

ANGELA D. KENT

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Natural Resources and Environmental Sciences
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EDUCATION

Ph.D., Bacteriology **December, 2000**

University of Wisconsin-Madison

Dissertation: "Manipulating rhizosphere microbial community structure using antibiotic-producing bacteria."

Advisor: Eric Triplett

M.S., Bacteriology **August, 1996**

University of Wisconsin-Madison

B.A., Biology **May, 1992**

Grinnell College

EXPERIENCE

Director, Program in Ecology, Evolution, and Conservation Biology 2014-present

University of Illinois at Urbana-Champaign

Professor, Dept. of Natural Resources and Environmental Sciences 2017-present

University of Illinois at Urbana-Champaign

Associate Professor, Dept. of Natural Resources and Environmental Sciences 2011-2017

University of Illinois at Urbana-Champaign

Assistant Professor, Dept. of Natural Resources and Environmental Sciences 2005-2011

University of Illinois at Urbana-Champaign

Research Associate, Civil and Environmental Engineering December 2003 - 2005

University of Wisconsin-Madison

Research Associate, Center for Limnology 2001-2005

University of Wisconsin-Madison

Research Assistant, Department of Bacteriology 1996-2000

University of Wisconsin-Madison

Research Assistant, Department of Medical Microbiology and Immunology 1992-1996

University of Wisconsin-Madison

RESEARCH EXPERIENCE

Postdoctoral Research: North Temperate Lakes Microbial Observatory, Center for Limnology, University of Wisconsin-Madison, 2001- present. Research advisors: Eric Triplett and Katherine McMahon

- Characterization of spatial and temporal variability in microbial community structure in temperate aquatic ecosystems

- Investigation of biogeochemical, physical and biological mechanisms that influence microbial community structure in aquatic systems
- Experimental manipulation of aquatic microbial food webs to examine the effect of trophic interactions on the composition and dynamics of microbial populations
- Characterization of microbial communities associated with mercury methylation activity in hypolimnetic waters
- Development of bioinformatics tools to aid microbial ecologists' ability to derive phylogenetic information from DNA fragment analyses

Doctoral Research: Department of Bacteriology, University of Wisconsin-Madison, 1996- 2000.
Research advisor: Eric Triplett

- Microbial ecology of the plant rhizosphere
- Ecological impact of antibiotic production by rhizosphere microorganisms, in particular rhizobial and biocontrol inoculants
- Impact of phytopathogen colonization on the structure of rhizosphere microbial communities
- Improvement of the competitiveness and yield-increasing capacity of commercial rhizobial inoculants

Masters Research: Department of Medical Microbiology and Immunology, University of Wisconsin-Madison, 1992- 1996. Research advisor: Rodney Welch

- Investigation of the structure and function of the hemolysin (HlyA) protein of uropathogenic *E. coli*, with particular attention to the region containing the glycine-rich repeated amino acid sequences that are the signature motif for the RTX family of cytolytic toxins
- Development of a structural model of the carboxy-terminal region of the hemolysin protein containing the RTX motif
- Investigation of the role of Ca²⁺ binding in stabilization of the HlyA protein structure

PUBLICATIONS

1. Schmidt, J.E., J.L. Mazza Rodriguez, V.L. Brisson, **A.D. Kent**, A.C M. Gaudin. 2020. Impacts of directed evolution and soil management legacy on the maize rhizobiome. *Soil Biology and Biochemistry* 145:107794. <https://doi.org/10.1016/j.soilbio.2020.107794>
2. Schmidt, J.E., **A.D. Kent**, V.L. Brisson, A.C M. Gaudin. 2020. Agricultural management impacts rhizosphere microbial community structure and nitrogen cycling. *Microbiome*, 7: 146. <https://doi.org/10.1186/s40168-019-0756-9>
3. Ma, Y., J.L. Zilles, **A.D. Kent**. 2019. An evaluation of primers for detecting denitrifiers via their functional genes. *Environmental Microbiology* 21: 1196-1210 doi:10.1111/1462-2920.14555
4. Suriyavirun, N., A.H. Krichels, **A.D. Kent**, W.H. Yang. 2019. Microtopographic differences in soil properties and microbial community composition at the field scale. *Soil Biology and Biochemistry* 131: 71-80. <https://doi.org/10.1016/j.soilbio.2018.12.024>

5. Edwards, J. D., C.M. Pittelkow, **A.D. Kent**, W.H. Yang. 2018. Dynamic biochar effects on soil nitrous oxide emissions and underlying microbial processes during the maize growing season. *Soil Biology and Biochemistry* 122: 81-90. <https://doi.org/10.1016/j.soilbio.2018.04.008>
6. Allender, M.C., S. Baker, M. Britton, **A.D. Kent**. 2018. Investigation of the changes to the skin microbiome in snakes with Snake Fungal Disease. *Scientific Reports* 8: 12147. doi:10.1038/s41598-018-30709-x
7. Soman, C., D.P. Keymer, **A.D. Kent**. 2018. Edaphic correlates of feedstock-associated diazotroph communities. *GCB Bioenergy* 10: 343–352. doi: 10.1111/gcbb.12502
8. Rigonato, J. **A.D. Kent**, T. Gumiere, L.H. Zanini Branco, F.D. Andreote, M.F. Fiore. (2018) Temporal assessment of microbial communities in soils of two contrasting mangroves. *Brazilian Journal of Microbiology* 49 (1): 87-96.
9. Johnson, J.G., L.M. Naples, W.G. Van Bonn, **A.D. Kent**, M.A. Mitchell, M.C. Allender. 2017. Evaluation of health parameters in cownose rays (*Rhinoptera bonasus*) housed in a seasonal touch habitat compared with an off-exhibit habitat. *Journal of Zoo and Wildlife Medicine* 48(4):954-960. <https://doi.org/10.1638/2017-0091.1>
10. Soman, C.P., D. Li, M.M. Wander, **A.D. Kent**. 2017. Long-term fertilizer and crop-rotation treatments differentially affect bacterial community structure. *Plant and Soil*, 413:145-159. doi:10.1007/s11104-016-3083-y
11. Lemke, M.J., S.F. Paver, K.E. Dungey, L.F.M. Velho, **A.D. Kent**, L.C. Rodrigues, D.M. Kellerhals, M.R. Randle. 2017. Diversity and succession of pelagic microorganism communities in a newly restored Illinois River floodplain lake. *Hydrobiologia*, 804:35-58.
12. Lemke, M.J., H.M. Hagy, K. Dungey, Andrew F. Casper, A.M. Lemke, T.D. VanMiddlesworth, **A.D. Kent**. 2017. Echoes of a flood pulse: short-term effects of record flooding of the Illinois River on floodplain lakes under ecological restoration. *Hydrobiologia*, 804:151-175. <https://doi.org/10.1007/s10750-017-3220-5>
13. Paver, S.F. and **A.D. Kent**. 2017. Direct and context-dependent effects of light, temperature, and phytoplankton shape bacterial community composition. *Ecosphere* 8(9):e01948. <https://doi.org/10.1002/ecs2.1948>
14. Hathaway, S.K., N.A. Bartolerio, L.F. Rodriguez, **A.D. Kent**, J. Zilles. (2017) Denitrifying bioreactors resist disturbance from fluctuating water levels. *Frontiers in Environmental Science* 5:35 doi: 10.3389/fenvs.2017.00035
15. Zilles, J., L.F. Rodriguez, N.A. Bartolerio, and **A.D. Kent**. 2016. Microbial ecosystem modeling using reliability theory. *ISME Journal*, 10:1809-1814. doi: 10.1038/ismej.2016.1
16. Peralta, A.L., E.R. Johnston, J.W. Matthews, **A.D. Kent**. 2016. Abiotic correlates of microbial community structure and nitrogen cycling functions vary within wetlands. *Freshwater Science*, 35:573-588. doi: 10.1086/685688

