

Books

1. Biomass Energy Data Book, S.C. Davis, Editor. 2006.
2. Managed Ecosystems and CO₂: Case Studies, Processes, and Perspectives. Ecological Studies, ed. J. Nosberger, S.P. Long, R.J. Norby, M. Stitt, G.R. Hendrey, and H. Blum. Vol. 187. 2006, Berlin: Springer. 459
3. Perchlorate Environmental Occurrence, Interactions and Treatment, ed. B. Gu and J.D. Coates. 2006, New York: Springer.

Book Sections

4. Aaron, D. and C. Tsouris, CO₂ Capture in Energy Production, in Integrated Environmental Technology Series, P. Lens, C. Kennes, P.L. Cloirec, and M. Deshusses, Editors. August 2006, IWA Publishing: London.
5. Bao, L.L., H. Yan, B. Gu, and S. Dai., Surface-enhanced Raman scattering of uranyl-humic complexes using a silver-doped sol-gel substrate in Nuclear Waste Management: Accomplishment of the Environmental Management Science Program, ACS Symp. Ser. No. 943, P.W. Wang and T. Zachry, Editors. 2006, American Chemical Society: Washington DC.
6. Cheng, M.D. and D.W. Lee, Investigation of Nanoparticle Formation During Surface Decontamination and Characterization by Pulsed Laser, in Nuclear Waste Management: Accomplishment of the Environmental Management Science Program. 2006, American Chemical Society.
7. Norby, R.J., S.D. Wullschleger, P.J. Hanson, C.A. Gunderson, T.J. Tschaplinski, and J.D. Jastrow, CO₂ enrichment of a deciduous forest: The Oak Ridge FACE Experiment., in Managed Ecosystems and CO₂: Case Studies, Processes, and Perspectives, J. Nosberger, S.P. Long, R.J. Norby, M. Stitt, G.R. Hendrey, and H. Blum, Editors. 2006, Springer: Berlin. p. 231-251.
8. Sorensen, B.V. and J. Sorensen, Chemical Decontamination, in Disaster Medicine, G.R. Ciottone, Editor. 2006, Elsevier/Mosby: Philadelphia. p. 459-464.
9. Steinman, A.D. and P.J. Mulholland, Phosphorus limitation, uptake, and turnover in benthic stream algae, in Methods in Stream Ecology, 2nd edition, F.R. Hauer and G.A. Lamberti, Editors. 2006, Academic Press. p. 187-212.
10. Wilbanks, T.J., Stakeholder involvement in local smart growth: needs and challenges, in Smart Growth and Climate Change; Regional Development, Infrastructure, and Adaptation, M. Ruth, Editor. 2006, Edward Elgar: Northampton.

Conference Papers

11. Sale, M.J., G.F. Cada, and D.D. Dauble. *Historical perspective on the U.S. Department of Energy's Hydropower Program in Proceedings of HydroVision 2006*. 2006. Portland, Oregon

Journal Articles

12. Adams, S.M., W.R. Hill, M.G. Ryon, and J.G. Smith, Recovery in diversity of fish and invertebrate communities following remediation of a polluted stream: Investigating causal relationships (vol 542, pg 77, 2005). *Hydrobiologia*, 2006. 553: p. 367-367.
13. Bagwell, C.E., X. Liu, L. Wu, and J. Zhou, Effects of legacy nuclear waste on the compositional diversity and distributions of sulfate-reducing bacteria in a terrestrial subsurface aquifer. *FEMS Microbiology Ecology*, 2006. 55(3): p. 424-431.
14. Baskaran, L.M., V.H. Dale, R.A. Efroymson, and W. Birkhead, Habitat modeling within a regional context: An example using gopher tortoise. *Am. Midl. Nat.*, 2006. 155(2): p. 335-351.
15. Blanco-Canqui, H., R. Lal, W.M. Post, R.C. Izaurrealde, and L.B. Owens, Corn stover impacts on near-surface soil properties of no-till corn in Ohio. *Soil Sci. Soc. Am. J.*, 2006. 70(1): p. 266-278.
16. Blanco-Canqui, H., R. Lal, W.M. Post, R.C. Izaurrealde, and L.B. Owens, Rapid changes in soil carbon and structural properties due to stover removal from no-till corn plots. *Soil Sci.*, 2006. 171(6): p. 468-482.
17. Blanco-Canqui, H., R. Lal, W.M. Post, R.C. Izaurrealde, and M.J. Shipitalo, Organic carbon influences on soil particle density and rheological properties. *Soil Sci. Soc. Am. J.*, 2006. 70(4): p. 1407-1414.
18. Blanco-Canqui, H., R. Lal, W.M. Post, and L.B. Owens, Changes in long-term no-till corn growth and yield under different rates of stover mulch. *Agron. J.*, 2006. 98(4): p. 1128-1136.
19. Brooks, S.B., A. Saiz-Lopez, H. Skov, S.E. Lindberg, J.M.C. Plane, and M.E. Goodsite, The mass balance of mercury in the springtime arctic environment. *Geophys. Res. Lett.*, 2006. 33(13).

