–1655.
Ippolito, J.A., K.A. Barbarick, and R.B. Brobst. 2014. Copper and zinc speciation in a biosolids-amended semi-arid grassland soil. J. Environ. Qual. 43:1576-1584.
Spokas, K.A., J.M. Novak, C.A. Masiello, M.G. Johnson, E.C. Colosky, **J.A. Ippolito**, and C.T. Cordoba. 2014. Physical disintegration of biochar: An overlooked process. Environ. Sci. Technol. Letters. 1:326-332.
Ippolito, J.A, R. Spackman, J.A. Entry, and R.E Sojka. 2014. Removal of vegetative clippings reduces dissolved phosphorus loss in runoff. Comm. Soil Sci. Plant Anal. 45:1555-1564.
Ippolito, J.A., M.E. Stromberger, R.D. Lentz, and R.S. Dungan. 2014. Hardwood biochar influences calcareous soil physicochemical and microbiological status. J. Environ. Qual. 43:681-689.
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Moore, A., S. Hines, B. Brown, C. Falen, M. de Haro Marti, M. Chahine, R. Norell, **J. Ippolito**, S. Parkinson, and M. Satterwhite. 2014. Soil-plant nutrient interactions on manure-enriched calcareous soils. Agron. J. 106:73-80.

Ippolito, J.A., and N.O. Nelson. 2013. Assessment of phosphorus retention in irrigation canals. J. Soil Water Conserv. 68:450-459.

Ippolito, J.A., D.G. Strawn, and K.G. Scheckel. 2013. Investigation of copper sorption by sugar beet processing lime waste. J. Environ. Qual. 42:919-924.

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Ducey, T.F., **J.A. Ippolito**, K.B. Cantrell, J.M. Novak, and R.D. Lentz. 2013. Addition of activated switchgrass biochar to an aridic subsoil increases microbial nitrogen cycling gene abundances. Applied Soil Ecol. 65:65-72.

Blecker, S.W., L.L. Stillings, M.C. Amacher, **J.A. Ippolito**, and N.M. DeCrappeo. 2013. Development and application of a soil organic matter based soil quality index in mineralized terrane of the Western US. Environ. Earth Sci. 68:1887-1901.

Hines, S., A. Moore, B. Brown, M. Chahine, R. Norell, M.E. deHaro Marti, C. Falen, T. Fife, S. Parkinson, and **J. Ippolito**. 2012. Using extension phosphorus uptake research to improve Idaho's nutrient management planning program. Journal of Extension [On-line], 50(5), Article 5RIB10. Available at: http://www.joe.org/joe/2012october/rb10.php

Miguel, R.E., **J.A. Ippolito**, A.B. Leytem, A.A. Porta, R.B. Banda Noriega, and R.S. Dungan. 2012. Analysis of total metals in waste molding and core sands from ferrous and non-ferrous foundries. J. Environ. Manage. 110:77-81.

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Lentz, R.D., and **J.A. Ippolito**. 2012. Biochar and manure affects calcareous soil and corn silage nutrients concentrations and uptake. J. Environ. Qual. 41:1033-1043.

Ippolito, J.A., J.M. Novak, W.J. Busscher, M. Ahmedna, D. Rehrah, and D.W. Watts. 2012. Switchgrass biochar affects two Aridisols. J. Environ. Qual. 41:1123-1130.

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Blecker, S.W, L.L. Stillings, M.C. Amacher, **J.A. Ippolito**, and N.M. DeCrappeo. 2012. Development of vegetation based soil quality indices for mineralized terrane in arid and semi-arid ecosystems. J. Ecol. Indic. 20:65-74.

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Mamo, M., **J. Ippolito**, T. Kettler, R. Reuter, D. McCallister, P. Morner, D. Husmann, and E. Blankenship. 2011. Reinforcing concepts of soil genesis and development through e-lessons. J. Geosci. Ed. 59:194-204.

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PRESENTATIONS, SYMPOSIUMS, AND SEMINARS:

Novak, J.M., G.C. Sigua, **J.A. Ippolito**, R.D. Lentz, R.S. VanPelt, K.A. Spokas, K. Sistani, H.P. Collins, M.G. Johnson, and K. Pantuck. 2018. Biochar utilization for soil quality improvement, greenhouse gas reduction, metal and nutrient sequestration. USBI Biochar 2018. Wilmington, Delaware. August 20-23.

Novak, J.M., **J.A. Ippolito**, and M.G. Johnson. 2018. Coordinating engineered biochar production for soil quality improvement, mine spoil reclamation, and nutrient removal in waste streams. 4th International Conference on Contaminated Land, Ecological Assessment and Remediation. Hong Kong, China. August 16-18.

Novak, J.M., **J.A. Ippolito**, and M.G. Johnson. 2018. Coordinating engineered biochar production for soil quality improvement, mine spoil reclamation, and nutrient removal in waste streams. 2018 International Conference on Heavy Metals in the Environment. University of Georgia, Athens, Georgia. July 21-25.

Ippolito, J.A., 2018. Short- and long-term composted biosolids land applications affect grassland soils and plants. 2nd International Conference on Bioresources, Energy, Environment, and Materials Technology. Hongcheon, Gangwon Province, South Korea. June 10-13.

Ippolito, J.A., L. Cui, J. Novak, and M. Johnson. 2018. Biochar-heavy metal sorption mechanisms in contaminated soils. 2nd International Conference on Bioresources, Energy, Environment, and Materials Technology. Hongcheon, Gangwon Province, South Korea. June 10-13.

Ippolito, J.A., and K.A. Barbarick. 2018. Meta-analysis of biosolids effect in dryland wheat agroecosystems. 2nd International Conference on Bioresources, Energy, Environment, and Materials Technology. Hongcheon, Gangwon Province, South Korea. June 10-13. **INVITED.**

Jalali, S., N. Roman-Muniz, S. Archibeque, T. Holt, **J. Ippolito**, and T.E. Engle. 2018. Used footbath copper extraction, and CuSO4 recycling apparatus desing and feasibility study. CSU Demo Day, CSUVentures. Fort Collins, Colorado April 10.

Ippolito, J.A. 2018. Mining, Reclamation, Plant Productivity, and Livestock Production Implications. 255th American Chemical Society National Meeting & Exposition. New Orleans, LA. March 18-22. **INVITED.**

Ippolito, J. 2018. Can irrigation method affect soil phosphorus availability? Great Plains Soil Fertility Conference. Denver, CO. March 6-7. **INVITED.**

Ippolito, J.A. 2018. Biochar's benefits for western US soils. March 9. University of Wyoming, Department of Plant Sciences seminar series.

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Ippolito, J.A. 2018. Science of biosolids land application. West Adams County Conservation District Biosolids Workshop. Brighton, CO. February 28.

Ippolito, J.A. 2018. Biochar magic?: How can biochar improve soil processes? American Society of Agronomy/Soil Science Society of America Webinar. Madison, WI. February 27. **INVITED.**

Ippolito, J.A. 2018. Biochar: A local product for solving local problems. TriBeta Biology Honor Society Lectureship, Colorado State University Chapter. February 12. **INVITED.**

Ippolito, J.A. 2018. Soil health/soil quality. Morgan Conservation District's 63 Annual Meeting. Fort Morgan, CO. February 8. **INVITED.**

Ippolito, J.A. 2017. Soil Phosphorus, Fertilization, and Environmental Consequences. Eastern Colorado Crop Production Conference. Fort Morgan, CO. Dec. 5-6. **INVITED.**

Jalali, S., N. Roman-Muniz, S. Archibeque, T. Holt, **J. Ippolito**, and T.E. Engle. 2017. Regenerating copper sulfate from dairy footbaths to prevent heavy metal accumulation in agricultural land. Colorado State University Graduate Student Showcase. Nov. 6. Fort Collins, CO.

Bordi, K., **J. Ippolito**, J McDaniel, and K. Barbarick. 2017. Biosolids Land Application and Phosphorus: A Simple Runoff Study. American Society of Agronomy Meetings. October 22-25. Tampa. FL.

Spokas, K.A., and **J.A. Ippolito**. 2017. Biochar magic: The smoke and mirrors behind biochar use for improving soils. American Society of Agronomy Meetings. October 22-25. Tampa. FL.

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Kammann, C., A. Haller, H-P. Schmidt, N. Wrage-Moennig, **J.A. Ippolito**, T. Fuertes-Mendizabal, J.M. Estavillo, N. Borchard, M. Cayuela, K.A. Spokas, J.M. Novak. 2017. Biochar as a tool for nitrogen management: Increasing benefits while reducing environmental burdens. American Society of Agronomy Meetings. October 22-25. Tampa. FL.

Wrage-Moennig, N., S. Fiedler, T. Fuertes-Mendizabal, J.M. Estavillo, **J.A. Ippolito**, N. Borchard, M. Cayuela, K.A. Spokas, J.M. Novak, and C. Kammann. 2017. Influence of 13 biochars on N2O sources during rewetting-drying cycles. American Society of Agronomy Meetings. October 22-25. Tampa. FL.

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Ippolito, J.A., C. Kammann, M. Schirrmann, N. Wrage-Mönnig, T. Estavillo, T. Fuertes, M. Cayuela, N. Borchard, J. Novak, K. Spokas, and G. Sigua. 2017. Biochar mediated mechanisms for reducing N_2O emissions: An overview. European Geosciences Union. April 22-29. Vienna, Austria.

Fiedler, S., T. Fuertes-Mendizábal, J.M. Estavillo, **J.A. Ippolito**, N. Borchard, M.L. Cayuela, K. Spokas, J. Novak, C. Kammann, and N. Wrage-Mönnig. 2017. Influence of 13 different biochars on N_2O production and its sources during rewetting-drying cycles. European Geosciences Union. April 22-29. Vienna, Austria.

Schirrmann, M., M.L. Cayuela, T. Fuertes-Mendizábal, J.M. Estavillo, **J.A. Ippolito**, K. Spokas, J. Novak, C. Kammann, N. Wrage-Mönnig, and N. Borchard. 2017. Biochar reduced N_2O emissions from soils: A meta-analysis. European Geosciences Union. April 22-29. Vienna, Austria.