17. Deng, Y., Z. He, J. Xiong, H. Yu, M. Xy, S.E. Hobbie, P.B. Reich, C.W. Schadt, **A. Kent**, E. Pendall, M. Wallenstein, J. Zhou. 2016. Elevated carbon dioxide accelerates the spatial turnover of soil microbial communities. *Global Change Biology*. 22:957-964. doi: 10.1111/gcb.13098
18. Li, D. T.B. Voigt, **A.D. Kent**. 2016. Plant and soil effects on bacterial communities associated with *Miscanthus × giganteus* rhizosphere and rhizomes. *GCB Bioenergy*, 8: 183–193. doi:10.1111/gcbb.12252
19. Jessop, J., G. Spyreas, G.E. Pociask, T.J. Benson, M.P. Ward, **A.D. Kent**, and J.W. Matthews. 2015. Tradeoffs among ecosystem services in restored wetlands. *Biological Conservation* 191:341-348.
20. Hathaway, S.K., M.D. Porter, L.F. Rodríguez, **A.D. Kent**, and J.L. Zilles. 2015. Impact of the contemporary environment on denitrifying bacterial communities. *Ecological Engineering*. 82: 469-473.
21. Xiong J, He Z, Shi S, **Kent A**, Deng Y, Wu L, Van Nostrand JD, and Zhou J. 2015. Elevated CO₂ shifts the functional structure and metabolic potentials of soil microbial communities in a C4 agroecosystem. *Scientific Reports* 5, Article number: 9316. doi:10.1038/srep09316.
22. Porter, M.D., J.M. Andrus, N.A. Bartolero, L.F. Rodriguez, R.A.C. Cooke, Y. Zhang, J.L. Zilles, and **A.D. Kent**. 2015. Seasonal patterns in microbial community composition in denitrifying biofilters treating subsurface agricultural drainage. *Microbial Ecology* 70: 710-723.
23. Amato, K.R., S.R. Leigh, **A.D. Kent**, R. Mackie, C.J. Yeoman, R.M. Stumpf, M. Gillis, B.A. Wilson, K.E. Nelson, B.A. White, P.A. Garber. 2015. The gut microbiota appears to compensate for seasonal diet variation in the wild black howler monkey (*Alouatta pigra*). *Microbial Ecology* 69:434-443. doi: 10.1007/s00248-014-0554-7
24. Peralta, A.L., S. Ludmer, J.W. Matthews, **A.D. Kent**. 2014. Bacterial community response to changes in soil redox potential along a moisture gradient in restored wetlands. *Ecological Engineering* 73: 246–253.
25. Peralta, A.L., D. Stuart, **A.D. Kent**, J.T. Lennon. 2014. A social-ecological framework for ‘micromanaging’ microbial services. *Frontiers in Ecology and the Environment* 12:524-531.
26. Amato, K.R., S.R. Leigh, **A.D. Kent**, R.I. Mackie, C.J. Yeoman, R.M. Stumpf, B.A. Wilson, K.E. Nelson, B.A. White, P.A. Garber. 2014. The role of gut microbes in satisfying the nutritional demands of adult and juvenile wild, black howler monkeys (*Alouatta pigra*). *American Journal of Physical Anthropology* 155:652-664.
27. Keymer, D. P. and **A D. Kent**. 2014. Contribution of nitrogen fixation to first year *Miscanthus x giganteus*. *GCB Bioenergy*, 6: 577–586. doi: 10.1111/gcbb.12095
28. Paver, S.F., N.D. Youngblut, R.J. Whitaker, **A.D. Kent**. 2015. Phytoplankton succession affects the composition of *Polynucleobacter* subtypes in humic lakes. *Environmental Microbiology* 17:816-28. doi:10.1111/1462-2920.12529
29. Peralta, A.L., J.W. Matthews, **A.D. Kent**. 2014. Habitat specialization along a wetlands moisture

- gradient differs between ammonia-oxidizing and denitrifying microorganisms. *Microbial Ecology* 68:339-350. doi: 10.1007/s00248-014-0407-4
30. Yang, L., **A.D. Kent**, X. Wang, T.L. Funk, R.S. Gates, Y. Zhang. 2014. Moisture effects on gas-phase biofilter ammonia removal efficiency, nitrous oxide generation, and microbial communities. *Journal of Hazardous Materials* 271: 292-301.
 31. Andrus, J.M., M.D. Porter, L.F. Rodriguez, T. Kuehlhorn, Y. Zhang, **A.D. Kent**, and J.L. Zilles. 2014. Spatial variation in the bacterial and denitrifying bacterial community in a biofilter treating subsurface agricultural drainage. *Microbial Ecology* 67: 265-272.
 32. Peralta, A.L., S. Ludmer, **A.D. Kent**. 2013. Hydrologic history constrains microbial community composition and nitrogen transformations under experimental drying/wetting treatments. *Soil Biology & Biochemistry* 66: 29-37.
 33. He, Z., J. Xiong, **A.D. Kent**, Y. Deng, K. Xue, G. Wang, L. Wu, J.D. Van Nostrand, and J. Zhou. 2014. Distinct responses of soil microbial communities to elevated CO₂ and O₃ in a soybean agroecosystem. *ISME Journal* 8:714–726.
 34. Paver, S.F., K.R. Hayek, A. Giongo, K.A. Gano, J.R. Fagen, C.R. Brown, A.G. Davis-Richardson, D.B. Crabb, R. Rosario. E.W. Triplett, **A.D. Kent**. 2013. Taxon-specific responses to phytoplankton assemblages contribute to lake bacterial community succession. *Environmental Microbiology* 15:2489-2504.
 35. Amato, K.R., C.J. Yeoman, **A.D. Kent**, N. Righini, A. Estrada, R.M. Stumpf, S. Yildirim, M. Torralba, M. Gillis, B.A. Wilson, K.E. Nelson, B.A. White, S.R. Leigh. 2013. Habitat degradation impacts primate gastrointestinal microbiomes. *ISME Journal*, 7: 1344-1353.
 36. Khullar, E., **A.D. Kent**, T.D. Leathers, K.M. Bischoff; K.D. Rausch, M.E. Tumbleson, V. Singh. 2013. Contamination issues in a continuous ethanol production corn wet milling facility. *World Journal of Microbiology and Biotechnology* 29:891-898.
 37. Paver, S.F., C.E. Nelson, **A.D. Kent**. 2013. Temporal succession of glycolate-utilizing bacterioplankton tracks changes in dissolved organic matter in a high-elevation lake. *FEMS Microbiology Ecology* 83:541-551.
 38. Rigonato, J., **A.D. Kent**, D.O. Alvarenga, F.D. Andreote, R.M. Beirigo, B. Vidal-Torrado, M.F. Fiore. 2013. Drivers of cyanobacterial diversity and community composition in mangrove soils in southeast Brazil. *Environmental Microbiology* 15:1103-1114.
 39. Peralta, A.L., J.W. Matthews, D. N. Flanagan, and **A.D. Kent**. 2012. Environmental factors at dissimilar spatial scales influence plant and microbial communities in restored wetlands. *Wetlands* 32(6):1125-1134.
 40. Rigonato, J., D. Alvarenga, F.D. Andreote, A. Dias, I. Melo, **A.D. Kent**, M. Fiore. 2012. Cyanobacterial diversity in the phyllosphere of a mangrove forest. *FEMS Microbiology Ecology* 80:312-322.