20. Brooks, S.C., W. Dong, S.L. Carroll, S.D. Kelly, and K. Kemner, Influence of EDTA and pH on uranium(VI) bioreduction in the presence of calcium ions. *Abstr. Pap. Am. Chem. Soc.*, 2006. 231.
21. Brown, S.D., M. Martin, S. Deshpande, S. Seal, K. Huang, E. Alm, Y.F. Yang, L.Y. Wu, T.F. Yan, X.D. Liu, A. Arkin, K. Chourey, J.Z. Zhou, and D.K. Thompson, Cellular response of *Shewanella oneidensis* to strontium stress. *Appl. Environ. Microbiol.*, 2006. 72(1): p. 890-900.
22. Brown, S.D., M.R. Thompson, N.C. VerBerkmoes, K. Chourey, M. Shah, J.Z. Zhou, R.L. Hettich, and D.K. Thompson, Molecular dynamics of the *Shewanella oneidensis* response to chromate stress. *Mol. Cell. Proteomics*, 2006. 5(6): p. 1054-1071.
23. Busov, V., R. Meilan, D.W. Pearce, S.B. Rood, C.P. Ma, T.J. Tschaplinski, and S.H. Strauss, Transgenic modification of gai or rgl1 causes dwarfing and alters gibberellins, root growth, and metabolite profiles in *Populus*. *Planta*, 2006. 224(2): p. 288-299.
24. Cada, G.F., J.M. Loar, L. Garrison, R.K. Fisher, and D. Neitzel, Efforts to reduce mortality to hydroelectric turbine-passed fish: Locating and quantifying damaging shear stresses. *Environmental Management*, 2006. 37(6): p. 898-906.
25. Chen, J., S. Hubbard, J. Peterson, K. Williams, M. Fienen, P. Jardine, and D. Watson, Development of a joint hydrogeophysical inversion approach and application to a contaminated fractured aquifer. *Water Resour. Res.*, 2006. 42(6).
26. Cheng, M.D., R.W. Smithwick III, and R. Hinton, Use of electrically enhanced aerosol plasma spectroscopy for real-time characterization of beryllium particles. *J. ASTM Int.*, 2006. 3(1): p. 345-355.
27. Chhabra, S.R., Q. He, K.H. Huang, S.P. Gaucher, E.J. Alm, Z. He, M.Z. Hadi, T.C. Hazen, J.D. Wall, J. Zhou, A.P. Arkin, and A.K. Singh, Global analysis of heat shock response in *Desulfovibrio vulgaris* Hildenborough. *J. Bacteriol.*, 2006. 188(5): p. 1817-1828.
28. Chourey, K., M.R. Thompson, J. Morrell-Falvey, N.C. VerBerkmoes, S.D. Brown, M. Shah, J.Z. Zhou, M. Doktycz, R.L. Hettich, and D.K. Thompson, Global molecular and morphological effects of 24-hour chromium(VI) exposure on *Shewanella oneidensis* MR-1. *Appl. Environ. Microbiol.*, 2006. 72(9): p. 6331-6344.
29. Cisneros-Dozal, L.M., S. Trumbore, and P.J. Hanson, Partitioning sources of soil-respired CO₂ and their seasonal variation using a unique radiocarbon tracer. *Glob. Change Biol.*, 2006. 12(2): p. 194-204.