Fuertes-Mendizábal, T., X. Huérfano, S. Menéndez, C. González-Murua, M.B. González-Moro, **J.A. Ippolito**, C. Kammann, N. Wrage-Mönnig, N. Borchard, M.L. Cayuela, K. Spokas, J. Novak, and J.M. Estavillo. 2017. Biochar reduces the efficiency of the nitrification inhibitor 3,4-dymethylpyrazole phospate (DMPP) mitigating N_2O emissions. European Geosciences Union. April 22-29. Vienna, Austria.

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Novak, J.M., M.G. Johnson, **J.A. Ippolito**, G.C. Sigua, K.A. Spokas, K.M. Trippe, and T.F. Ducey. 2017. Biochars ability to sequester metals in contaminated mine spoils: A greenhouse study. European Geosciences Union. April 22-29. Vienna, Austria.

Ippolito, J.A. and D.D. Tarkalson. 2017. Introduction to soils for appraisers. 2017 Spring Meeting of the Colorado Chapter of the American Society of Farm Managers and Rural Appraisers. April 20-21. Loveland, CO. **INVITED.**

Ippolito, J.A. 2017. Soil and water conservation BMPs. Front Range Community College – Larimer campus. March 8 and 28. Fort Collins, CO. **INVITED.**

Ippolito, J.A., D.L. Bjorneberg, D. Stott, and D.L. Karlen. 2017. Soil management assessment framework use for identifying soil quality changes in irrigated agriculture. Western Nutrient Management Conference. March 2-3. Reno, NV.

Ippolito, J.A. 2017. Soil nutrients and cycling: The big 3 and availability issues in calcareous soils. Urban and Small Farms Conference. February 22-23. Salt Lake City, Utah. **INVITED.**

Ippolito, J.A. 2017. Identifying soil quality improvements in paired, irrigated agroecosystems. 2017 Colorado State University Agricultural Experiment Station Soil Health Workshop. February 9. Dove Creek, CO. **INVITED.**

Ippolito, J.A., R.D. Lentz, and C. Kammann. 2016. Nitrogen transformations in manure amended soils as affected by biochar application. American Society of Agronomy International Meetings. November 6-9. Phoenix, AZ. **INVITED.**

Ippolito, J.A., D.L. Bjorneberg, and D.L. Karlen. 2016. Surface soil quality response to irrigation method in a western US CEAP watershed. American Society of Agronomy International Meetings. November 6-9. Phoenix, AZ.

Ippolito, J.A., D.M. Olszyk, T.F. Ducey, G.C. Sigua, K.M. Trippe, C.L. Phillips, K.A. Spokas, J.M. Novak, and M.G. Johnson. 2016. Biochar selection for reducing mine soil metal availability. American Society of Agronomy International Meetings. November 6-9. Phoenix, AZ.

Trippe, K., **J.A. Ippolito**, T.F. Ducey, G.C. Sigua, C.L. Phillips, K.A. Spokas, J. Novak, and M.G. Johnson. 2016. Biochar amendments influence the microbial community dynamics in mine soils. American Society of Agronomy International Meetings. November 6-9. Phoenix, AZ.

Dungan, R.S., A. Leytem, D.D. Tarkalson, **J.A.** Ippolito, and D. Bjorneberg. 2016. Soil nitrous oxide emissions from an irrigated rotational cropping system as affected by nitrogen source. American Society of Agronomy International Meetings. November 6-9. Phoenix, AZ.

Lentz, R.D., and **J.A. Ippolito**. 2016. Biochar, manure, or sawdust affect soil water retention differently during five-year period. American Society of Agronomy International Meetings. November 6-9. Phoenix, AZ.

Trippe, K.M., T.F. Ducey, C.L. Phillips, M.G. Johnson, J. Novak. **J.A. Ippolito**, K. Spokas, and G. Sigua. 2016. Biochar amendments influence the microbial community dynamics in mine soils. 3rd Asia Pacific Biochar Conference. October 19-23. Gangwon Province, South Korea.

Novak, J., **J. Ippolito**, K. Spokas, G. Sigua, C. Kammann, N. Wrage-Monnig, N. Borchard, J.M. Estavello, T. Fuertes, S. Menendez, and M.L. Cayuela. 2016. Matching designer biochars for improving agriculturally important properties of degraded soils. 3rd Asia Pacific Biochar Conference. October 19-23. Gangwon Province, South Korea. **Invited.**

Sigua, G.C., J.M. Novak, **J.A. Ippolito**, and M.G. Johnson. 2016. Designer biochars can remediate mine spoil chemical properties while also promoting mine site phytostabilization. Matching designer biochars for improving agriculturally important properties of degraded soils. 3rd Asia Pacific Biochar Conference. October 19-23. Gangwon Province, South Korea.

Novak, J.M., M.G. Johnson, **J.A. Ippolito**, K.A. Spokas, K. Trippe, T.F. Ducey, and G.C. Sigua. 2016. Overview of designing biochars to improve soil health characteristics at two Superfund mine waste sites. US Biochar Initiative – Biochar 2016 Conference. August 22-25. Corvallis, OR.

Bjorneberg, D., **J. Ippolito**, and A. Koehn. 2016. Water quality changes with conversion from furrow to sprinkler irrigation. ASABE Annual International Meetings. July 17-20. Orlando, FL.

Dungan, R.S., A.B. Leytem, D.D. Tarkalson, **J.A. Ippolito**, and D.L. Bjorneberg. 2016. Nitrous oxide emissions as influenced by dairy manure and inorganic nitrogen fertilizers in an irrigated cropping system. 6th Greenhouse Gas and Animal Agriculture Conference. February 14-18. Melbourne, Australia.

Ippolito, J.A., D. Strawn, J. Novak, And C. Berry. 2015. Biochar reduces bioavailable heavy metals in mine land soils. American Society of Agronomy International Meetings. November 15-18. Minneapolis, MN. **INVITED.**

Lentz, R.D., and **J.A. Ippolito**. 2015 Long-term influences of biochar, manure, or sawdust additions on nutrient leaching in calcareous soil. American Society of Agronomy International Meetings. November 15-18. Minneapolis, MN.

Ippolito, J.A. 2015. Aluminum-based water treatment residuals sorb phosphorus in urban wetlands: preliminary study. Soil Science Society of America International Meetings, November 15-18. Minneapolis, MN.

Novak, J.M., G.C. Sigua, **J.A. Ippolito**, K.A. Spokas, and R. Venterea. 2015. Designchar4food (d4f) Network: Enhancing soil carbon and fertility while reducing greenhouse gas production through biochar application. American Society of Agronomy International Meetings. November 15-18. Minneapolis, MN.

Novak, J.M., M.G. Johnson, **J.A. Ippolito**, D.W. Watts, K. Trippe, and C. Phillips. 2015. Amending metal contaminated mine soil with biochars to sequester metals and improve plant growth cover. American Society of Agronomy International Meetings. November 15-18. Minneapolis, MN.

Ippolito, J.A. 2015. Biochar mechanics: What it is and how it works in the soil. High Country Biomass Utilization Workshop. November 9. St. Anthony, ID. **INVITED.**

Bjorneberg, D.L., **J.A. Ippolito**, and A.C. Koehn. 2015. Sediment and nutrient losses from the Upper Snake Rock watershed in southern Idaho. Proceedings of the ASABE/IA Irrigation Symposium. Nov. 10-12. Long Beach, CA.

Ippolito, J.A., and J.M. Novak. 2015. Mechanisms for biochar use in improving degraded, heavy metal laden soils. Sept. 28-30. EU COST Conference. Geisenheim, Germany. **INVITED.**

Johnson, M.G., D. Olszyk, J. Power, **J. Ippolito**, K. Trippe, C. Phillips, K. Spokas, and J. Novak. 2015. Optimal selection of biochars for remediating metals contaminated mine soil. Sept. 28-30. EU COST Conference. Geisenheim, Germany.

Ippolito, J.A, K.A. Barbarick, J.P. McDaniel, R.B. Brobst, and M.E. Stromberger. 2015. Effects of long-term organic waste application on agricultural yields, soil organic carbon, and soil microorganisms. 5th International Symposium on Soil Organic Matter (SOM). Sept. 20-24. Gottingen, Germany.

Ippolito, J., and D. Bjorneberg. 2015. The use of wetlands and chemical injections to control sediment and soluble phosphorus. European Geosciences Union. April 12-17. Vienna, Austria.

Ippolito, J.A., K.A. Spokas, J.M. Novak, R.D. Lentz, and K.B. Cantrell. 2015. Challenges in designing biochars for specific uses: Influence of feedstock, pyrolysis temperature and type. European Geosciences Union. April 12-17. Vienna, Austria.

Bjorneberg, D.L., A.C. Koehn, and **J.A. Ippolito**. 2015. Salt and sediment balances in an irrigated watershed in southern Idaho. Proceedings of the Western Nutrient Management Conference. March 5-6. Reno, NV.

Ippolito, J.A., K.A. Spokas, J.M. Novak, R.D. Lentz, and K.B. Cantrell. 2015. Understanding feedstock choice, pyrolysis temperature, and pyrolysis type when designing biochars for specific soil uses. Carbon Conference: Biochar…Black is the New Green. Feb. 18. Minden, NV. **INVITED.**

Ippolito, J.A., and D.D. Tarkalson. 2015. Introduction to soils for appraisers. Idaho-Utah Chapter of the American Society of Farm Managers. Jan. 21. Twin Falls, ID. **INVITED.**

Ippolito, J., K. Spokas, J. Novak, R. Lentz, M. Stromberger, T. Ducey, and M. Johnson. 2014. USDA Biochar Research: Land Application Advances to reap its multifunctional abilities. American Geophysical Union. December 15-19. **INVITED.**

Lentz, R.D., **J.A. Ippolito**, and K.A. Spokas. 2014. Biochar alters manure's effect on nitrogen cycling and greenhouse gas emissions in a calcareous soil. American Society of Agronomy International Meetings. November 2-5. Long Beach, CA.