41. Brawn, J., M.P. Ward, **A.D. Kent**. 2012. Biodiversity, Species Loss, and Ecosystem Function. In *Sustainability: A Comprehensive Foundation*. T. Theis and J. Tomkin, eds. University of Illinois Open Source Textbook Initiative, Connexions <http://cnx.org/content/col11325/latest>
42. Yeoman, C.J., N. Chia, S. Yildirim, M.E. Berg Miller, **A.D. Kent**, R. Stumpf, S.R. Leigh, K.E. Nelson, B.A. White, and B.A. Wilson. 2011. Towards an evolutionary model of animal-associated microbiomes. *Entropy* 13(3):570-594.
43. Paver, S.F. and **A.D. Kent**. 2010. Temporal patterns in glycolate-utilizing bacterial community composition correlate with phytoplankton population dynamics in humic lakes. *Microbial Ecology* 60:406-418.
44. Peralta, A.L., J.W. Matthews, and **A.D. Kent**. 2010. Microbial community structure and denitrification function in a wetland mitigation bank. *Applied and Environmental Microbiology* 76:4702-4215.
45. **Kent, A.D.** and Z.L. Bayne. 2010. Degraded water quality influences microbial community composition and perception of health risks in the Chattooga River. *DNA and Cell Biology*, 29: 509-517.
46. Davis, S.C., W.J. Parton, F.G. Dohleman, C.M. Smith, S. Del Grosso, **A.D. Kent**, and E.H. DeLucia. 2010. Comparative biogeochemical cycles and sustainability of bioenergy crops. *Ecosystems*. 13:144-156
47. Yannarell, A.C. and **A.D. Kent**. 2010. Bacteria, distribution and community structure. In *Plankton of Inland Waters*, G. Likens, ed. Elsevier, San Diego, CA. pp 35-44.
48. Johnston, A.R., T.R. Gillespie, I.B. Rwego, T.L. Tranby-McLachlan, **A.D. Kent**, T.L. Goldberg. 2010. Molecular epidemiology of cross-species *Giardia duodenalis* transmission among people, livestock, and wild non-human primates in western Uganda. *PLoS Neglected Tropical Diseases* 4: e683. doi:10.1371/journal.pntd.0000683
49. Matthews, J.W., A.L. Peralta, D.N. Flanagan, P.M. Baldwin, A. Soni, **A.D. Kent**, and A.G. Endress. 2009. Relative influence of landscape versus local factors on plant community assembly in restored wetlands. *Ecological Applications* 19: 2108-2123.
50. Matthews, J.W., A.L. Peralta, A. Soni, P. Baldwin, **A.D. Kent**, and A.G. Endress. 2009. Local and landscape correlates of non-native species invasion in restored wetlands. *Ecography*, 32:1031-1039.
51. Yannarell, A.C., and **A.D. Kent**. 2009. Bacteria, distribution and community structure. *Encyclopedia of Inland Waters*, Gene Likens (ed.). Oxford: Elsevier.
52. Rusak, J.A., S.E. Jones, **A.D. Kent**, A.L. Shade, K.D. McMahon. 2009. Spatial synchrony in microbial community dynamics: testing among-year and lake patterns. *Verhandlungen der Internationalen Vereinigung für Theoretische und Angewandte Limnologie* 30(6):936-940.
53. **Kent, A.D.**, A.C. Yannarell, J.A. Rusak, E.W. Triplett, and K.D. McMahon. 2007. Synchrony in aquatic microbial community dynamics. *The ISME Journal* 1:38-47.

54. Roesch, L.F.W., R.R. Fulthorpe, A. Riva, G. Casella, A.K.M. Hadwin, **A.D. Kent**, S.H. Daroub, F.A.O. Camargo, W.G. Farmerie, and E.W. Triplett 2007. Pyrosequencing enumerates and contrasts soil microbial diversity. *The ISME Journal* 1: 283-290.
55. Shade, A.L., **A.D. Kent**, S.E. Jones, R.J. Newton, E.W. Triplett, and K.D. McMahon. 2007. Inter-annual dynamics and phenology of bacterial communities in a eutrophic lake. *Limnology and Oceanography* 52: 487-494.
56. Jones, S.E., A.L. Shade, K.D. McMahon, **A.D. Kent**. 2007. Comparison of primer sets for use in automated ribosomal intergenic spacer analysis (ARISA) of aquatic bacterial communities: an ecological perspective. *Applied and Environmental Microbiology* 73:659-662.
57. **Kent, A.D.**, S.E. Jones, G.H. Lauster, J.M. Graham, R.J. Newton, and K.D. McMahon. 2006. Experimental manipulations of microbial food web interactions in a humic lake: shifting biological drivers of bacterial community structure. *Environmental Microbiology* 8:1448-1459.
58. Newton, R. J., **A. D. Kent**, E. W. Triplett, and K. D. McMahon. 2006. Microbial community dynamics in a humic lake: differential persistence of common freshwater phylotypes. *Environmental Microbiology* 8:956-970.
59. Balsler, T., K. McMahon, D. Bart, D. Bronson, D.R. Coyle, N. Craig, M. Flores-Mangual, K. Forshay, S. Jones, **A. Kent**, A. Shade. 2006. Bridging the gap between micro- and macro-scale perspectives on the role of microbial communities in global change ecology. *Plant and Soil* 289:59-70.
60. Watras, C.J., K.A. Morrison, **A.D. Kent**, N. Price, O. Regnell, C. Eckley, H. Hintelmann, and T. Hubacher. 2005. Sources of methylmercury to a wetland-dominated lake in northern Wisconsin. *Environmental Science and Technology* 39:4747-4758.
61. Eckley, C., C. Watras, H. Hintelmann, **A.D. Kent**, and O. Regnell. 2005. Mercury methylation in the hypolimnetic waters of lakes with and without connection to wetlands in northern Wisconsin. *Canadian Journal of Fisheries and Aquatic Science* 62:400-411.
62. Jacob, C., **A.D. Kent**, B.J. Benson, R.J. Newton, and K.D. McMahon. 2005. Biological databases for linking large microbial and environmental datasets. *Proc. 9th World Multiconference on Systematics, Cybernetics and Informatics* Vol VII: Informatics Systems Development II, July 14-18, 2002, Orlando, FL.
63. **Kent, A.D.**, S.E. Jones, A.C. Yannarell, J.M. Graham, G.H. Lauster, T.K. Kratz, and E.W. Triplett. 2004. Annual patterns in bacterioplankton community variability in a humic lake. *Microbial Ecology* 48(4):550-560.
64. Graham, J.G., **A.D. Kent**, G.H. Lauster, A.C. Yannarell, L.E. Graham, T.K. Kratz, and E.W. Triplett. 2004. Seasonal dynamics of phytoplankton and protozoan communities in a northern temperate humic lake: diversity in a dinoflagellate dominated system. *Microbial Ecology* 48(4):528-540.
65. Iniguez, A.L., E.A. Robleto, **A.D. Kent**, and E.W. Triplett. 2004. Significant yield increase in *Phaseolus vulgaris* obtained by inoculation with a trifolitoxin-producing, Hup⁺ strain of

Rhizobium leguminosarum bv. phaseoli. *Crop Management*. Online: <http://www.plantmanagementnetwork.org/sub/cm/review/2004/yield/>

66. **Kent, A.D.**, D.J. Smith, B.J. Benson, and E.W. Triplett. 2003. A web-based phylogenetic assignment tool for analysis of terminal restriction length polymorphism profiles of microbial communities. *Applied and Environmental Microbiology* 69:6768-6776.
67. Yannarell, A.C., **A.D. Kent**, G.H. Lauster, T.K. Kratz, and E.W. Triplett. 2003. Temporal patterns in bacterial communities in three temperate lakes of different trophic status. *Microbial Ecology* 46:391-405.
68. **Kent, A.D.** and E.W. Triplett. 2002. Microbial communities and their interactions in soil and rhizosphere ecosystems. *Annual Review of Microbiology* 56:211-236.
69. **Kent, A.D.**, M.L. Wojtasiak, E.A. Robleto, and E.W. Triplett. 1998. A transposable partitioning locus used to stabilize plasmid-borne hydrogen oxidation and trifolitoxin production genes in a *Sinorhizobium* strain. *Applied and Environmental Microbiology* 64:1657-1662.
70. Welch R.A., M.E. Bauer, **A.D. Kent**, J.A. Leeds, M. Moayeri, L.B. Regassa, and D.L. Swenson. 1995. Battling against host phagocytes: the wherefore of the RTX family of toxins? *Infectious Agents and Disease* 4:254-272.