30. Clark, M.E., Q. He, Z. He, K.H. Huang, E.J. Alm, X.F. Wan, T.C. Hazen, A.P. Arkin, J.D. Wall, J.Z. Zhou, and M.W. Fields, Temporal transcriptomic analysis as *Desulfovibrio vulgaris hildenborough* transitions into stationary phase during electron donor depletion. *Appl. Environ. Microbiol.*, 2006. 72(8): p. 5578-5588.
31. Classen, A.T., J. DeMarco, S.C. Hart, T.G. Whitham, N.S. Cobb, and G.W. Koch, Impacts of herbivorous insects on decomposer communities during the early stages of primary succession in a semi-arid woodland. *Soil Biol. Biochem.*, 2006. 38(5): p. 972-982.
32. Collick, A.S., Z.M. Easton, F.A. Montalto, B. Gao, Y.J. Kim, L. Day, and T.S. Steenhuis, Hydrological evaluation of septic disposal field design in sloping terrains. *J. Environ. Eng.-ASCE*, 2006. 132(10): p. 1289-1297.
33. Cota, G.F., L.W. Cooper, D.A. Darby, and I.L. Larsen, Unexpectedly high radioactivity burdens in ice-raftered sediments from the Canadian Arctic Archipelago. *Sci. Total Environ.*, 2006. 366(1): p. 253-261.
34. Dale, V.H., M. Aldridge, T. Arthur, L. Baskaran, M. Berry, M. Chang, R. Efroymson, C. Garten, C. Stewart, and R. Washington-Allen, Bioregional planning in central Georgia, USA. *Futures*, 2006. 38(4): p. 471-489.
35. Davis, M.F., G.A. Tuskan, P. Payne, T.J. Tschaplinski, and R. Meilan, Assessment of *Populus* wood chemistry following the introduction of a Bt toxin gene. *Tree Physiology*, 2006. 26: p. 557-564
36. Dong, W.M. and S.C. Brooks, Determination of the formation constants of ternary complexes of uranyl and carbonate with alkaline earth metals (Mg^{2+} , Ca^{2+} , Sr^{2+} , and Ba^{2+}) using anion exchange method. *Environ. Sci. Technol.*, 2006. 40(15): p. 4689-4695.
37. Dong, W.M. and S.C. Brooks, Effects of pH, EDTA and Ca^{2+} on oxidation rate of biogenic uraninite and U(IV)-EDTA complexes. *Abstr. Pap. Am. Chem. Soc.*, 2006. 231.
38. Dong, W.M., S.C. Brooks, S. Kelly, K.M. Kemner, and K.A. Orlandini, Determination of the formation constants of ternary complexes of uranyl and carbonate with alkaline earth metals (Mg^{2+} , Ca^{2+} , Sr^{2+} , and Ba^{2+}) by using anion exchange method. *Abstr. Pap. Am. Chem. Soc.*, 2006. 231.
39. Fellows, C.S., H.M. Valett, C.N. Dahm, P.J. Mulholland, and S.A. Thomas, Coupling nutrient uptake and energy flow in headwater streams. *Ecosystems*, 2006. 9(5): p. 788-804.
40. Fields, M.W., C.E. Bagwell, S.L. Carroll, T. Yan, X. Liu, D.B. Watson, P.M. Jardine, C.S. Criddle, T.C. Hazen, and J. Zhou, Phylogenetic and functional

- biomakers as indicators of bacterial community responses to mixed-waste contamination. *Environ. Sci. Technol.*, 2006. 40(8): p. 2601-2607.
41. Fields, M.W., J.C. Schryver, C.C. Brandt, T. Yan, J.Z. Zhou, and A. Palumbo, Confidence intervals of similarity values determined for cloned SSU rRNA genes from environmental samples. *J. Microbiol. Methods*, 2006. 65(1): p. 144-152.
42. Gabbitto, J. and C. Tsouris, Dissolution mechanisms of CO₂ hydrate droplets in deep seawaters. *Energy Conversion and Management*, 2006. 47(5): p. 494-508.
43. Gao, H.C., A. Obraztova, N. Stewart, R. Popa, J.K. Fredrickson, J.M. Tiedje, K.H. Nealson, and J.Z. Zhou, Shewanella loihica sp nov., isolated from iron-rich microbial mats in the Pacific Ocean. *Int. J. Syst. Evol. Microbiol.*, 2006. 56: p. 1911-1916.
44. Gao, H.C., Z.M.K. Yang, L.Y. Wu, D.K. Thompson, and J.Z. Zhou, Global transcriptome analysis of the cold shock response of *Shewanella oneidensis* MR-1 and mutational analysis of its classical cold shock proteins. *J. Bacteriol.*, 2006. 188(12): p. 4560-4569.
45. Gao, W.M., Y.Q. Liu, C.S. Giometti, S.L. Tollaksen, T. Khare, L.Y. Wu, D.M. Klingeman, M.W. Fields, and J. Zhou, Knock-out of SO1377 gene, which encodes the member of a conserved hypothetical bacterial protein family COG2268, results in alteration of iron metabolism, increased spontaneous mutation and hydrogen peroxide sensitivity in *Shewanella oneidensis* MR-1. *Bmc Genomics*, 2006. 7.
46. Garten, C.T., Predicted effects of prescribed burning and harvesting on forest recovery and sustainability in southwest Georgia, USA. *J. Environ. Manage.*, 2006. 81(4): p. 323-332.
47. Garten, C.T., Relationships among forest soil C isotopic composition, partitioning, and turnover times. *Can. J. For. Res.*, 2006. 36(9): p. 2157-2167.
48. Garten Jr., C.T., Relationships among forest soil C isotopic composition, partitioning, and turnover times *Can. J. For. Res.*, 2006. 36: p. 2157-2167.
49. Garten, C.T. and P.J. Hanson, Measured forest soil C stocks and estimated turnover times along an elevation gradient. *Geoderma*, 2006. 136(1-2): p. 342-352.
50. Gentile, M., T. Yan, S.M. Tiquia, M.W. Fields, J. Nyman, J. Zhou, and C.S. Criddle, Stability in a denitrifying fluidized bed reactor. *Microbial Ecology*, 2006. 52(2): p. 311-321.