Novak, J.M., D. Laird, H.P.Collins, R.D. Lentz, **J.A. Ippolito**, K.A. Spokas, R.S. Van Pelt, D. Karlen, M.D. Tomer, T.J. Sauer, G.C. Sigua, and K.R. Sistani. 2014. Crop Yield Responses to a Hardwood Biochar Across Varied Soils and Climate Conditions. American Society of Agronomy Meetings. November 2-5. Long Beach, CA.

Ippolito, J.A., K.A. Spokas, J.M. Novak, R.D. Lentz and K.B. Cantrell. 2014. Factors Influencing Biochar Elemental Composition. American Society of Agronomy International Meetings. November 2-5. Long Beach, CA.

Ippolito, J., D. Bjorneberg, A. Koehn, and R. Dungan. 2014. Tracking Nitrate Leaching in the Idaho Upper Snake Rock Watershed. American Society of Agronomy International Meetings. November 2-5. Long Beach, CA.

Ippolito, J. 2014. Phosphorus dynamics in an aridic irrigated watershed: Means of availability, transport, and capture. October 10. University of Delaware. Newark, DE. **INVITED.**

Ippolito, J. 2014. Alternate year irrigation cropping systems project, featuring sugar beets, corn, camelina, and barley. Southern Idaho Nutrient Management Field Day. August 5. Kimberly, ID.

Bjorneberg, D., **J. Ippolito**, and A. Koehn. 2014. Water quality improvement by converting from surface to sprinkler irrigation. 69th SWCS International Annual Conference. Lombard, IL. July 27-30.

Ippolito, J. 2014. Environmental implications of Zn and Cu. Digital dermatitis summit meeting. May 4-7. Amsterdam, the Netherlands. **INVITED.**

Ippolito, J. 2014. Biochar's benefits for intermountain western US soils. Colorado State University Department of Soil and Crop Sciences Seminar Series. March 27. Fort Collins, CO. **INVITED.**

Ippolito, J., and D. Bjorneberg. 2014. Irrigation practice affects soil phosphorus availability. Idaho Nutrient Management Conference. March 6. Twin Falls, ID.

Hunter, B., and **J. Ippolito**. 2014. Biochar basics. Utah State University Forestry Extension's Learn at Lunch webinar. January 21. Logan, UT. **INVITED.**

Ippolito, J. 2013. Pinyon pine and juniper biochar application to four eastern Nevada soils. American Society of Agronomy International Meetings. Nov 3-6. Tampa, FL. **INVITED.**

Elzobair, K., M.E. Stromberger, and **J.A. Ippolito**. 2013. Biochar effects on soil microbial communities and resistance of enzymes to stress. American Society of Agronomy International Meetings. Nov 3-6. Tampa, FL.

Ippolito, J., and D. Bjorneberg. 2013. Soil phosphorus availability differences between sprinkler and furrow irrigation. American Society of Agronomy International Meetings. Nov 3-6. Tampa, FL.

Leytem, A.B., D. Bjorneberg, **J.A. Ippolito**, and D.M. Sullivan. 2013. Phosphorus losses from an irrigated watershed in the northwestern U.S.: Case study of the upper Snake-River watershed. American Society of Agronomy International Meetings. Nov 3-6. Tampa, FL. **INVITED.**

Bjorneberg, D., **J. Ippolito**, and A. Koehn. 2013. Nutrient losses from an irrigated watershed in southern Idaho. 2013 ASABE International Meeting. July 21-24. Kansas City, MO.

Ippolito, J.A., and D. Bjorneberg. 2013. Soil phosphorus availability differences between sprinkler and furrow irrigation. Western Nutrient Management Conference. March 6-8. Reno, NV.

Ippolito, J., R. Lentz, K. Cantrell, T. Ducey, and J. Novak. 2012. Low-temperature biochar affects an eroded calcareous soil. American Society of Agronomy International Meetings. Oct 21-24. Cincinnati, OH.

Ducey, T.F., **J.A. Ippolito**, J. Novak, and K.B. Cantrell. 2012. Analysis of nitrogen cycling genes in biochar-amended soil. American Society of Agronomy International Meetings. Oct 21-24. Cincinnati, OH.

Satterwhite, M., A. Moore, and **J. Ippolito**. 2012. Evaluating potato growth response to high copper soils. American Society of Agronomy International Meetings. Oct 21-24. Cincinnati, OH.

Ippolito, J. 2012. Salt and copper issues related to manure and compost applications. University of Idaho Manure Management Workshop. August 16. Kimberly, ID. **INVITED**.

Bryant, R.B., P.J.A. Kleinman, D.B. Jaynes, G.W. Feyereisen, and **J.A. Ippolito**. 2012. Development and adoption of measures to prevent off-site nutrient transport. Soil

and Water Conservation Society 67th International Annual Conference. July 22-25. Ft. Worth, TX.

Ippolito, J. 2012. Irrigation practice affects soil phosphorus availability. Eurosoil 2012 Conference. July 2-6. Bari, Italy.

Ippolito, J. 2012. Biochar effects on arid and semi-arid soil chemical and microbial processes. Eurosoil 2012 Conference. July 2-6. Bari, Italy. **INVITED.**

Ducey, T.F., **J.A. Ippolito**, K.B. Cantrell, and J.M. Novak. 2012. Long-term analysis of nitrogen cycling genes in biochar-amended soils. June 16-19. San Francisco, CA.

Ippolito, J. 2012. Nevada biochar – What are we learning? Eastern Nevada Landscape Coalition Conference. June 6-8. Ely, NV. **INVITED.**

Brobst, B., and **J. Ippolito.** 2012. Idaho Department of Environmental Quality: Biosolids workshop. May 16-17. **INVITED.**

Ippolito, J. 2012. Biochar uses and potential applications. Smallwood 2012 Conference: Forest Restoration for a New Economy. May 1-3. Flagstaff, AZ. **INVITED.**

Ippolito, J. 2011. Impact of high soil copper and zinc concentrations on crop production. Midwest American Dairy Science Association. Mar. 14 – 16. Des Moines, IA. **INVITED.**

Ippolito, J. 2011. Impacts of copper on soils, field corn, and alfalfa. 2011 Idaho State Department of Agriculture Nutrient Management Seminar. Feb. 8 - 9. Boise, ID. **INVITED.**

Ippolito, J., R. Lentz, R. Dungan, and M. Stromberger. 2010. Biochar affects an eroded calcareous soil. American Society of Agronomy International Meetings. Oct. 31 – Nov. 4. Long Beach, CA.

Lentz, R., and **J. Ippolito**. 2010. Short-term effects of biochar or other organic amendments on soil water retention. American Society of Agronomy International Meetings. Oct. 31 – Nov. 4. Long Beach, CA.

Tarkalson, D., and **J. Ippolito**. 2010. Clinoptilolite zeolite influence on nitrogen mineralization from dairy manure. American Society of Agronomy International Meetings. Oct. 31 – Nov. 4. Long Beach, CA.

Ippolito, J., R. Lentz, and R. Dungan. 2010. Biochar affects an eroded calcareous soil. Biochar 2010 U.S. Biochar Initiative Conference. National Biochar Initiative. June 27-30. Ames, IA.

Lentz, R.D., and **J. Ippolito**. 2010. Biochar, manure, or sawdust additions to calcareous subsoils: Effects on nutrient availability and carbon storage. March 21-25. American Chemical Society Meetings. San Francisco, CA.

Ippolito, J. 2010. Copper sequestration using local waste products. 2010 Idaho Nutrient Management Conference. March 9. Shoshone, ID. **INVITED.**

Ippolito, J. 2010. Biochar research: Lab, greenhouse, and field studies. WESTI Ag Days Conference. February 2-3. Worland, WY. **INVITED.**

Ippolito, J. 2010. Biochar research: The whats, whys, and hows. WESTI Ag Days Conference. February 2-3. Worland, WY. **INVITED.**

Ippolito, J. 2010. Salt management. Far West Agribusiness Association Idaho Winter Conference. January 11-13. Jackpot, NV. **INVITED.**

Blecker, S., L. Stillings, N. DeCrappeo, and **J. Ippolito**. 2009. Soil microbe-metal interactions in mineralized terrane of the Western US. American Geophysical Union. December 14-18. San Francisco, CA.

Ippolito, J.A., J.M. Novak, and M. Ahmedna. 2009. Copper adsorption by KOH activated pecan-shell biochar. American Society of Agronomy International Meetings. November 1-5. Pittsburgh, PA.

Lentz, R.D., and **J.A. Ippolito**. 2009. Biochar Additions to Irrigated, Calcareous Soils: Effects On Soil Organic Carbon and Nutrient Availability. American Society of Agronomy International Meetings. November 1-5. Pittsburgh, PA.

Ippolito, J. 2009. Can biochar improve soil quality? Dairy copper sulfate hoof baths, crop toxicities, soil copper bioavailability, and biochar copper sequestration. North American Biochar Conference. August 9-12. Boulder, CO.

Ippolito, J. 2009. Soil copper, plant toxicities, and soil reclamation. Far West Agribusiness Association Idaho Winter Conference. January 5-7. Jackpot, NV. **INVITED.**

Ippolito, J.A., K.G. Scheckel, and K.A. Barbarick. 2008. Selenium-water treatment residual adsorption and characterization. American Society of Agronomy National Meetings. October 5-9. Houston, TX.

Blecker, S., L. Stillings, M. Amacher, **J. Ippolito**, L Gough, and N. DeCrappeo. 2008. Indicators of ecosystem health and the impact of mineralized terrain. American Society of Agronomy National Meetings. October 5-9. Houston, TX.

Mamo, M., T. Kettler, **J.A. Ippolito**, R. Reuter, D. McCallister, D. Hussman, and E. Blankenship. 2008. Online lessons in soil science education. American Society of Agronomy National Meetings. October 5-9. Houston, TX.