FUNDING

Angela D. Kent. Investigating the Biological Basis of Soil Fertility: The Effect of Sustainable Management Practices on Microbial Populations That Contribute to Efficient Nutrient Cycling. Illinois Department of Agriculture. 2007. \$13,750

Angela D. Kent and Rachel J. Whitaker. Forces driving microbial community diversity and composition in humic lakes. NSF Microbial Observatories. 2007-2011. \$687,284.

Angela D. Kent. Ecology and exploitation of endophytic diazotrophic bacteria in biofuel crops. Energy Biosciences Institute. 2008-2011. \$608,291.

Angela D. Kent and Rachel J. Whitaker. Forces driving microbial community diversity and composition in humic lakes (REU Supplement). NSF Microbial Observatories. 2008. \$12,000.

Angela D. Kent and Rachel J. Whitaker. Forces driving microbial community diversity and composition in humic lakes (REU Supplement). NSF Microbial Observatories. 2009. \$9,500.

Angela D. Kent. Linking microbial community structure to water quality function: Investigating nitrogen cycling during early floodplain development. UIUC Research Board Arnold O. Beckman Award. 2009. \$9,784.

Julie Zilles, Angela D. Kent, and Luis Rodriguez. Identifying design principles for engineered ecosystems: denitrifying biofilters for sustainable agriculture, NSF: Environmental Sustainability. 2009-2012. \$399,276.

Luis Rodriguez and Angela D. Kent. Role of microbial community dynamics in sequestration of carbon in soil columns. Environmental Change Institute. 2009-2010. \$24,955.

Angela D. Kent. Linking microbial community structure to water quality function: investigating nitrogen cycling during early floodplain development. Illinois Water Resource Center. 2010-2011. \$37,662.

Luis Rodriguez and Angela D. Kent. Development of a Soil Organic Carbon Model Targeting Sustainability. UIUC Research Board. 2010-2011. \$21,000.

Angela D. Kent and Rachel J. Whitaker. Forces driving microbial community diversity and composition in humic lakes (ROA Supplement). NSF Microbial Observatories. 2010. \$25,000.

Angela D. Kent and Rachel J. Whitaker. Forces driving microbial community diversity and composition in humic lakes (REU Supplement). NSF Microbial Observatories. 2010. \$7,000.

Angela D. Kent. Monitoring redox potential and the response of soil microbial communities along an environmental gradient during early floodplain management. National Great Rivers Research and Education Center. 2010. \$6,000.

Daniel W. Schneider and Angela D. Kent. Using Ecological Theory of Alternate Stable States to Improve Sewage Treatment Plant Operation (Seed Grant). Illinois-Indiana Sea Grant. 2010. \$9,962.

Angela D. Kent and Sara F. Paver. Effects of phytoplankton on bacterial community structure across varying temperature and light contexts. NSF Doctoral Dissertation Improvement Grant. 2011. \$14,890.

Angela D. Kent. Forces driving microbial community diversity and composition in humic lakes (REU Supplement). NSF Microbial Observatories. 2011. \$7,000.

Angela D. Kent. Forces driving microbial community diversity and composition in humic lakes (REU Supplement). NSF Microbial Observatories. 2012. \$7,000.

Angela D. Kent. Forces driving microbial community diversity and composition in humic lakes (ROA Supplement). NSF Microbial Observatories. 2012. \$25,371.

Richard S. Gates, Ted Funk, Angela D. Kent, Laura Pepple. Microbial community analysis to identify risk factors in manure foaming. National Pork Board. 2011. \$29,983.

Angela D. Kent. Understanding the role of nitrogen-fixing bacterial communities in invasion by *Miscanthus sinensis*. UIUC Research Board. 2012. \$29,620.

Jeff Dangl, Angela D. Kent, Rob Knight, Ruth Ley, Tom Mitchell-Olds, Peter Reich, Susannah Tringe, Tanja Woyke. Plant associated metagenomes – Microbial community diversity and host control of community assembly across model and emerging plant ecological genomics systems. DOE Joint Genome Institute Community Sequencing Program. 2012. Sequencing of microbial rRNA genes associated with >50,000 plant-associated microbial samples. No funding is awarded, just sequencing capacity at JGI. [Kent submitted 1800 *Miscanthus*-associated samples for microbial sequence analysis. This sequencing capacity would be worth ~\$150,000 at the UIUC Keck Center for Functional Genomics.]

Angela D. Kent. Trajectories of microbial community structure and function in restored wetlands. National Great Rivers Research and Education Center. 2012. \$6,000.

Richard S. Gates, Angela D. Kent, Ted Funk, Laura Pepple. Identifying the cause and subsequent remediation of foaming in swine manure management systems. Iowa Pork Board. 2012-2014. \$271,475.

Angela D. Kent. Restoration trajectories of restored floodplain forests and their ecosystem services. USDA McIntire-Stennis Cooperative Forestry Research Program. 2012-2015. \$100,000.

Angela D. Kent. Response of floodplain microbial communities to altered hydrological regimes. National Great Rivers Research and Education Center. 2013. \$6,000.

Angela D. Kent. Restoration trajectories of restored floodplain wetlands and their ecosystem services. Illinois Water Resources Center. 2013-2014. \$10,000.

Angela D. Kent and Natalie Stevenson. Year-round wetland microbial activity impacts on nitrogen cycling annual budgets: is restoration impacting greenhouse gas emissions in wetlands? Illinois Water Resources Center. 2014-2015. \$10,000.

Angela D. Kent. NGRREC Faculty Fellow. 2014-2015. \$25,000.

Richard S. Gates, Angela D. Kent, Laura Pepple. 2015-2016. National Pork Board. Microbial ecology evaluation of foam production in swine deep-pit manure storages. \$113,877.

Julie Zilles, Sotiria Koloutsou-Vakakis, and Angela Kent. Nitrogen emissions associated with nutrient management practices: measurements, modeling, and microbial communities. USDA-AFRI Program Area: Renewable Energy, Natural Resources, and Environment, Priority 1. Nitrogen and Phosphorus Cycling, Sub-priority Area – Management practices and/or processes. 2015-2018. \$475,000.

Wendy Yang and Angela Kent. 2016-2017. USDA Exploratory Research Grant. Angela Kent and Wendy Yang. NREC. Dissimilatory Nitrate Reduction to Ammonium: An Unexplored Microbial Pathway for Nitrate Retention in Agricultural Soils. \$100,000.

Angela Kent and Wendy Yang. 2016-2017. Illinois Nutrient Research and Education Council. Dissimilatory Nitrate Reduction to Ammonium: An Unexplored Microbial Pathway for Nitrate Retention in Agricultural Soils. \$124,645.

Angela Kent. 2018-2020. Shedd Aquarium and the Arthur Johnson Foundation. Role of the Microbiome in the Reintroduction of Species. \$60,112.

Angela Kent and Wendy Yang. 2018-2020. Illinois Nutrient Research and Education Council. Dissimilatory Nitrate Reduction to Ammonium: An Unexplored Microbial Pathway for Nitrate Retention in Agricultural Soils. \$383,454.

CABBI. 2017-2021. Department of Energy Bioenergy Research Center. Center for Advanced Bioenergy and Bioproduct Innovation. \$15,000,000 award, \$2,629,151 to Kent.

Angela Kent, Wendy Yang, and Martin Bohn. 2020-2024. USDA-AFRI: Agricultural Microbiomes. Mining Ancient Genomes for Mechanisms to Improve Nutrient Retention in Maize Agroecosystems. \$749,987.