51. Gentry, T.J., G.S. Wickham, C.W. Schadt, Z. He, and J. Zhou, Microarray applications in microbial ecology research. *Microbial Ecology*, 2006. 52(2): p. 159-175.
52. Grant, R.F., Y. Zhang, F. Yuan, S. Wang, P.J. Hanson, D. Gaumont-Guay, J. Chen, T.A. Black, A. Barr, D.D. Baldocchi, and A. Arain, Intercomparison of techniques to model water stress effects on CO₂ and energy exchange in temperate and boreal deciduous forests. *Ecol. Model.*, 2006. 196(3-4): p. 289-312.
53. Graydon, J.A., V.L. St Louis, S.E. Lindberg, H. Hintelmann, and D.P. Krabbenhoft, Investigation of mercury exchange between forest canopy vegetation and the atmosphere using a new dynamic chamber. *Environ. Sci. Technol.*, 2006. 40(15): p. 4680-4688.
54. Gu, L.H., T. Meyers, S.G. Pallardy, P.J. Hanson, B. Yang, M. Heuer, K.P. Hosman, J.S. Riggs, D. Sluss, and S.D. Wullschleger, Direct and indirect effects of atmospheric conditions and soil moisture on surface energy partitioning revealed by a prolonged drought at a temperate forest site. *J. Geophys. Res.-Atmos.*, 2006. 111(D16).
55. Hadley, S.W., D.J. Erickson, J.L. Hernandez, C.T. Broniak, and T.J. Blasing, Responses of energy use to climate change: A climate modeling study. *Geophys. Res. Lett.*, 2006. 33(17).
56. He, Q., K.H. Huang, Z.L. He, E.J. Alm, M.W. Fields, T.C. Hazen, A.P. Arkin, J.D. Wall, and J.Z. Zhou, Energetic consequences of nitrite stress in *Desulfovibrio vulgaris* Hildenborough, inferred from global transcriptional analysis. *Appl. Environ. Microbiol.*, 2006. 72(6): p. 4370-4381.
57. Holladay, J.S., W.E. Doll, L.P. Beard, J.L.C. Lee, and D.T. Bell, UXO time-constant estimation from helicopter-borne TEM data. *J. Environ. Eng. Geophys.*, 2006. 11(1): p. 43-52.
58. Hou, C.H., C.D. Liang, S. Yiakoumi, S. Dai, and C. Tsouris, Electrosorption capacitance of nanostructured carbon-based materials. *J. Colloid Interface Sci.*, 2006. 302(1): p. 54-61.
59. Houser, J.N., P.J. Mulholland, and K.O. Maloney, Upland disturbance affects headwater stream nutrients and suspended sediments during baseflow and stormflow. *J. Environ. Qual.*, 2006. 35(1): p. 352-365.
60. Hwang, C., W.M. Wu, T.J. Gentry, J. Carley, S.L. Carroll, C. Schadt, D. Watson, P.M. Jardine, J. Zhou, R.F. Hickey, C.S. Criddle, and M.W. Fields, Changes in bacterial community structure correlate with initial operating conditions of a field-