Freeman, C.L., **J.A. Ippolito**, M.E. Stromberger, K.A. Barbarick, and E.F. Redente. 2008. Biosolids use for reclaiming fluvial mine tailings. The 18th High Altitude Revegetation Workshop. March 5-6. Fort Collins, CO.

Davis, N., P. Meiman, J. Brummer, and **J. Ippolito**. 2008. The use of 5 riparian shrub species for revegetation of fluvial mine tailing deposits. The 18th High Altitude Revegetation Workshop. March 5-6. Fort Collins, CO.

Ippolito, J. and K. Barbarick. 2008. Organic waste nitrogen and phosphorus dynamics under dryland agroecosystems. 2008 Idaho Nutrient Management Conference for Professionals. March 4. Jerome, ID.

Davis, N., P. Meiman, J. Brummer, and **J. Ippolito**. 2008. The use of 5 riparian shrub species for revegetation of fluvial mine tailing deposits. Front Range Student Ecology Symposium. February 26-27. Fort Collins, CO.

Ippolito, J., M. Stromberger, B. Willett, K. Barbarick, and M. Paschke. 2007. Shifts in shortgrass steppe soil microbial communities in response to biosolids and water treatment residuals co-application. 2007. American Society of Agronomy National Meetings. November 4-8. New Orleans, LA.

Ippolito, J., M. Scharp, K. Parker, W. Schultz, and R. Brobst. 2007. Biosolids application affects an overgrazed rangeland. American Society of Agronomy National Meetings. November 4-8. New Orleans, LA.

Massey, M., J.G. Davis, R.E. Sheffield, and **J.A. Ippolito**. 2007. Recovery of magnesium phosphates from dairy wastewater and their use as a fertilizer on calcareous soils. American Society of Agronomy National Meetings. November 4-8. New Orleans, LA.

Massey, M., **J.A. Ippolito**, J.G. Davis, and R.E. Sheffield. 2007. Morphological variation among magnesium phosphates recovered from wastewater. American Society of Agronomy National Meetings. November 4-8. New Orleans, LA.

Freeman, C, **J. Ippolito**, K. Barbarick, M. Stromberger, and E. Redente. 2007. Biosolids use in reclaiming fluvial mine tailings. American Society of Agronomy National Meetings. November 4-8. New Orleans, LA.

Mamo, M., T. Kettler, **J. Ippolito**, D. McCallister, and P. Morner. 2007. Evaluation of problem-based online lessons in soil science. American Society of Agronomy National Meetings. November 4-8. New Orleans, LA.

McDaniel, J, and **J. Ippolito**. 2007. Engineered soil adsorption systems to remove wastewater effluent phosphorus. American Society of Agronomy National Meetings. November 4-8. New Orleans, LA.

Massey, M.S., J.G. Davis, R.E. Sheffield, and **J.A. Ippolito.** 2007. Struvite Production from Dairy Wastewater and its Potential as a Fertilizer for Organic Production in Calcareous Soils. International Symposium on Air Quality and Waste Management for Agriculture. September 15-19. Broomfield, CO.

Ippolito, J.A. 2007. The effect of long-term water treatment residuals-biosolids co-applications on native rangeland soil. WEF/AWWA Joint Residuals and Biosolids Management Conference. April 15-18. Denver, CO

Ippolito, J., M. Scharp, K. Parker, W. Schultz, and B. Brobst. 2007. Biosolids application affects an overgrazed rangeland. WEF/AWWA Joint Residuals and Biosolids Management Conference. April 15-18. Denver, CO.

Massey, M.S., J.G. Davis, R.E. Sheffield, and **J.A. Ippolito.** 2007. Reducing dairy effluent phosphorus content through struvite production. Western Nutrient Management Conference. March 8-9. Salt Lake City, UT.

Basta, N.T., E.A. Dayton, G.A. O'Connor, H. Elliott, and **J. Ippolito**. 2007. Application of water treatment residuals to reduce phosphorus loss from agricultural land and to protect surface and ground water. USDA-CSREES National Water Conference. January 28-February 1. Savannah, GA.

Ippolito, J.A., M.W. Paschke, and K.A. Barbarick. 2007. Long-term composted biosolids land application affects rangeland soils and plants. 2007 Shortgrass Steppe Symposium. January 11. Fort Collins, CO.

Ippolito, J.A. 2006. Biosolids research lab update. Department of Soil and Crop Sciences, Colorado State University. December 7, 2006. Fort Collins, CO.

Ippolito, J.A., M.W. Paschke, and K.A. Barbarick. 2006. Long-term composted biosolids land application affects rangeland soils and plants. American Society of Agronomy National Meetings. November 12-16. Indianapolis, IN.

Ippolito, J.A., M.W. Paschke, and K.A. Barbarick. 2006. Long-term water treatment residuals-biosolids co-application affects rangeland soils and plants. American Society of Agronomy National Meetings. November 12-16. Indianapolis, IN.

Ippolito, J.A., K.A. Barbarick, and K.L. Norvell. 2006. Biosolids impact soil P recovery, fractionation, and potential environmental risk. American Society of Agronomy National Meetings. November 12-16. Indianapolis, IN.

Mamo, M., T. Kettler, **J. Ippolito**, R. Reuter, D. McCallister, P. Hain, C. Geiss, and W. Zanner. 2006. Development and assessment of e-applications and e- principles soil science lessons. American Society of Agronomy National Meetings. November 12-16. Indianapolis, IN.

Borch, T., Y. Assefa-Mulisa, **J.A. Ippolito**, N.C. Hansen, and J. Jones. 2006. Fate and transport of phosphorus in manure, biosolids and water treatment residual

amended soils under cyclic redox conditions. American Society of Agronomy National Meetings. November 12-16. Indianapolis, IN.

Freeman, C.L., N. Hansen, **J. Ippolito**, and G. Shurson. 2006. Soluble and Mehlich-III extractable phosphorus from swine manure applied soils. American Society of Agronomy National Meetings. November 12-16. Indianapolis, IN.

McDaniel, J., **J.A. Ippolito**, and K.A. Barbarick. 2006. Phosphorus release from water treatment residuals-biosolids co-amended soils. American Society of Agronomy National Meetings. November 12-16. Indianapolis, IN.

Ippolito, J.A., and K.A. Barbarick. 2006. Biosolids land application – A phosphorus based agronomic approach. RMSAWWA/RMWEA Annual Conference. September 11-13. Vail, CO.

Ippolito, J.A., and K.A. Barbarick. 2006. Biosolids land application – Do biosolids trace metals move within soils? RMSAWWA/RMWEA Annual Conference. September 11-13. Vail, CO.

Ippolito, J.A., and K.A. Barbarick. 2006. Thirty five years of biosolids research in Colorado. Rocky Mountain Water Environment Association PWO conference. June 29. Silverthorne, CO. **INVITED.**

Ippolito, J.A., and K.A. Barbarick. 2006. Soil Science – The influence of biosolids. Biosolids and Watershed Protection Workshop. June 7. Westminster, CO. **INVITED.**

Ippolito, J.A., and K.A. Barbarick. 2006. Thirty five years of biosolids research in Colorado. Parker Ag Services Third Annual Client Appreciation Meeting. February 8. Denver, CO. **INVITED.**

Ippolito, J.A., R.M. Bayley, M.E. Stromberger, and K.A. Barbarick. 2006. The effect of long-term water treatment residuals/biosolids co-application on rangeland soil phosphorus – Year 2. RMWEA Professional Wastewater Operators Seminar. January 24. Pueblo, CO. **INVITED.**

Ippolito, J.A., and K.A. Barbarick. 2005. Long-term impacts of biosolids rangeland surface application on trace metal mobility and fate. American Society of Agronomy National Meetings. November 6 – 10. Salt Lake City, UT.

Ippolito, J.A., E.F. Redente, K.A. Barbarick. 2005. Amendment Effects on pH and Salt Content of Bauxite Residue. American Society of Agronomy National Meetings. November 6 – 10. Salt Lake City, UT.

Barbarick, K.A., and **J.A. Ippolito**. 2005. Biosolids effect soil Barium in a dryland wheat fallow agroecosystem. American Society of Agronomy National Meetings. November 6 – 10. Salt Lake City, UT.

Freeman, C.L., **J.A. Ippolito**, S.W. Blecker, and E.F. Kelly. 2005. Phosphorus Fractionation Chemistry Across the Great Plains. American Society of Agronomy National Meetings. November 6 – 10. Salt Lake City, UT.

Norvell, K., **J.A. Ippolito**, S.W. Blecker, D.H. Wall, J. Barrett, and R. Virginia. 2005. Biogeochemical implications of phosphorus fractionation in soils of Taylor Valley, Antarctica. Oral Presentation. American Society of Agronomy National Meetings. November 6 – 10. Salt Lake City, UT.

Bayley, R.M., **J.A. Ippolito**, and K.A. Barbarick. 2005. The effect of long-term water

treatment residuals-biosolids co-applications on native rangeland soil phosphorus – Year 2. American Society of Agronomy National Meetings. November 6 – 10. Salt Lake City, UT.

Bayley, R.M., **J.A. Ippolito**, M.E. Stromberger, and K.A. Barbarick. 2005. Soil organic phosphorus characterized by indigenous enzyme assays. American Society of Agronomy National Meetings. November 6 – 10. Salt Lake City, UT.

Mamo, M., P. Hain, T. Kettler, **J. Ippolito**, W. Zanner, R. Reuter, L. Powell, D. McCallister, C. Geiss, and D. Husmann. 2005. A multidisciplinary approach to applying soil science principles in the classroom. American Society of Agronomy National Meetings. November 6 – 10. Salt Lake City, UT.

Ippolito, J.A., R.M. Bayley, and K.A. Barbarick. 2005. The effect of long-term water treatment residuals/biosolids co-application on rangeland soil phosphorus – Year 2. RMSAWWA/RMWEA Annual Conference. Sept. 11-14. Albuquerque, NM.

Ippolito, J.A., and K.A. Barbarick. 2005. A quarter century of biosolids research – Colorado State University. RMSAWWA/RMWEA Annual Conference. Sept. 11-14. Albuquerque, NM.