AWARDS AND RECOGNITION

- 1998 Gurine Gjermundson-Gulsteen Graduate Research Fellowship. *Awarded annually to a UW-Madison graduate student seeking to solve practical problems that Wisconsin farmers confront in their daily lives.*
- 2008 ACES Academy for Global Engagement Scholar. *A year-long experience focusing on enhancing participation in global activities at the campus, state, and national levels.*
- 2006 – 2020 Included on the “List of Teachers Ranked as Excellent by Their Students,” Spring 2006, Fall 2008, Spring 2009, Fall 2009, Spring 2010, Fall 2010, Spring 2011, Fall 2011, Spring 2012, Spring 2015, Fall 2016, Spring 2018, Fall 2019
- 2009 Arnold O. Beckman Research Award. *Awarded by the University of Illinois Research Board to support projects of special distinction or special promise.*
- 2011 College of ACES Faculty Award for Excellence in Teaching
- 2012 Teacher Fellow Award, North American Colleges and Teachers of Agriculture
- 2014 NGRREC Faculty Fellow
- 2018 College of ACES Senior Faculty Award for Excellence in Teaching

INVITED PRESENTATIONS

Kent, A.D. Mining ancient genomes for corn of the future. Invited presentation for 56th Annual Illinois Corn Breeders’ School. Urbana, IL. March 2-3, 2020.

Kent, A.D. Linking microbial community structure and function for sustainable production of bioenergy crops. Invited presentation for presentation at 104th ESA Annual Meeting, Louisville, KY. August 11-16, 2019.

Kent, A.D. Mining ancient genomes for plants of the future. Featured speaker for Plants of the Future. Nature Conferences, New York University, New York, NY. June 13-14, 2019.

Kent, A.D. Micro-managing sustainability: Plant genotype shapes microbiome structure and function. Plenary speaker at the DOE 2019 Genomic Sciences Program Annual Principal Investigator Meeting. Washington, DC. February 24 – 27, 2019.

Kent, A.D. Selecting for sustainability: Plant genotype shapes microbial community structure and function. Invited presentation for presentation at 103rd ESA Annual Meeting, New Orleans, LA. August 5-10, 2018.

Kent, A.D. Selecting for sustainability: Plant genotype shapes microbial community structure and function. Distinguished Lecture in Microbiology, Department of Bacteriology, University of Wisconsin-Madison. April 12, 2018.

Kent, A.D. Selecting for sustainability: Plant genotype shapes microbial community structure and function. Invited presentation for Plant Genomes & Biotechnology: From Genes to Networks 2017, Cold Spring Harbor Laboratory. November 29 – December 2, 2017.

Kent, A.D. Microbial ecology of marine mammal habitats. Invited presentation for the Department of Biology, Kansas State University. March 3, 2017.

Kent, A.D. Micro-managing environmental health and sustainability. Invited presentation for the Department of Civil & Environmental Engineering, Northwestern University. January 27, 2017.

Kent, A.D. Harnessing the plant microbiome: pathways toward sustainable crop production. Invited presentation for Phytobiomes: From Microbes to Plant Ecosystems, Keystone Symposium, Santa Fe, NM. November 8 – 12, 2016.

Kent, A.D. Harnessing the plant microbiome: pathways toward sustainable crop production. Invited presentation for Phytobiomes 2015: Designing a New Paradigm for Crop Improvement, hosted by the Phytobiomes Initiative, Washington, DC. June 30 – July 2, 2015.

Kent, A.D. Harnessing the plant microbiome: pathways toward sustainable crop production. Physiological and Molecular Plant Biology Seminar, University of Illinois at Urbana-Champaign, September 30, 2015.

Kent, A.D. Ecology of the *Miscanthus*-associated microbiome and prospects for improving sustainability of biofuel crops. 8th Annual International Symposium on Biomathematics and Ecology: Education and Research (BEER-2015), Illinois State University in Normal, IL, October 9 – 11, 2015.

Kent, A.D. Assessing the effect of land use change on microbial communities and their activities. 9th Annual Emiquon Science Symposium. February 15, 2015.

Kent, A.D. Disentangling drivers of aquatic microbial community dynamics. Invited presentation for the Distinguished Speakers in Microbiology series, Microbiology Department at the University of Wisconsin-La Crosse. November 7, 2014.

Kent, A.D. Microbial ecology of marine mammal habitats. Invited presentation for the Department of Biological Sciences, Western Michigan University. April 18, 2014.

Kent, A.D. Assessing the *Miscanthus*-associated microbiome: prospects for improving sustainability. Invited presentation for the Cluster of Excellence in Plant Sciences, University of Cologne, Germany. September 6, 2013.

Kent, A.D. Microbial ecology of marine mammal habitats. Invited presentation for the Animal Health Group at the Shedd Aquarium, Chicago, IL. August 22, 2013.

Kent, A.D. Micro-managing sustainability: Ecology of diazotrophs associated with *Miscanthus*. Invited presentation for the 2nd Workshop on Genetics of Maize-Microbe Interactions. Donald Danforth Plant Science Center, Saint Louis, MO. February 24-27, 2013.

Kent, A.D. Disentangling drivers of aquatic microbial community dynamics. Invited presentation for the Department of Biological Sciences, Eastern Illinois University, Charleston, IL. November 26, 2012.

Kent, A.D. Animal House: Microbial ecology of animal housing environments. Invited presentation for the Institute of Ecology and Evolution and the Center for Biology of the Built Environment, University of Oregon, Eugene, OR. November 13, 2012.

Kent, A.D. Micro-managing sustainability: Ecology of diazotrophs associated with *Miscanthus*. Invited presentation for the 13th Symposium on Nitrogen Fixation with Non-Legumes, Munich, Germany. September 6-7, 2012.

Kent, A.D., A.R. Green, C. Chu, G.T. Sales and R.S. Gates. Management factors influence microbial ecology in commercial poultry housing. Invited oral presentation at the 97th Ecological Society of America Annual Meeting, Portland, OR. August 5-10, 2012.

Kent, A.D. Micro-managing sustainability: Ecology of the *Miscanthus*-associated microbiome. Invited presentation for the 28th New Phytologist Symposium: Functions and ecology of the plant microbiome. Rhodes, Greece, 18–21 May, 2012.

Kent, A.D. Micro-managing sustainability: Ecology of diazotrophic bacteria associated with perennial grasses. Invited presentation for the School of Biological Sciences, Illinois State University. Bloomington, IL. March 1, 2012.

Kent, A.D. Disentangling drivers of aquatic microbial community dynamics. Invited presentation at the Keystone Symposia on Molecular and Cellular Biology focused on Microbial Communities as Drivers of Ecosystem Complexity. Breckenridge, CO. March 25-30, 2011.

Kent, A.D. Micro-managing sustainability: Ecology of diazotrophic bacteria associated with perennial grasses. Invited presentation for the Molecular Biology, Microbiology, and Biochemistry Seminar, Southern Illinois University, Carbondale, IL. September 10, 2010.

Kent, A.D. Potential for nitrogen fixation to contribute to sustainability of biofuel feedstock production. Invited oral presentation at the 95th Ecological Society of America Annual Meeting, Pittsburgh, PA. August 1-6, 2010.

Kent, A.D. Assessing the effects of land use change on microbial communities and their activities. Oral presentation to the Illinois State Geological Survey, Champaign, IL. October 5, 2009.

Kent, A.D. Exploring the broader impacts of bioenergy: ACES Global Academy Immersion Trip to Brazil. Presentation at the ACES Academy for Global Engagement graduation reception. December 16, 2008.

Kent, A.D. Ecology and exploitation of endophytic diazotrophic bacteria in biofuel crops. Invited oral presentation at University of São Paulo Escola Superior de Agricultura Luiz de Queiroz (ESALQ), Piracicaba, Brazil. November 19, 2008.

Kent, A.D. Biological drivers of microbial community dynamics: Using molecular biology to understand links between phytoplankton and aquatic microbial communities. Invited oral presentation in the Young Investigators in Aquatic and Fisheries Science Seminar Series, University of Washington, Seattle, WA. October 16, 2008.

Kent, A.D. Understanding links between phytoplankton and aquatic microbial communities. Invited oral presentation at International Workshop on Aquatic Microbial Community Dynamics, Uppsala University, Sweden. September 29 – October 4, 2008.