- scale denitrifying fluidized bed reactor. *Appl. Microbiol. Biotechnol.*, 2006. 71(5): p. 748-760.
61. Igathinathane, C., A.R. Womac, S. Sokhansanj, and L.O. Pordesimo, Mass and moisture distribution in aboveground components of standing corn plants. *Trans. ASAE*, 2006. 49(1): p. 97-106.
62. Jager, H.I., Chutes and ladders and other games we play with rivers I: upstream passage. *Canadian Journal of Fisheries and Aquatic Sciences*, 2006. 63(1): p. 165-175.
63. Jager, H.I., Chutes and ladders and other games we play with rivers II: translocation. *Canadian Journal of Fisheries and Aquatic Sciences*, 2006. 63(1): p. 176-184.
64. Jager, H.I., E.A. Carr, and R.A. Efroymson, Simulated effects of habitat loss and fragmentation on a solitary mustelid predator. *Ecol. Model.*, 2006. 191(3-4): p. 416-430.
65. Jardine, P.M., M.A. Mayes, P.J. Mulholland, P.J. Hanson, J.R. Tarver, R.J. Luxmoore, J.F. McCarthy, and G.V. Wilson, Vadose zone flow and transport of dissolved organic carbon at multiple scales in humid regimes. *Vadose Zone J.*, 2006. 5(1): p. 140-152.
66. Joslin, J.D., J.B. Gaudinski, M.S. Torn, W.J. Riley, and P.J. Hanson, Fine-root turnover patterns and their relationship to root diameter and soil depth in a C-14-labeled hardwood forest. *New Phytologist*, 2006. 172(3): p. 523-535.
67. Kamolpornwijit, W. and L. Liang, Investigation of gas production and entrapment in granular iron medium. *J. Contam. Hydrol.*, 2006. 82(3-4): p. 338-356.
68. Kim, H., K.M. Choi, J.W. Moon, and M.D. Annable, Changes in air saturation and air-water interfacial area during surfactant-enhanced air sparging in saturated sand. *J. Contam. Hydrol.*, 2006. 88(1-2): p. 23-35.
69. Kim, Y.J., L.D. Geohring, J.H. Jeon, A.S. Collick, S.K. Giri, and T.S. Steenhuis, Evaluation of the effectiveness of vegetative filter strips for phosphorus removal with the use of a tracer. *J. Soil Water Conserv.*, 2006. 61(5): p. 293-302.
70. King, A.W., C.A. Gunderson, W.M. Post, D.J. Weston, and S.D. Wullschleger, Atmosphere - Plant respiration in a warmer world. *Science*, 2006. 312(5773): p. 536-537.
71. King, A.W., C.A. Gunderson, W.M. Post, D.J. Weston, and S.D. Wullschleger, Photosynthesis in balance with respiration? Response. *Science*, 2006. 313(5789): p. 917-918.

72. Kumar, A., S. Sokhansanj, and P.C. Flynn, Development of a multicriteria assessment model for ranking biomass feedstock collection and transportation systems. *Applied Biochemistry and Biotechnology*, 2006. 129(1-3): p. 71-87.
73. Leaphart, A.B., D.K. Thompson, K. Huang, E. Alm, X.F. Wan, A. Arkin, S.D. Brown, L.Y. Wu, T.F. Yan, X.D. Liu, G.S. Wickham, and J.Z. Zhou, Transcriptome profiling of *Shewanella oneidensis* gene expression following exposure to acidic and alkaline pH. *J. Bacteriol.*, 2006. 188(4): p. 1633-1642.
74. Lee, D.W. and M.D. Cheng, Particle generation by ultraviolet-laser ablation during surface decontamination. *J. Air Waste Manage. Assoc.*, 2006. 56(11): p. 1591-1598.
75. Li, Y.L., H. Vali, J. Yang, T.J. Phelps, and C.L. Zhang, Reduction of iron oxides enhanced by a sulfate-reducing bacterium and biogenic H₂S. *Geomicrobiol. J.*, 2006. 23(2): p. 103-117.
76. Liang, L.Y., G.R. Moline, W. Kamolpornwijit, and O.R. West, Influence of hydrogeochemical processes on zero-valent iron reactive barrier performance: A field investigation (vol 78, pg 291, 2005). *J. Contam. Hydrol.*, 2006. 86(3-4): p. 321-321.
77. Liebich, J., C.W. Schadt, S.C. Chong, Z.L. He, S.K. Rhee, and J.Z. Zhou, Improvement of oligonucleotide probe design criteria for functional gene microarrays in environmental applications. *Appl. Environ. Microbiol.*, 2006. 72(2): p. 1688-1691.
78. Lin, C.J., P. Pongprueksa, S.E. Lindberg, S.O. Pehkonen, D. Byun, and C. Jang, Scientific uncertainties in atmospheric mercury models I: Model science evaluation. *Atmos. Environ.*, 2006. 40(16): p. 2911-2928.
79. Liu, Q., N.T. Edwards, W.M. Post, L. Gu, J. Ledford, and S. Lenhart, Temperature-independent diel variation in soil respiration observed from a temperate deciduous forest. *Global Change Biology*, 2006. 12(11): p. 2136-2145.
80. Luo, F., J. Zhong, Y.F. Yang, and J. Zhou, Application of Random Matrix Theory to Microarray Profiles for Discovering Functional Gene Modules. *Phys. Rev. E*, 2006. 73: p. Art. no. 031924.
81. Luo, J., O.A. Cirpka, M.N. Fienen, W.M. Wu, T.L. Mehlhorn, J. Carley, P.M. Jardine, C.S. Criddle, and P.K. Kitanidis, A parametric transfer function methodology for analyzing reactive transport in nonuniform flow. *J. Contam. Hydrol.*, 2006. 83(1-2): p. 27-41.