Norvell, K., **J.A. Ippolito**, S.W. Blecker, D.H. Wall, J. Barrett, and R. Virginia. 2005. Phosphorus fractions and biogeochemical implications in soils of Taylor Valley, Antarctica. Colorado State University Celebrate Undergraduate Research and Creativity. April 19. Fort Collins, CO.

Ippolito, J.A., K.A. Barbarick, and M.E. Stromberger. 2005. Effects of Long-Term Biosolids Applications on Soil Carbon and Nitrogen Dynamics. USDA and USEPA International Workshop on Biosolids Use in Agriculture. Sydney, Australia, March 7-10.

Freeman, C.L., **J.A. Ippolito**, K.A. Barbarick, and K.R. Brooks. 2005. Mobility and Fate of Metals in Long-Term Biosolids Field Experiments. USDA and USEPA International Workshop on Biosolids Use in Agriculture. Sydney, Australia, March 7-10.

Ippolito, J.A., K.A. Barbarick, and M.E. Stromberger. 2004. Effects of Long-Term Biosolids Applications on Soil Carbon and Nitrogen Dynamics. American Society of Agronomy National Meetings. November 1-4. Seattle WA.

Barbarick, K.A., and **J.A. Ippolito**. 2004. An Infiltration Exercise for Introductory Soil Science. American Society of Agronomy National Meetings. November 1-4. Seattle WA.

Freeman, C.L., **J.A. Ippolito**, K.A. Barbarick, and K.R. Brooks. 2004. Mobility and Fate of Metals in Long-Term Biosolids Field Experiments. American Society of Agronomy National Meetings. November 1-4. Seattle WA.

Bayley, R.M., **J.A. Ippolito**, M.E. Stromberger, and K.A. Barbarick. 2004. The Effect of Long-Term Water Treatment Residuals-Biosolids Co-Applications on Native Rangeland Soil Phosphorus. American Society of Agronomy National Meetings. November 1-4. Seattle WA.

Ippolito, J., R.M. Bayley, M.E. Stromberger, and K.A. Barbarick. 2004. The Effect of Long-Term Water Treatment Residuals:Biosolids Co-Applications on Native Rangeland Soil Phosphorus. RMSAWWA/RMWEA Annual Conference. Sept. 12-15, 2004. Grand Junction, CO.

Ippolito, J.A. 2004. Phosphorus Adsorption/Desorption of Water Treatment Residuals and

Biosolids Co-Application Effects. CSU Chapter of Gamma Sigma Delta. April 5, 2004. Fort Collins, CO. **INVITED.**

Barbarick, K.A., **J.A. Ippolito**, and G.A. Peterson. 2004. Biosolids application to no-till dryland cropping systems. Sustainable Land Application Conference. January 4-8, 2004. Lake Buena Vista, FL.

Green, C.H., K.A. Barbarick, G.L. Butters, R.E. Smith, J.G. Davis, D.M. Heil, **J.A. Ippolito**, and J. Loftis. 2003. Water Treatment Residual and Vegetative Filter Strip Effects on Phosphorus Runoff Dynamics. American Society of Agronomy National Meetings. November 2-6. Denver, CO.

Barbarick, K.A., and **J.A. Ippolito**. 2003. Use of Handheld Moisture-Measuring Devices in Introductory Soil Science. American Society of Agronomy National Meetings. November 2-6. Denver, CO.

Ippolito, J.A., K.A. Barbarick, and C.H. Green. 2003. Can Water Treatment Residuals Adsorb Selenium? American Society of Agronomy National Meetings. November 2-6. Denver, CO.

Green, C.H., K.A. Barbarick, R.E. Smith, G.L. Butters, J.G. Davis, D.M. Heil, and **J.A. Ippolito**. 2003. Water treatment residual and vegetative filter strip impact on phosphorus runoff. Phosphorus dynamics in the soil-plant continuum. 2nd International Symposium. September 21-26. Perth, Australia.

Ippolito, J.A., and K.A. Barbarick. 2003. Co-Application of WTR and Biosolids to Blue Grama and Western Wheatgrass. RMSAWWA/RMWEA Annual Conference. Sept. 14-17, 2003. Casper, WY.

Green, C.H., K.A. Barbarick, R.E. Smith, G.L. Butters, J.G. Davis, D.M. Heil, and **J.A. Ippolito**. 2003. Impact on Phosphorus Runoff and Leaching by Water Treatment Residuals and Vegetative Filter Strips. Western Society of Soil Science Meeting. June 15-19, 2003. San Francisco State University.

Ippolito, J.A., and K.A. Barbarick. 2003. Soil phosphorus chemistry and testing. Nutrient Management Update: Focus on Phosphorus. Feb. 11. Brighton, CO. **INVITED.**

Barbarick, K.A., and **J.A. Ippolito**. 2002. Does the number of hours studied affect exam performances? American Society of Agronomy, annual meetings. Nov. 10-14. Indianapolis, IN.

Ippolito, J.A., and K.A. Barbarick. 2002. Phosphorus Extraction Methods from Water Treatment Residual-Amended Soil. American Society of Agronomy, annual meetings. Nov. 10-14. Indianapolis, IN.

Ippolito, J.A., K.A. Barbarick, and A. Ellison. 2002. A Simple C/N Assay for Introductory Soil Science. American Society of Agronomy, annual meetings. Nov. 10-14. Indianapolis, IN.

Ippolito, J.A., and K.A. Barbarick. 2002. Concerns, impacts, and land application effects of water treatment residuals. Water Treatment Facility Residuals Conference, Nov. 7. Denver, CO.

Barbarick, K.A., and **J.A. Ippolito**. 2002. Does the number of hours studied affect exam performances? The Center for Teaching and Learning Forum. January 24, 2002. Colorado State University. **INVITED.**

Ippolito, J.A., and K.A. Barbarick. 2001. Water treatment residual phosphorus adsorption mechanisms. American Society of Agronomy, annual meetings. Oct. 21-25. Charlotte, NC.

Ippolito, J.A., and K.A. Barbarick. 2001. Environmental management of biosolids and water treatment residuals. WEF/AWWA/CWEA Joint Residuals and Biosolids Management Conference. Biosolids 2001: "Building Public Support". Feb. 21-25. San Diego, CA.

Ippolito, J.A., and K.A. Barbarick. 2000. Phosphorus desorption from a water treatment residual. American Society of Agronomy, annual meetings. Nov. 5-9. Minneapolis, MN.

Barbarick, K.A., and **J.A. Ippolito**. 1999. A modified nitric acid plant tissue digest method. American Society of Agronomy, annual meetings. Oct. 31-Nov. 4. Salt Lake City, UT.

Barbarick, K.A., and **J.A. Ippolito**. 1998. Mineralization rates for repeated biosolids applications. American Society of Agronomy, annual meetings. Oct. 18-22, Baltimore, Maryland.

Barbarick, K.A., **J.A. Ippolito**, and D.G. Westfall. 1998. Distribution of extractable trace elements in the soil profile after seven years of biosolids application. Great Plains Soil Fertility Conference. March 3, 1998. Denver, Colorado.

Barbarick, K.A., **J.A. Ippolito**, and D.G. Westfall. 1997. Distribution of extractable trace elements in the soil profile after seven years of biosolids application. American Society of Agronomy, annual meetings. Oct. 26 - 30, Anaheim, California. Great Plains Soil Fertility Conference. March 3, 1998. Denver, Colorado.

Ippolito, J.A., K.A. Barbarick, E.F. Redente, and P.S. McFall. 1995. Alum sludge and biosolids co-application : metal uptake by roots/shoots of western wheatgrass. American Society of Agronomy, annual meetings. Oct. 29 - Nov. 3, St. Louis, Missouri.

Ippolito, J.A., K.A. Barbarick, and E.F. Redente. 1994. Co-application of alum and sewage sludge to blue grama. American Society of Agronomy, annual meetings. Nov. 8-13, Seattle, WA.

Ippolito, J.A., K.A. Barbarick, and E.F. Redente. 1993. Co-application of alum and sewage sludge to blue grama and western wheatgrass. American Society of Agronomy, annual meetings. Nov. 7-12, Cincinnati, OH.

Ippolito, J.A., and K.A. Barbarick. Field Day Presentation, June 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007. CSU Extension Field Day, June. Adams County, CO.

GRANT PROPOSAL EXPERIENCE:

City of Fort Collins, CO. 2018. Rain garden water treatment residual amendment monitoring. $34,095. Pending.

NRCS-CIG. 2018. Building conservation through integrating agroecological principles into conventional cropping systems: a whole-system assessment. $376,581. Pending.

Colorado Corn. 2018. Research and demonstration on conservation agricultural practices to enhance soil health and provide economic incentive for corn growers. $154,021. Pending.

Newmont Mining Corp. 2018. Creating a sustainable, diverse and self-perpetuating plant community on reclaimed tailing piles at the Idarado Mine: An exploration of methods. $912,109. Pending.

US EPA. 2018. Sustainable Restoration of Legacy Mining Impacted Areas Supports Ecosystem Resiliency, Agricultural Reclamation and Stakeholder Engagement. $29,013,281. Pending.

Littleton/Englewood Wastewater Facility, CO. 2018. Biosolids land application research program. $126,779. **Funded**.

NSF-CAREER. 2017. Microbial Mechanisms of Metal Bioavailability in the Phytobiome. Collaborator with Dr. Tarah Sullivan, Washington State University. No direct funding to CSU. Pending.

Universidad San Francisco de Quito. 2017. Microorganism immobilization in biochar for soil amendment applications. Collaborator with Dr. Juan Proano-Aviles. No direct funding to CSU. Not funded.

Fulbright Egyptian Scholar Program. 2017. Effect of biochar amendment and limited irrigation strategies on nitrogen fixation of selected leguminous crops. Collaboration with Dr. Samir Ahmed Sayed Mohamed. Not funded.

Concord Blue, Inc. 2017. Biochar Research Gift to CSU Foundation. $3,300. **Funded.**

Colorado State University – Shihezi University (China) International Memorandum of Understanding: Cooperative Research Agreement. 2017-2020. **In Place**.