Kent, A.D. Examining drivers of microbial community dynamics in aquatic ecosystems. Invited oral presentation to the Ecology, Evolutionary and Behavior program at Indiana University, Bloomington, IL. December 7, 2007.

Peralta, A.L., J.W. Matthews, D.N. Flanagan, and **A.D. Kent**. 2007. Microbial community structure and function in restored floodplain forest wetlands. Invited presentation for the International Symposium on Soil Biodiversity and Ecology. Taipei, Taiwan, September 9-14, 2007.

Kent, A.D., A.C. Yannarell, J.A. Rusak, E.W. Triplett, K.D. McMahon. Synchrony in aquatic microbial community dynamics. Invited colloquium presentation at the 107th General Meeting of the American Society for Microbiology, in Toronto, Ontario. May 21-25, 2007.

Kent, A.D. Comparing microbial community composition in natural and managed aquatic ecosystems. Invited presentation, Managing Cetaceans for Optimal Health workshop, Shedd Aquarium, Chicago, Illinois, May 17-18, 2007.

Kent, A.D. Opening the “black box” of microbial ecology: examining drivers of microbial community dynamics in aquatic ecosystems. Program in Ecology & Evolutionary Biology, University of Illinois at Urbana-Champaign. December 6, 2006.

Kent, A.D. Using the tools of informatics for planning collaborative research. Gamma Sigma Delta Graduate Fellowship Recognition Reception, University of Illinois at Urbana-Champaign. November 2, 2006.

Kent, A.D. Two microbial tales: bacterial dynamics and mercury methylation in Wisconsin waters. Institute of Marine Sciences, University of North Carolina at Chapel Hill, May 20, 2005.

Kent, A.D., K.D. McMahon, L. Torrey. Integrating the three pillars: drawing upon the DELTA learning community to design, implement, and assess an interactive "virtual lab" to support a variety of learning styles. University of Wisconsin-Madison, April 27, 2005.

Kent, A.D., C. Jacob, A.C. Yannarell, R.J. Newton, B.J. Benson, E.W. Triplett, and K.D. McMahon. Linking fingerprints, phylogeny and environmental data at the North Temperate Lakes Microbial Observatory. Oral presentation at the 3rd Annual Microbial Observatories PI Workshop, Big Sky, MT. September 12-14, 2004.

PRESENTATIONS

Favela, A. and **A.D. Kent**. Ancient roots: Influence of teosinte loci on rhizosphere microbiome of maize. Oral presentation at the 104th ESA Annual Meeting, Louisville, KY. August 11-16, 2019.

Hazemi, M.S. and **A.D. Kent**. Western pond turtles and shell disease: Uncovering the role of the microbiome in species recovery. Oral presentation at the 104th ESA Annual Meeting, Louisville, KY. August 11-16, 2019.

- Egenriether, S.M., **A.D. Kent**, W.H. Yang. Dissimilatory nitrate reduction to ammonium occurs at soil moistures low enough to inhibit denitrification. Poster presentation at the 104th ESA Annual Meeting, Louisville, KY. August 11-16, 2019.
- Hazemi, M.S., **A.D. Kent**, W. Van Bonn, and J. Pramuk. Managing the Microbiome of Turtle Headstart Habitats. Poster presentation at the Association of Zoos and Aquariums 2019 Annual Conference, New Orleans, LA. Septemer 7-11, 2019.
- Kent, A.D.** and Alonso Favela. Selecting for sustainability: approaching microbial community structure and function as a selectable phenotype of the plant genome. Presentation at the Purdue University Microbiome Symposium. West Lafayette, IN. May 13-14, 2019.
- Kent, A.D.** Micro-managing species recovery. Invited presentation at the Microbiome Research Symposium, University of Chicago. April 16, 2019.
- Kent, A.D.** Selecting for sustainability: Plant genotype shapes microbial community structure and function. Invited presentation at 103rd ESA Annual Meeting, New Orleans, LA. August 5-10, 2018.
- Yang, W., S. Egenriether, **A.D. Kent**. Genetic and environmental controls on dissimilatory nitrate reduction to ammonium as a nitrate retention pathway in upland soils. 103rd ESA Annual Meeting, New Orleans, LA. August 5-10, 2018.
- Edwardson, C.F., F. Oliaro, A. LaPointe, W. Van Bonn, **A. Kent**. Drivers of microbial community dynamics in a managed artificial seawater system. ASLO 2018 Ocean Sciences Meeting. Portland, OR. February 11-16, 2018.
- Kent, A.D.**, A. Favela, S.S. Raglin. Selecting for sustainability: Plant genotype shapes composition of microbial functional groups. Oral presentation at the 8th Annual Argonne Soil Metagenomics Meeting, Argonne National Laboratory, Chicago, IL. November 1-3, 2017.
- Favela, A., M. Bohn, **A.D. Kent**. Differences between wild and modern *Zea mays* functional microbiome. Poster presentation at the 8th Annual Argonne Soil Metagenomics Meeting, Argonne National Laboratory, Chicago, IL. November 1-3, 2017.
- Kent, A.D.**, S. Baker, M. Britton, M. Allender. Snake fungal disease disrupts the skin microbiome of endangered Eastern Massasauga rattlesnakes (*Sistrurus catenatus*). Oral presentation at 102nd ESA Annual Meeting, Portland, OR. August 6-11, 2017.
- Kent, A.D.** Selecting for sustainability: Plant genotype shapes microbial functional groups
Keystone Symposium on Phytobiomes: From Microbes to Plant Ecosystems. Santa Fe, NM. November 8-12, 2016.
- Favela, A., M. Bohn, **A.D. Kent**. Differences between wild and modern *Zea mays* functional microbiome. Keystone Symposium on Phytobiomes: From Microbes to Plant Ecosystems. Santa Fe, NM. November 8-12, 2016.

Cohen, D.B. and **A.D. Kent**. Tracking temporal patterns in denitrification and microbial community composition following wetland restoration in Illinois. Poster presentation at the 101st Annual Meeting of the Ecological Society of America, Fort Lauderdale, FL. August 7-12, 2016.

Kent, A.D. Plant genotype influences composition of microbial functional groups. Oral presentation at the 101st Annual Meeting of the Ecological Society of America, Fort Lauderdale, FL. August 7-12, 2016.

Kent, A.D., L.M. Pepple, and R.S. Gates. Altered microbial community structure contributes to foam production in swine manure storage facilities. Oral presentation at the 100th Annual Meeting of the Ecological Society of America, Baltimore, MD. August 9-14, 2015.

Li, D. and **A.D. Kent**. The effects of plant genotypes and local soil on diazotrophs associated with *Miscanthus*. Oral presentation at the 14th International Symposium on Nitrogen Fixation with Non-Legumes, Chengdu, China. October 30 – November 3, 2014.

Li, D. and **A.D. Kent**. Plant genotype affects the structure of the *Miscanthus*-associated microbiome. Oral presentation at the 99th Annual Meeting of the Ecological Society of America, Sacramento, CA. August 10-15, 2014.

Cohen, D.B., N.A. Stevenson, **A.D. Kent**. Patterns in microbial community assembly in restored wetlands have ramifications for denitrification capacity. Poster presentation at the Joint Aquatic Sciences Meeting, Portland, OR. May 18-23, 2014.

Paver, S.F. and **A.D. Kent**. Changes in temperature and light availability affect phytoplankton-bacterial interactions in humic lakes. Oral presentation to the Joint Aquatic Sciences Meeting, Portland, OR. May 18-23, 2014.

Li, D., T. Voigt, and **A.D. Kent**. Plant and soil effects on bacterial communities associated with *Miscanthus × giganteus* rhizosphere and rhizomes. Poster presentation at the 98th Annual Meeting of the Ecological Society of America, Minneapolis, MN. August 4-9, 2013.