82. Luo, J., W.M. Wu, M.N. Fienen, P.M. Jardine, T.L. Mehlhorn, D.B. Watson, O.A. Cirpka, C.S. Criddle, and P.K. Kitanidis, A nested-cell approach for in situ remediation. *Ground Water*, 2006. 44(2): p. 266-274.
83. Madden, A.S., M.F. Hochella, and T.P. Luxton, Insights for size-dependent reactivity of hematite nanomineral surfaces through Cu²⁺ sorption. *Geochimica Et Cosmochimica Acta*, 2006. 70(16): p. 4095-4104.
84. Madden, M.E.E., D.A. Kring, and R.J. Bodnar, Shock reequilibration of fluid inclusions in Coconino sandstone from Meteor Crater, Arizona. *Earth Planet. Sci. Lett.*, 2006. 241(1-2): p. 32-46.
85. Madden, M.E.E., D.A. Kring, and R.J. Bodnar, Shock re-equilibration of fluid inclusions in crystalline basement rocks from the Ries crater, Germany. *Meteorit. Planet. Sci.*, 2006. 41(2): p. 247-262.
86. Mandal, K.C., S.H. Kang, M. Choi, J. Bello, L.L. Zheng, H. Zhang, C. Groza, U.N. Roy, A. Burger, G.E. Jellison, D.E. Holcomb, G.W. Wright, and J.A. Williams, Simulation, modeling, and crystal growth of Cd_{0.9}Zn_{0.1}Te for nuclear spectrometers. *J. Electron. Mater.*, 2006. 35(6): p. 1251-1256.
87. Mani, S., S. Sokhansanj, X. Bi, and A. Turhollow, Economics of producing fuel pellets from biomass. *Appl. Eng. Agric.*, 2006. 22(3): p. 421-426.
88. Mani, S., L.G. Tabil, and S. Sokhansanj, Effects of compressive force, particle size and moisture content on mechanical properties of biomass pellets from grasses. *Biomass Bioenerg.*, 2006. 30(7): p. 648-654.
89. Mani, S., L.G. Tabil, and S. Sokhansanj, Specific energy requirement for compacting corn stover. *Bioresource Technology*, 2006. 97(12): p. 1420-1426.
90. Marsik, F., G.J. Keeler, S.E. Lindberg, and H. Zhang, Air-Surface Exchange of Gaseous Mercury over A Mixed Sawgrass-Cattail Stand within the Florida Everglades. *Environmental Science & Technology*, 2006. 39: p. 4739-4746.
91. Mayes, M.A., P.M. Jardine, X.P. Yin, R.N. Dansby-Sparks, and M.N. Pace, Variability of the reactivity of Hanford sediments to U(VI) and CoEDTA. *Abstr. Pap. Am. Chem. Soc.*, 2006. 231.
92. McLauchlan, K.K., S.E. Hobbie, and W.M. Post, Conversion from agriculture to grassland builds soil organic matter on decadal timescales. *Ecol. Appl.*, 2006. 16(1): p. 143-153.
93. Moon, J.W., Y. Roh, T.J. Phelps, D.H. Phillips, D.B. Watson, Y.J. Kim, and S.C. Brooks, Physicochemical and mineralogical characterization of soil-saprolite