Colorado State University – Institutional Research Facilities Improvements. Improving core facilities infrastructure for housing new state of the art equipment: University support for a 26M US EPA Region 8 Proposal. $14,113.36. Not funded.

Washington State Dep. Agriculture – Specialty Crop Block Grant Program. 2017. Biochar application for enhanced apple and bell pepper production in water-stressed regions of Washington State. $23,945. Not funded.

Aurora Organic Dairy. 2017. Quantifying carbon sequestration potential and accumulation efficiency between perennial and annual forage systems. $141,000. Not funded.

NSF. 2017. INFEWS: Using produced water from oil and gas energy production in food crop irrigation – When does it make sense? $1,237,942. Not funded.

Colorado Wheat Research Foundation. 2017. Developing rapid soil fertility testing capacity to evaluate soil characteristics and cropping systems on Colorado wheat production. $15,000. **Funded.**

Littleton/Englewood Wastewater Facility, CO. 2017. Biosolids land application research program. $114,775. **Funded**.

Colorado State University – College of Agriculture. 2016. A Long-term Integrated Evaluation of the ARDEC Irrigated Forage System. $89,933. **Funded**.

FACCE-ERA-GAS. 2016. Implementing biochar technology for C sequestration and climate-smart agriculture. 900,000 Euros (Advisory board role only). Not funded.

NSF-AFRI. 2016. Forest to Farm: Biochar as the Missing Link in the Nexus of Food, Water and Energy. $2,996,314. Not funded.

NWCSC. 2015. Regional assessment of biochar soil amendments on crop productivity, drought resilience, and carbon sequestration. $281,567. Not funded.

USDA-AFRI. 2015. Securing Forest to Farm (F2F): Demonstrating the Role of Biochar as Part of an Integrative Approach to Agricultural Water Management in the West. $10,000,000. Not funded.

US EPA. 2015. Using Designed Biochar to Rebuild the Health of Mining Waste Impacted Soils to Support Native Plant Cover and Protect the Environment. $100,000. **Funded.**

US EPA. 2015. Amending metals contaminated mine soil with biochar to facilitate soil remediation and establishment of soil-stabilizing native plant cover. $130,000. **Funded.**

BARD. 2015. Phosphorus recycling and reuse for sustainable farming and a clean environment using water treatment residual (WTR) technique. $295,250. **Funded**.

AFRI. 2014. N-E-W Tech Northwest. $5,000,000. Not funded.

FACCE-JPI. 2013. Enhancing both soil carbon sequestration and fertility while reducing soil greenhouse gas emissions through designer biochar application (DesignChar4Food). $233,649. **Funded**.

CIG. 2013. Nevada biochar field demonstration trials: Treatment within agricultural pivots for improved production and rehabilitation of pivot corners for improved sage grouse habitat. $241,576. **Funded**.

BARD. 2013. Phosphorus recycling and reuse for sustainable farming and clean environment using water treatment residual (WTR) technique. $300,000. Not funded.

National Fish and Wildlife Service – Wells Fargo Environmental Solutions for Communities 2013. Nevada pinyon/juniper community partnership project. $99,830. Not funded.

Western States Land Initiative. 2012. Alternative methods for using biomass created during removal of encroaching pinyon-juniper from shrublands. $98,580. Not funded.

Idaho Potato Commission. 2011. Potato growth response to high copper soils. $15,300. **Funded**.

AFRI. 2011. Linking phosphorus availability from dairy-manure amended fields with molecular reactions. $262,517. Not funded.

AFRI Climate Variability and Change CAP. 2011. Enhancing the sustainability of Western dairy production. $10,000,000. Not funded.

Zeocorp, LLC, Nampa, ID. 2008 CRADA. Clinoptilolite (zeolite) affects nitrification rates and soil water holding capacity. $9156. **Funded**.

NRI. 2007. Matrix-Based Fertilizers Reduce Nitrogen and Phosphorus Leaching and Improve Plant Growth. $400,000. Not funded.

USFS - Pacific Southwest Research Station. 2007. Impact of Prescribed Burns on Phosphorus and Iron Cycling: Implications for Water Quality in the Lake Tahoe Basin. $76,255. Not funded.

NSF-DUE. 2007. A Multidisciplinary Approach to Applying Soil Science e-Principles and e-Applications in the Classroom. $106,909. Not funded.

NSF-Geobiology and Low Temperature Geochemistry. 2007 Bioweathering couples geological and organic phosphorus cycles. $248,234. Not funded.

Littleton/Englewood Wastewater Facility, CO. 2006. Land application of sewage biosolids. $84,125. **Funded**.

NSF-Petrology and Geochemistry. 2006 Silica encapsulation of iron sulfides and effects on acid rock drainage prediction. $244,977. Not funded.

NSF-IGERT. 2006. Interfaces in the Rhizosphere (INTER-RHIZ): An interdisciplinary program in rhizosphere ecology and molecular biology. Colorado State University and the University of Montana. Not funded.

NRI. 2006. Fate of Endocrine Disruptors in Surface-Applied Biosolids (Sewage Sludge). $498,208. Not funded.

Colorado Water Quality Control Commission. 2006. Developing Colorado soil quality guidelines for biosolids land application based on past soil analyses. $124,124. Not funded.

NSF-Major Research Instrument Program. 2006. JEM-2100F Field Transmission Microscope. Not funded.

DOE/STTR Program. 2005. Carbon sequestration and CO_2 abatement for power plants using oil-producing algal farms. $43,655. Not funded.

Colorado Water Resources Research Institute. 2005. Environmental sustainability of mine reclamation using biosolids. $45,752. Not funded.

US EPA STAR Program. 2005. Microbial responses to biosolids in long-term agricultural soils. $72,736. Not funded.

Littleton/Englewood Wastewater Facility, CO. 2005. Land application of sewage biosolids. $79,929. **Funded**.

Denver Metro Wastewater. 2005. Environmental Research on the 1998 Leadville, CO Biosolids Reclamation Project. $199,898. **Funded.**

NRI. 2005. Fate of Endocrine Disruptors in Surface-Applied Biosolids. $172,477. Not funded.

Council on Undergraduate Research – Summer Undergraduate Research Fellowship. 2005. Phosphorus Release From Water Treatment Residuals-Biosolids Amended Soils-Protecting Source Waters. $3,500. Not funded.

Littleton/Englewood Wastewater Facility, CO. 2004. Land application of sewage biosolids. $78,854. **Funded**.

USEPA Region 8. 2004. Microbial-Metal Interactions in Biosolids Amended Soil. $145,174. Not funded.

NSF. 2004. Broadening soil science education through principles and applications on-line lessons. $74,896. **Funded.**

USEPA - Headquarters. 2003. Fate of Nonylphenol in Surface-Applied Biosolids (Sewage Sludge). $130,000. Not funded.

USEPA-Office of Solid Waste Management and Emergency Response. 2003. Biosolids Effects on Sand Dune Stabilization and Revitalization. $28,801. Not funded.

USEPA Region 8. Submitted Dec. 2003. The Effect of Long-Term Composted Biosolids and Biosolids-Alum Water Treatment Residuals Reapplications on Native Rangeland Soils and Vegetation. $97,843. **Funded**.

USEPA Region 8 RARE grant. Submitted July 2003. The Effect of Long-Term Composted Biosolids and Biosolids-Alum Water Treatment Residuals Reapplications on Native Rangeland Soils and Vegetation. Preproposal. $267,847. Not funded.

Littleton/Englewood Wastewater Facility, CO. 2003. Land application of sewage biosolids. $73,155. **Funded**.

US Army Corp. of Engineers. 2003. Kingfisher Point Natural Area Remediation. $27,927. Not funded.

America Water Works Association Research Foundation. 2003. The effect of long-term water treatment residuals-biosolids co-applications on native rangeland soil phosphorus. $147,137. **Funded.**

Colorado Institute for Technology. 2003. Web-based Interactive Learning Modules for Introductory Soil Science Laboratory Education Enhancement Digital-Media Creation. $35,552. Not funded.

US Dep. Education. 2003. Creation of Interactive Computer Learning Modules for Seamless Soil Science Education. $328,418. Not funded.

USEPA Headquarters. 2002. The Effect of Long-Term Composted Biosolids and Biosolids-Alum Water Treatment Residuals Reapplications on Native Rangeland Soils and Vegetation. $101,128. Not funded.

USEPA Region 8. Submitted in 2002. Mobility, Extractability, and Fate of Metals in Long-Term Biosolids Field Experiments. $85,998. **Funded.**

NSF. 2002. Creation of interactive computer learning modules for introductory soil science laboratory education enhancement. $73,275. Not funded.

USDA - CSREES. 2002. Creation of interactive computer learning modules for soil science education. $249,389. Not funded.

Littleton/Englewood Wastewater Facility, CO. 2002. Land application of sewage biosolids. $75,357. **Funded**.

US Dep. Education. 2002. Creation of interactive computer learning modules for soil science education. $328,418. Not funded.