Cohen, D.B. and **A.D. Kent**. Environmental variability shapes microbial community response to altered hydrology in an Illinois wetland. Poster presentation at the 98th Annual Meeting of the Ecological Society of America, Minneapolis, MN. August 4-9, 2013.

Paver, S.F. and **A.D. Kent**. Temporal patterns in aquatic bacterial communities: what do phytoplankton have to do with it? Oral presentation at the 98th Annual Meeting of the Ecological Society of America, Minneapolis, MN. August 4-9, 2013.

Paver, S.F. and **A.D. Kent**. Effects of phytoplankton interactions on bacterial community composition are temperature-dependent. Oral presentation at the 2013 ASLO Aquatic Sciences Meeting, New Orleans, LA. February 17-22, 2013.

Paver, S.F., **A.D. Kent**, and R.J. Whitaker. Phytoplankton affect the composition of bacterial within the *Polynucleobacter* genus. Poster presentation at the 2013 ASLO Aquatic Sciences Meeting, New Orleans, LA. February 17-22, 2013.

Kent, A.D. Micro-managing sustainability: Ecology of the *Miscanthus*-associated microbiome. Oral presentation at the 4th Annual Argonne Soil Metagenomics Meeting, Chicago, IL. October 3–5, 2012.

Paver, S.F., **A.D. Kent**. Context matters: Effects of phytoplankton on bacterial community composition change across varying temperature and light conditions. Oral presentation at the 97th Annual Meeting of the Ecological Society of America, Portland, OR. August 5-10, 2012.

Peralta, A.L. C.M. Ugarte, M.M. Wander, **A.D. Kent**. The biological basis of soil fertility: Microbial community response to organic transition strategy. Oral presentation at the 97th Annual Meeting of the Ecological Society of America, Portland, OR. August 5-10, 2012.

Amato, K. R., C.J. Yeoman, **A.D. Kent**, N. Righini, F. Carbonero, A. Estrada, H.R. Gaskins, R.M. Stumpf, S. Yildirim, M. Torralba, M. Gillis, B.A. Wilson, K.E. Nelson, B.A. White, S.R. Leigh. Spatial and temporal variation in the gut microbiome of wild, black howler monkeys (*Alouatta pigra*). Oral presentation at the 97th Annual Meeting of the Ecological Society of America, Portland, OR. August 5-10, 2012.

Li, D. and **A.D. Kent**. Ecology of diazotrophs associated with *Miscanthus*. Poster presentation at the 28th New Phytologist Symposium: ^[1]Functions and ecology of the plant microbiome. ^[SEP]Rhodes, Greece, May 18–21, 2012.

Kent, A. D., L. Pepple, T. Funk, R. Gates. Analysis of microbial communities associated with manure foaming. Oral presentation to PIs and stakeholders, Iowa Pork Board, May 8-9, 2012.

Peralta, A.L., J.W. Matthews, E. Johnston, S. Ludmer, and **A.D. Kent**. Abiotic controls on community structure and function of nitrogen cycling microorganisms in wetland ecosystems. Oral presentation at the 96th Annual Meeting of the Ecological Society of America, Austin TX. August 7-12, 2011.

Paver, S.F., K.R. Hayek, E.W. Triplett and **A.D. Kent**. Phytoplankton succession and lake bacterial community dynamics. Oral presentation at the 96th Annual Meeting of the Ecological Society of America, Austin TX. August 7-12, 2011.

Chang, Y., W.R. Hill, and **A.D. Kent**. Bacterial community composition in stream biofilms is influenced by algal response to light and nutrient ratios. Poster presentation at the 111th General Meeting of the American Society for Microbiology, New Orleans, LA. May 21-24, 2011.

Hayek, K. S. Paver, **A. Kent**. Influence of light and carbon source on bacterial community structure. Poster and oral presentation at the 111th General Meeting of the American Society for Microbiology, New Orleans, LA. May 21-24, 2011. *First author is an ASM Undergraduate Research Fellow.*

Lemke, M.J. and **A.D. Kent**. Comparison of Microbial Community Dynamics in Sediments from an Established and a Restored Illinois River Floodplain Lake. Poster presentation at the 111th General Meeting of the American Society for Microbiology, New Orleans, LA. May 21-24, 2011.

Li, D., D.P. Keymer, **A.D. Kent**. Ecology of nitrogen-fixing bacteria associated with a perennial grass biofuel crop. Poster presentation at the 111th General Meeting of the American Society for Microbiology, New Orleans, LA. May 21-24, 2011.

Peralta, A.L., J.W. Matthews, **A.D. Kent**. Assessment of abiotic controls on microbial community structure and function: Linking microbial community structure and water quality function in restored floodplain wetlands. Oral presentation at the Midwest Society for Ecological Restoration Chapter Annual Meeting, University of Illinois, Springfield, IL. April 1-3, 2011.

Amato, K.R, **A.D. Kent**, R.I. Mackie, A. Estrada, P.A. Garber. The gut microbes and foraging behavior of wild, black howler monkeys (*A. pigra*) in Palenque National Park, Mexico. Poster presentation at the 13th International Symposium on Microbial Ecology, Seattle, WA. August 22-27, 2010.

Paver, S., K. Hayek, **A. Kent**. Algal populations influence lake bacterial community structure. Poster presentation at the 13th International Symposium on Microbial Ecology, Seattle, WA. August 22-27, 2010.

Paver, S., **A. Kent**. Particle attachment as a habitat filter for lake freshwater bacterial assemblages. Poster presentation at the 13th International Symposium on Microbial Ecology, Seattle, WA. August 22-27, 2010.

Peralta, A.L., J.W. Matthews, **A.D. Kent**. Linking microbial community structure to water quality function: Investigating nitrogen cycling influenced by hydrology in wetland ecosystems. Poster presentation at the 13th International Symposium on Microbial Ecology, Seattle, WA. August 22-27, 2010.

Porter, M, L. Rodriguez, J. Andrus, **A. Kent**, J. Zilles. Temporal dynamics of fungal communities in denitrifying biofilters receiving agricultural runoff. Poster presentation at the 13th International Symposium on Microbial Ecology, Seattle, WA. August 22-27, 2010.

Keymer, D.P., Y. Mao, R.I. Mackie, and **A.D. Kent**. Species-specific bacterial assemblages associated with potential bioenergy grasses. Poster presentation at the 13th International Symposium on Microbial Ecology, Seattle, WA. August 22-27, 2010.

Lemke, M, J. **A.D. Kent**, F. Velho, M. Randle, D. Kellerhals. Microbial communities in two Illinois River floodplain lakes differing in restoration status. Poster presentation at the 95th Ecological Society of America Annual Meeting, Pittsburgh, PA. August 1-6, 2010.

Kent, A.D., D.P. Keymer, Y. Mao. Ecology of nitrogen-fixing bacteria associated with a perennial grass biofuel crop. Invited oral presentation at the 95th Ecological Society of America Annual Meeting, Pittsburgh, PA. August 1-6, 2010.

Kent, A.D. Micro-managing wetland restoration. Oral presentation in a special session at the 95th Ecological Society of America Annual Meeting, Pittsburgh, PA. August 1-6, 2010.

Peralta, A.L., J.W. Matthews, and **A.D. Kent**. Investigating variation in microbial community composition along a moisture gradient. Poster presentation at the Emiquon Science 2010 Conference, Dickson Mounds Museum, Lewistown, IL. March 4, 2010.

Lemke, M. F. Velho, **A.D. Kent**, K. Dungey, D. Kellerhaus, and M. Randle. Water quality and microbial ecology of Thompson Lake. Poster presentation at the Emiquon Science 2010 Conference, Dickson Mounds Museum, Lewistown, IL. March 4, 2010.

Kent, A.D., A.R. Green, C. Chu, G.T. Sales, and R.S. Gates. Microbial community composition, pathogen prevalence, and environmental conditions within cage and cage-free egg laying facilities. Oral presentation at the International Poultry Scientific Forum, Atlanta, GA. January 25-26, 2010.