- cores from a field research site, Tennessee. *Journal of Environmental Quality*, 2006. 35(5): p. 1731-1741.
94. Moon, J.-W., Y. Roh, T.J. Phelps, D.H. Phillips, D.B. Watson, Y.-J. Kim, and S.C. Brooks, Physicochemical and Mineralogical Characterization of Soil?Saprolite Cores from a Field Research Site, Tennessee. *Journal of Environmental Quality*, 2006. 35: p. 1731-1741.
95. Morisette, J.T., F. Baret, J.L. Privette, R.B. Myneni, J.E. Nickeson, S. Garrigues, N.V. Shabanov, M. Weiss, R.A. Fernandes, S.G. Leblanc, M. Kalacska, G.A. Sanchez-Azofeifa, M. Chubey, B. Rivard, P. Stenberg, M. Rautiainen, P. Voipio, T. Manninen, A.N. Pilant, T.E. Lewis, J.S. Iiames, R. Colombo, M. Meroni, L. Busetto, W.B. Cohen, D.P. Turner, E.D. Warner, G.W. Petersen, G. Seufert, and R. Cook, Validation of global moderate-resolution LAI products: A framework proposed within the CEOS land product validation subgroup. *IEEE Transactions on Geoscience and Remote Sensing*, 2006. 44(7): p. 1804-1814.
96. Mukhopadhyay, A., Z.L. He, E.J. Alm, A.P. Arkin, E.E. Baidoo, S.C. Borglin, W.Q. Chen, T.C. Hazen, Q. He, H.Y. Holman, K. Huang, R. Huang, D.C. Joyner, N. Katz, M. Keller, P. Oeller, A. Redding, J. Sun, J. Wall, J. Wei, Z.M. Yang, H.C. Yen, J.Z. Zhou, and J.D. Keasling, Salt stress in *Desulfovibrio vulgaris* Hildenborough: An integrated genomics approach. *J. Bacteriol.*, 2006. 188(11): p. 4068-4078.
97. Mulholland, P.J., S.A. Thomas, H.M. Valett, J.R. Webster, and J. Beaulieu, Effects of light on NO₃- uptake in small forested streams: diurnal and day-to-day variations. *J. N. Am. Benthol. Soc.*, 2006. 25(3): p. 583-595.
98. Norby, R.J. and C.M. Iversen, Nitrogen uptake, distribution, turnover, and efficiency of use in a CO₂-enriched sweetgum forest. *Ecology*, 2006. 87(1): p. 5-14.
99. Onstott, T.C., L.H. Lin, M. Davidson, B. Mislowack, M. Borcsik, J. Hall, G. Slater, J. Ward, B.S. Lollar, J. Lippmann-Pipke, E. Boice, L.M. Pratt, S. Pfiffner, D. Moser, T. Gihring, T.L. Kieft, T.J. Phelps, E. Vanheerden, D. Litthaur, M. Deflaun, R. Rothmel, G. Wanger, and G. Southam, The origin and age of biogeochemical trends in deep fracture water of the Witwatersrand Basin, South Africa. *Geomicrobiology Journal*, 2006. 23(6): p. 369-414.
100. Palumbo, A.V., C.C. Brandt, S.M. Pfiffner, L.A. Fagan, A.S. Madden, T.J. Phelps, J.C. Schryver, M.S. McNeilly, C.W. Schadt, J.R. Tarver, and J.E. Kostka, Reduction processes and community structure in remediation of uranium. *Abstr. Pap. Am. Chem. Soc.*, 2006. 231.
101. Papastefanou, C., Residence time of tropospheric aerosols in association with radioactive nuclides. *Applied Radiation and Isotopes*, 2006. 64(1): p. 93-100.