PROFESSIONAL/UNIVERSITY/LEADERSHIP ACTIVITIES:

Professional:

Membership:

- American Society of Agronomy (ASA), 28 years
- Soil Science Society of America (SSSA), 31 years
- American Geophysical Union
- European Geosciences Union
- WERA-103 Nutrient Management and Water Quality Workgroup, CSU Rep.
- WERA-1020 Western Water Workgroup
- W-3170 Beneficial Reuse of Residuals and Reclaimed Water Workgroup, CSU Rep.
- Gamma Sigma Delta
- Alpha Zeta

Service to ASA/SSSA:

- 2017-2019, ASA, Program Planning Officer
- 2017-2019, ASA, Board of Directors – Board Representative for the Environmental Quality Section
- 2017-2019, ASA, Specialized Conferences Committee
- 2016-2017, ASA, Agronomic Service Award Committee member
- 2016-2017, SSSA, Emil Truog Soil Science Award Committee member and Chair
- 2015-2017, ASA, Communications Task Force Committee member
- 2015, On Ballot for ASA President (was not selected)
- 2014-2016, Journal of Environmental Quality Editorial Board, Associate Editor
- 2013, ASA, Graduate Student Award Committee, Environmental Quality Section
- 2012-2013, ASA, Organization, Policy, and Bylaws Committee Member
- 2012, ASA, Chair Biochar Researcher of the Year Award Committee, Biochar: Agronomic and Environmental Uses Community
- 2011-2013, ASA, Board of Directors – Board Representative for the Environmental Quality Section

- 2011-2013, Journal of Environmental Quality Editorial Board, Associate Editor
- 2011, ASA, Nominations Committee Member
- 2010-2012, Journal of Environmental Quality, Associate Editor for Special Biochar Collection
- 2010-2012, ASA, Presiding Leader, Biochar: Agronomic and Environmental Uses Community
- 2011, ASA, Past Chair, Division A5, Environmental Quality Section
- 2010, ASA, Chair, Young Inspiring Scientist Award Committee, Division A5, Environmental Quality Section
- 2009-2010, SSSA, Soil Science Applied Research Award Committee Member
- 2009-2010, ASA, Nominations Committee Member for Division A5, Environmental Quality Section Officers
- 2007-2010, SSSA, Soil Testing & Plant Analysis Committee Member
- 2009, ASA, Program Planning Committee Chair for Division A5, Environmental Quality Section
- 2009, ASA, Chair Division A5, Environmental Quality Section
- 2008, ASA, Graduate Student Poster Competition Judge, Division A5, Environmental Quality Section
- 2007-2008, ASA, Chair-Elect, Division A5, Environmental Quality Section
- 2007, Undergraduate Research Poster Symposium Content Judge, ASA-CSSA-SSSA Meetings, New Orleans, LA
- 2006, Undergraduate Research Poster Symposium Content Judge, ASA-CSSA-SSSA Meetings, Indianapolis, IN
- 2005, SSSA, Soil Science Professional Service Award Committee Chair
- 2005, SSSA, General Awards Committee Member
- 2004, SSSA, Soil Science Professional Service Award Committee Member
- ASA-CSSA-SSSA Annual Meetings Symposia Organizer/Presiding Chair:
    - 2012, Biochar Effects on Soils, Plants, Waters, and Greenhouse Gas Emissions: I. Cincinnati, OH.
    - 2012, Biochar Effects on Soils, Plants, Waters, and Greenhouse Gas Emissions: II. Cincinnati, OH.
    - 2012, Biochar Effects on Soils, Plants, Waters, and Greenhouse Gas Emissions: III. Cincinnati, OH.
    - 2011, Biochar: Environmental Uses. San Antonio, TX.
    - 2010, Biochar Effects on the Environment and Agricultural Productivity: I. Long Beach, CA.
    - 2010, Biochar Effects on the Environment and Agricultural Productivity: II. Long Beach, CA.
    - 2009, Symposium – Impact of Ethanol Production on the Environment: I. Pittsburgh, PA.
    - 2009, Symposium – Impact of Ethanol Production on the Environment: II. Pittsburgh, PA.
    - 2007, Effects of Manure and Biosolids in the Environment. New Orleans, LA
    - 2006, Phosphorus Availability and Mobility in Land Applied Wastes. Indianapolis, IN
    - 2005, The Effects of Waste Constituents on Soil and Water. Salt Lake City, UT

State, National, International Service:

- 2018, 2nd International Conference on Bioresources, Energy, Environment, and Materials Technology Committee Organizer, Daemyung Resort, Gangwon-do, South Korea
- 2017, NIFA-AFRI ad-hoc reviewer for proposal 2017-07586, Solubilize Phosphate from "Insoluble" Phosphate Materials Using Ionized Biochar
- 2017, Poster judge for European Geosciences Conference section SSS5.16: Designing biochars to react with N species and mechanisms of nutrient enhancement
- 2017, Western Nutrient Management Conference Annual Meeting Chair and Organizer, Reno, Nevada
- 2017, Participant in Advancing Fort Collins' Climate Goals Through Land Carbon Management
- 2012-2017, Committee Member of the International Conference on the Biogeochemistry of Trace Elements
- 2016, International Organizing Committee, 3rd Asia Pacific Biochar Conference, Gangwon Province, South Korea
- 2016, Technical Committee – Horticulture and Agriculture track, US Biochar Initiative Biochar 2016, Corvallis, Oregon
- 2015, USDA-NIFA Climate Change Climate Resilient Land Use for Agriculture and Forestry and National Strategy for Sustainable Crop and Livestock Production in the United States Panel Member
- 2014-2016, Editorial board member, Biochar Journal
- 2013, USDA-AFRI Renewable Energy, Natural Resources, and Environment Panel Member
- 2013, Scientific Committee Member for the International Symposium on Water Resources and Pollution Control in Arid/Semi-arid Regions
- 2012-2013, Invited by Dr. Johannes Lehmann (Cornell University) to Prepare a Book Chapter on Biochar Nutrient Availability
- 2012, USDA-AFRI Climate Change Adaptation-Mitigation Panel Member
- 2010-2011, Idaho Department of Environmental Quality Drainfield Setback Subcommittee
- 2008, NRI Soil Processes Panel Member
- 2005-2006, State of Colorado Tri-Annual Review Biosolids Agronomic Rate Subcommittee Member
- 2005, Colorado Department of Public Health and Environment – Residuals Land Application Committee

Other Service:

Colorado State University Service:

- Serving as supervisor for Kandis Bordi, Research Associate I, 2017-present
- College of Agricultural Sciences/Department of Soil and Crop Sciences Scholarship Committee, 2017-present
- Department of Soil and Crop Sciences Awards Committee, 2017
- Committee member for the Robert Gardner Senior Faculty Award, Dep. Soil & Crop

Sciences, 2006
- Membership Committee Chair for the CSU chapter of Gamma Sigma Delta, 2005-2007
- President for the CSU chapter of Gamma Sigma Delta, 2004-2005
- Faculty representative to the Administrative Professional Council Awards Selection Committee, 2005
- Secretary for the CSU chapter of Gamma Sigma Delta, 2003-2004
- Department of Soil and Crop Sciences Research Advisory Committee, 2003-2006
- Department of Soil and Crop Sciences Department Relations Task Force, 2004-2005
- Administrative Professional Council Representative for the College of Agricultural Sciences, 1998-2000
- Administrative Professional Council Rep. for Faculty Council, 1999-2000
- College of Agriculture Technology Fee Committee, Dept Soil and Crop Sciences Representative/Secretary, 1992-96

Colorado State University Student Service:

- Serving as major advisor for Travis Banet, MS candidate, Dep. Soil & Crop Sci.
- Serving as committee member for Emily Cook, Dep. Environ. Engineer.
- Serving as committee member for Casey Shawver, Dep. Soil & Crop Sci.
- Serving as committee member for Michelle Gooding, Dep. Soil & Crop Sci.
- Served as major advisor for Crystal Freeman, MS candidate, Dep. Soil & Crop Sci.
- Served as major advisor for Robin Bayley, MS candidate, Dep. Soil & Crop Sci.
- Served as committee member for Natasha Davis, MS candidate, Dep. Forest, Rangeland, and Watershed Stewardship
- Served as committee member for Molly Boyter, MS candidate, Dep. Forest, Rangeland, and Watershed Stewardship
- Served as committee member for Elan Alford, MS candidate, Graduate Program in Ecology
- Served as committee member for Matt Schultz, MS candidate, Graduate Program in Ecology
- Served as committee member for Paul Swartzinski, MS candidate, Dep. Forest, Rangeland, and Watershed Stewardship
- Served as committee member for Mr. Khalid Kalzobir, MS candidate, Dep. Soil & Crop Sci.
- Served as committee member for Michael Massey, MS candidate, Dep. Soil & Crop Sci
- Served as committee member for David Huber, MS candidate, Dep. Soil and Crop Sciences
- Served as committee member for Steve Blecker, PhD candidate, Dep. Soil & Crop Sci.
- Served as committee member for Curtis Cooper, PhD candidate, Dep. Soil & Crop Sci.
- Served as committee member for Jennifer Morgan, MS candidate, Dep. Civil Engineering
- Served as committee member for Ben Lengasher, MS candidate, Dep. Civil Engineering
- Served as major advisor for Ms. Crystal Freeman, Environ. Soil Science Undergraduate

USDA-ARS Leadership Activities:

- USDA AgLearn On-Line Leadership Essentials Certificate Program, 2015:
    - Leadership;
    - Leadership essentials – communicating vision;
    - Leadership essentials – leading business execution;
    - Leadership essentials – leading with emotional intelligence;
    - Emotional intelligence at work;
    - Developing workplace diversity awareness;
    - Human resources flexibilities;
    - Developing employees; Developing people;
    - Communicating across cultures;
    - USDA supervisor onboarding training;
    - Feedforward – coaching for your future;
    - Evaluating and sustaining organizational learning;
    - The fundamentals of effective thinking; Enhancing listening skills;
- Leadership Idaho Agriculture, Class of 31, 2011;
- Served as supervisor for:
    - Ms. Susan Glaze, biological science technician, GS-7;
    - Ms. Mary Ann Kay, biological science technician, GS-9;
    - Ms. Cami Ruh Clemo, biological science technician, GS-7;
    - Mr. Cory Berry, high school student intern; biological science aid, GS-3;
    - Ms. Cassidy Berry, biological science aid, GS-1/3;
    - Ms. Kandis Bordi, high school student intern; biological science aid, GS-1;
    - Ms. Veronica DelMar, College of Southern Idaho student intern;
    - Ms. Erika Blay, College of Southern Idaho student intern;
    - Ms. Sara Kaster, Boise State University student intern.

TEACHING EXPERIENCE:

Soil Fertility Management: Department of Soil and Crop Sciences, Colorado State University. 2016-present.

Soil Fertility Management (SOCR350) responsibilities included organizing and presenting lectures pertaining to all macro- and micro-nutrients, their deficiency symptoms in plants/crops, how we overcome deficiency symptoms using fertilizers, and recognizing toxicity symptoms and how we overcome them as well. Taught 87 students. My personal average student response equaled 4.93/5, with 5 being "strongly agree" to the student questions in Table 1.