Chu, C., G. Sales, N. Gottel, R. Gates, A. Green, **A.D. Kent**. Microbial ecology and environmental quality in egg-laying facilities. Poster presentation at the 2009 Merck-Merial NIH National Veterinary Scholars Symposium. North Carolina State University, Raleigh, NC. August 6 - 8, 2009.

Kent, A.D., N.R. Gottel, and J.M. Cooper. Ecology of microbial assemblages associated with a perennial grass biofuel crop. Oral presentation at the 94th Ecological Society of America Annual Meeting, Albuquerque, NM. August 2-7, 2009.

Chang, Y., W.R. Hill, and **A.D. Kent**. Bacterial community composition in stream biofilms is influenced by algal response to light and nutrient ratios. Poster presentation at the 94th Ecological Society of America Annual Meeting, Albuquerque, NM. August 2-7, 2009.

Kent, A.D. Assessing the effects of land use change on microbial communities and their activities. Oral presentation at the 2009 Great Lakes Regional Biogeochemistry Conference, Kellogg Biological Station, Hickory Corners, MI. May 28-29, 2009.

Peralta, A.L., J.W. Matthews, **A.D. Kent**. Investigating microbially-mediated nitrogen cycling during early floodplain development. Poster presentation at the 2009 Great Lakes Regional Biogeochemistry Conference, Kellogg Biological Station, Hickory Corners, MI. May 28-29, 2009.

Gottel, N.R., J.M. Cooper; **A.D. Kent**. Ecology of microbial assemblages associated with a perennial grass biofuel crop. Poster presentation at the 109th General Meeting of the American Society for Microbiology, Philadelphia, PA. May 17-21, 2009.

Kent, A.D., A.L. Peralta, D.N. Flanagan, J.W. Matthews. A Soil Microbial Ecology Perspective of Wetland Restoration. Poster presentation at the 109th General Meeting of the American Society for Microbiology, Philadelphia, PA. May 17-21, 2009.

Paver, S.F. and **A.D. Kent**. Contribution of Phytoplankton-Associated Bacteria to Aquatic Microbial Community Dynamics. Poster presentation at the 109th General Meeting of the American Society for Microbiology, Philadelphia, PA. May 17-21, 2009.

Peralta, A.L., J.W. Matthews, **A.D. Kent**. Investigating microbially-mediated nitrogen cycling during early floodplain development. Poster presentation at the 94th Ecological Society of America Annual Meeting, Albuquerque, NM. August 2-7, 2009. Refereed.

Kent, A.D., S.F. Paver, Y. Chang. Molecular characterization of microbial food web interactions. Poster presentation at the 12th International Symposium on Microbial Ecology, Cairns, Australia. August 17-22, 2008.

Peralta, A.L., D.N. Flanagan, J.W. Matthews, A.G. Endress, **A.D. Kent**. A microbial community ecology approach to wetland mitigation assessment. Poster presentation at the 12th International Symposium on Microbial Ecology, Cairns, Australia. August 17-22, 2008.

Miller, T.R., S.F. Paver, **A.D. Kent**, K.D. McMahon. Molecular characterization of glycolate-degrading freshwater bacteria. Poster presentation at the 12th International Symposium on Microbial Ecology, Cairns, Australia. August 17-22, 2008. Refereed.

Peralta, A.L., D.N. Flanagan, J.W. Matthews, A.G. Endress, **A.D. Kent**. A microbial community ecology approach to wetland mitigation assessment. Poster presentation at the 93rd Ecological Society of America Annual Meeting, Milwaukee, Wisconsin. August 3-8, 2008.

Kent, A.D., A.L. Peralta, D.N. Flanagan, J.W. Matthews. Wetland assessment from a soil microbial ecology perspective. Oral presentation at the 2008 ASLO Summer Meeting, St. John's, Newfoundland, Canada. June 8-13, 2008.

Paver, S.F., Y. Chang, **A.D. Kent**. Molecular characterization of microbial food web interactions. Poster presentation at the 2008 ASLO Summer Meeting, St. John's, Newfoundland, Canada. June 8-13, 2008.

Flanagan, D.N., J.W. Matthews, **A.D. Kent**. Can constructed wetlands replace natural wetlands? A study into microbial community structure and function in constructed vs. natural wetlands. Poster presentation at the Society of Wetland Scientists 2008 Conference, Washington, DC. April 4-5, 2008.

Kent, A.D. Mentoring undergraduate researchers: turning curiosity into scientific inquiry. Poster presentation at the UIUC Undergraduate Research Symposium, Urbana, Illinois. April 29, 2008.

Flanagan, D.N., J.W. Matthews, **A.D. Kent**. Can constructed wetlands replace natural wetlands? A study into microbial community structure and function in constructed vs. natural wetlands. Poster presentation at the 100th Annual Meeting of the Illinois State Academy of Sciences, Urbana, Illinois. April 4-5, 2008.

Peralta, A.L., J.W. Matthews, **A.D. Kent**. Wetland mitigation bank assessment from a soil microbial ecology perspective. Poster presentation at the 100th Annual Meeting of the Illinois State Academy of Sciences, Urbana, Illinois. April 4-5, 2008.

Kent, A.D. Ecology and exploitation of endophytic diazotrophic bacteria in biofuel crops. Poster presentation at the 2008 Energy Biosciences Institute research retreat. Bodega Bay, California, February 1 – 3, 2008.

Kent, A.D., A.C. Yannarell, K.D. McMahon. Synchrony in aquatic microbial community dynamics. Poster presentation at the 2007 FIBR Interdisciplinary Workshop: Do Species Matter in Microbial Communities? Bozeman, Montana, July 30 – August 1, 2007.

Kent, A.D., A.C. Yannarell, J.R. Rusak, E.W. Triplett, and K.D. McMahon. Synchrony and temporal concordance in microbial community succession in a suite of north temperate humic lakes. Oral presentation at the 11th International Symposium on Microbial Ecology, Vienna, Austria. August 20-25, 2006.

Kent, A.D., C.J. Watras, C. Eckley, O. Regnell, K.D. McMahon, H. Hintelmann. Microbial community structure is correlated with mercury methylation in northern Wisconsin lakes. Oral presentation at the Mercury 2006 meeting, Madison, WI. August 6-11, 2006.

Kent, A.D., E.W. Triplett, K.D. McMahon. Synchrony and temporal concordance in phytoplankton and bacterioplankton community succession in a suite of north temperate humic lakes. Presented at the 2006 ASLO Summer Meeting, Victoria, British Columbia. June 4-9, 2006.

Kent, A.D., C.J. Watras, C. Eckley, O. Regnell, K.D. McMahon, H. Hintelmann. Microbial community composition and mercury methylation in the anoxic hypolimnia of stratified Wisconsin lakes. Presented at the 18th Annual Cell and Molecular Biology/Molecular Biophysics Research Symposium, University of Illinois at Urbana Champaign, October 14, 2005.

Kent, A.D., C.J. Watras, C. Eckley, O. Regnell, K.D. McMahon, H. Hintelmann. Microbial community composition and mercury methylation in the anoxic hypolimnia of stratified Wisconsin lakes. Oral presentation at the 2005 ASLO Summer Meeting, Santiago de Compostela, Spain. June 19-24, 2005.

Kent, A.D., C.J. Watras, C. Eckley, O. Regnell, K.D. McMahon, H. Hintelmann. Microbial community composition and mercury methylation in the anoxic hypolimnia of stratified Wisconsin lakes. Oral presentation at the 2005 Annual Meeting of the International Association for Great Lakes Research, Ann Arbor, MI. May 23-27, 2005.

Kent, A.D., C.J. Watras, O. Regnell, C. Eckley, K.D. McMahon, H. Hintelmann. Microbial community structure is correlated with mercury methylation in northern Wisconsin lakes. Presented at the 2005 ASLO Aquatic Sciences Meeting, Salt Lake City, UT. February 20-25, 2005.

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