Table 1. Soil Fertility Management (SOCR350) Course Evaluation Questions and Average Responses.

Question	Average Response[†]
How do you rate this course	4.94
How do you rate the instructor's knowledge of the subject	4.97
How effectively did the instructor facilitate student learning?	4.90
How do you rate the instructor's enthusiasm for teaching the subject?	5.00
How well did the instructor organize the course?	4.92
How prepared was the instructor for class sessions?	4.89

How do you rate the instructor's effectiveness at managing class sessions?	4.86
How well did the instructor create an atmosphere that was respectful of student opinions, ideas, and differences?	4.92
How effectively did the instructor communicate?	4.94
How do you rate this instructor?	4.97

† - On a scale from 1 to 5. 1=strongly disagree, and 5=strongly agree.

Soil Fertility Management Laboratory: Department of Soil and Crop Sciences, Colorado State University. 2017 to present.

Soil Fertility Management Laboratory (SOCR351) is meant to enhance subject learned in lecture. Students provide their own soil and over the course of the semester determine nutrient content utilizing various extraction methodologies within the US. Students compare/contrast findings, and ultimately derive fertilizer recommendations based on their observations.

Table 2. Soil Fertility Management Laboratory (SOCR351) Course Evaluation Questions and Average Responses.

Question	Average Response†
How do you rate this course	4.79
How do you rate the instructor's knowledge of the subject	4.93
How effectively did the instructor facilitate student learning?	4.93
How do you rate the instructor's enthusiasm for teaching the subject?	5.00
How well did the instructor organize the course?	4.71
How prepared was the instructor for class sessions?	4.86
How do you rate the instructor's effectiveness at managing class sessions?	4.79
How well did the instructor create an atmosphere that was respectful of student opinions, ideas, and differences?	4.93
How effectively did the instructor communicate?	4.93
How do you rate this instructor?	4.93

† - On a scale from 1 to 5. 1=strongly disagree, and 5=strongly agree.

Introductory Soil Science: Department of Soil and Crop Sciences, Colorado State University. 1989-2007.

Responsibilities included organizing and presenting laboratory seminars (see Table 3), and monitoring and grading student laboratory performances for SC240L, Introduction to Soil Science Laboratory. Served as teaching assistant for Dr. Ken Barbarick, Department of Soil and Crop Sciences, Colorado State University. Taught ~ 650 students. My personal average student response equaled 4.75/5, with 5 being "strongly agree" to the student questions in Table 3.

Table 3. Introductory Soil Science Lab (SC240L) Course Evaluation Questions and Average Responses.

Question	Average Response†
The instructor is well prepared and enthusiastic for each class.	4.78
The teacher organized the course effectively.	4.58
The teacher created an atmosphere conducive to learning.	4.82
Overall, I would rate this teacher as good.	4.81

† - On a scale from 1 to 5. 1=strongly disagree, and 5=strongly agree.

Soil Chemical Analysis: Department of Soil and Crop Sciences, Colorado State University. 2003.

Taught four weeks of SC564, Soil Chemical Analysis, Spring 2003 (see Table 4). My section of the course focused primarily on how to create stock and standard solutions, and use of ICP-AES, ion chromatography, and AA for nutrient and trace element determination. Taught 7 students.

Table 4. Soil Chemical Analysis (SC564) Course Evaluation Questions and Average Responses.

Question	Average Response†
The instructor is well prepared and enthusiastic for each class.	4.86
The teacher organized the course effectively.	4.57
The teacher created an atmosphere conducive to learning.	4.88
Overall, I would rate this teacher as good.	4.86

† - On a scale from 1 to 5. 1=strongly disagree, and 5=strongly agree.

Environmental Soil Science: Department of Soil and Crop Sciences, Colorado State University. 2003-2004.

Taught four weeks of SC478, Environmental Soil Science, Spring 2003 and Spring 2004 (see Table 5). My section of the course focused primarily on inorganic contaminants and remediation procedures. Taught 12 students.

Table 5. Environmental Soil Science (SC478) Course Evaluation Questions and Average Responses.

Question	Average Response†
The instructor is well prepared and enthusiastic for each class.	5.00
The teacher organized the course effectively.	4.33
The teacher created an atmosphere conducive to learning.	5.00
Overall, I would rate this teacher as good.	5.00

† - On a scale from 1 to 5. 1=strongly disagree, and 5=strongly agree.

Environmental Sampling; Soils and Fertilizers: Front Range Community College, Larimer Campus. 1996-2001.

Taught at Front Range Community College (Fort Collins, CO) during the Fall, 1996 through Fall 2001 semesters (see Table 6). The Fall 1996 class was entitled ENV 241 - Environmental Sampling. The course goals were to give the students a basic background in the sampling and monitoring of air, water, soil, and sediment. We discussed how to obtain samples with minimum contamination, equipment used, maintenance of quality assurance/quality control through sampling and analyses, and interpretation of results. The Fall 1997, 1998, 1999, 2000, and 2001 class was entitled URH 125 - Soils and Fertilizers. The course goals were to give the students a basic understanding of soils and their role in the environment, develop an appreciation of soils as a natural resource, and to develop an understanding of the role that soils play in the agricultural and economic situation of the world, US, and Colorado. My personal average student response equaled 4.61/5, with 5 being “strongly agree” to the student questions in Table 4.

Table 6. Environmental Sampling (ENV241) and Soils and Fertilizers (URH125) Course Evaluation Questions and Average Responses.

Question	Average Response†	
	ENV241	URH125
Instructor organized and structured class presentations.	4.5	4.5
Instructor communicated subject matter effectively.	4.5	4.6
Instructor encouraged student participation.	4.7	4.6
Instructor treated students with respect and dignity.	4.7	4.8
Instructor showed enthusiasm for subject matter.	5.0	4.9

† - On a scale from 1 to 5. 1=strongly disagree, and 5=strongly agree.

National Science Foundation: Broadening Soil Science Education Through On-Line Lessons

Together with faculty members at the University of Nebraska, Colorado State University, Oregon State University, and the University of Minnesota, I collaborated to develop six educational works (http://www.jnrlse.org/search/articles/) and three case studies encompassing the main lessons regarding soil genesis and development. These objects, located at the University of Nebraska's Plant and Soil Sciences elibrary (https://passel.unl.edu/pages/), have been employed as resources to teach Introductory Soil Science. Although the lessons were deployed in 2006 and published in 2009, from 2011 to 2017 the lessons have been visited by over an astonishing 1,135,000 individual unique visits and page views as detailed in the statistics below (Table 7).

Table 7. Web-based soil genesis and development lessons and the total number of individual views, 2011-2017.

Lesson	Total Views: 2011-2017
Soil Genesis and Development, Lesson 1 - Rocks, Minerals, and Soils	73,253
Soil Genesis and Development, Lesson 2 - Processes of Weathering	271,886
Soil Genesis and Development, Lesson 3 - Soil Forming Factors	159,535
Soil Genesis and Development, Lesson 4 - Soil Profile Development	294,594
Soil Genesis and Development, Lesson 5 - Soil Classification & Geography	190,900
Soil Genesis and Development, Lesson 6 - Global Soil Resources & Distribution	145,426

OUTSTANDING ACHIEVEMENTS/RECOGNITIONS:

- 2017, Fellow of the Soil Science Society of America
- 2016, Journal of Environmental Quality Outstanding Associate Editor
- 2015, President's Volunteer Service Award
- 2015, USDA-ARS Performance Award – Exceeding expectations of performance
- 2015, On Ballot for ASA President (was not selected)
- 2014, Fellow of the American Society of Agronomy
- 2014, USDA-ARS Performance Award – Exceeding expectations of performance
- 2013, Journal of Environmental Quality Outstanding Associate Editor
- 2013, USDA-ARS Performance Award – Exceeding expectations of performance
- 2012, USDA-ARS Performance Award – Exceeding expectations of performance
- 2011, USDA-ARS Performance Award – Exceeding expectations of performance
- 2010, USDA-ARS Quality Step Increase – Exceeding expectations of performance
- 2009, USDA-ARS Quality Step Increase – Exceeding expectations of performance

- 2005, US EPA National Clean Water Act Recognition Award for Outstanding Biosolids Research
- 2005, Rocky Mountain Water Environment Association – State of Colorado Analytical Award of Merit
- 2003, US EPA Clean Water Act National Recognition Award for Exemplary Biosolids Management for Operating Projects < 5 DMTD, First Place
- 2000, Joan Gaynor Kuder Colorado State University Employee Scholarship Award
- 2000, Association of Metropolitan Sewerage Agencies National Environmental Achievement Award in Research & Technology
- 1999, US EPA Wastewater Management Research Excellence Award, First Place
- 1998, Rocky Mountain Water Environment Association – State of Colorado Biosolids Management Merit Award
- 1998, Hunter Follett Graduate Student Award, Colorado State University
- 1989, George M. Worrilow Scholarship for Academic Performance, University of Delaware
- 1988, University of Delaware Agricultural College Council Recognition Award
- 1987-1988, Outstanding College Students of America

CONSULTING/VOLUNTEERING ACTIVITIES:

- 2004, The City of Westminster, CO, Biosolids Management Plan;
- 2004-2005, The City of Denver, Denver Metro Wastewater Reclamation District Biosolids Management Program/Facility Study;
- 2006, Casey Resources, Inc., Recommendations for home gardens/fruit trees on As contaminated mine waste rock, Gold Hills Mesa Project, Colorado Springs, CO;
- 2013, The City of Loveland, CO, Water treatment residuals – water treatment facility on-site beneficial use plan;
- 2009-2015, Kimberly, ID, Kimberly High School assistant outdoor track coach;
- 2008-2015, Kimberly, ID, Kimberly High School winter track club coach;
- 2015-2016, Left Hand Water District (Boulder, CO), Water treatment residuals – water treatment facility on-site beneficial use plan.