102. Phillips, D.H., D.B. Watson, Y. Roh, T.L. Mehlhorn, J.W. Moon, and P.M. Jardine, Distribution of uranium contamination in weathered fractured saprolite/shale and ground water. *Journal of Environmental Quality*, 2006. 35(5): p. 1715-1730.
103. Phillips, D.H., D.B. Watson, Y. Roh, T.L. Mehlhorn, J.-W. Moon, and P.M. Jardine, Distribution of Uranium Contamination in Weathered Fractured Saprolite/Shale and Ground Water. *Journal of Environmental Quality*, 2006. 35: p. 1715-1730.
104. Pordesimo, L.O., A.M. Saxton, and S. Sokhansanj, Comparative field drying of bt and non-bt corn stover fractions after grain physiological maturity. *International Journal of Agricultural Research*, 2006. 1(2): p. 194-201.
105. Poulain, A.J., D.M. Orihel, M. Amyot, M.J. Paterson, H. Hintelmann, and G.R. Southworth, Relationship to aquatic between the loading rate of inorganic mercury ecosystems and dissolved gaseous mercury production and evasion. *Chemosphere*, 2006. 65(11): p. 2199-2207.
106. Qian, Y., D.P. Kaiser, L. L.R., and M. Xu, More frequent cloud-free sky and less surface solar radiation in China from 1955 to 2000. *Geophys. Res. Lett.*, 2006. 33(1): p. Art. no. L01812.
107. Qiu, X., M.J. Daly, A. Vasilenko, M.V. Omelchenko, E.K. Gaidamakova, L. Wu, J. Zhou, G.W. Sundin, and J.M. Tiedje, Transcriptome Analysis Applied to Survival of *Shewanella oneidensis* MR-1 Exposed to Ionizing Radiation. *J. Bacteriol.*, 2006. 188(3): p. 1199-1204.
108. Ragauskas, A.J., C.K. Williams, B.H. Davison, G. Britovsek, J. Cairney, C.A. Eckert, W.J. Frederick, Jr., J.P. Hallett, D.J. Leak, C.L. Liotta, J.R. Mielenz, R. Murphy, R. Templer, and T. Tschaplinski, The Path Forward for Biofuels and Biomaterials. *Science* 2006. 311(5760): p. 484-489.
109. Roberts, B.J. and R.W. Howarth, Nutrient and light availability regulate the relative contribution of autotrophs and heterotrophs to respiration in freshwater pelagic ecosystems. *Limnol. Oceanogr.*, 2006. 51(1): p. 288-298.
110. Roh, Y., H.C. Gao, H. Vali, D.W. Kennedy, Z.K. Yang, W.M. Gao, A.C. Dohnalkova, R.D. Stapleton, J.W. Moon, T.J. Phelps, J.K. Fredrickson, and J.Z. Zhou, Metal reduction and iron biomineratization by a psychrotolerant Fe(III)-reducing bacterium, *Shewanella* sp strain PV-4. *Appl. Environ. Microbiol.*, 2006. 72(5): p. 3236-3244.
111. Roh, Y., H. Vali, T.J. Phelps, and J.W. Moon, Extracellular synthesis of magnetite and metal-substituted magnetite nanoparticles. *J. Nanosci. Nanotechnol.*, 2006. 6(11): p. 3517-3520.

112. Ruan, C.M., W. Wang, and A.H. Gu, Surface-enhanced Raman scattering for perchlorate detection using cystamine-modified gold nanoparticles. *Anal. Chim. Acta*, 2006. 567(1): p. 114-120.
113. Ruan, C.M., W. Wang, and B.H. Gu, Detection of alkaline phosphatase using surface-enhanced Raman spectroscopy. *Anal. Chem.*, 2006. 78(10): p. 3379-3384.
114. Ruan, C.M., W. Wang, and B.H. Gu, Rapid and ultra-sensitive detection of alkaline phosphatase using gold nanoparticles-based surface-enhanced Raman scattering. *Abstr. Pap. Am. Chem. Soc.*, 2006. 231.
115. Scheibe, T.D., Y. Fang, C.J. Murray, E.E. Roden, J. Chen, Y. Chein, S.C. Brooks, and S.S. Hubbard, Transport and biogeochemical reaction of metals in a physically and chemically heterogeneous aquifer. *Geosphere*, 2006. 2(4): p. 220-235.
116. Schryver, J.C., C.C. Brandt, S.M. Pfiffner, A.V. Palumbo, A.D. Peacock, D.C. White, J.P. McKinley, and P.E. Long, Application of nonlinear analysis methods for identifying relationships between microbial community structure and groundwater geochemistry. *Microb. Ecol.*, 2006. 51(2): p. 177-188.
117. Sokhansanj, S., A. Kumar, and A.F. Turhollow, Development and implementation of integrated biomass supply analysis and logistics model (IBSAL). *Biomass & Bioenergy*, 2006. 30(10): p. 838-847.
118. Spalding, B.P. and D.B. Watson, Measurement of dissolved H-2, O-2, and CO2 in groundwater using passive samplers for gas chromatographic analyses. *Environ. Sci. Technol.*, 2006. 40(24): p. 7861-7867.
119. Taboada-Serrano, P., S. Yiakoumi, and C. Tsouris, Electrostatic surface interactions in mixtures of symmetric and asymmetric electrolytes: A Monte Carlo study. *J. Chem. Phys.*, 2006. 125(5).
120. Theodorakis, C.W., K.L. Lee, S.M. Adams, and C.B. Law, Evidence of altered gene flow, mutation rate, and genetic diversity in redbreast sunfish from a pulp-mill-contaminated river. *Environ. Sci. Technol.*, 2006. 40(1): p. 377-386.
121. Toh, S.L.I., J. McFarlane, C. Tsouris, D.W. DePaoli, H. Luo, and S. Dai, Room-temperature ionic liquids in liquid-liquid extraction: Effects of solubility in aqueous solutions on surface properties. *Solvent Extraction and Ion Exchange*, 2006. 24(1): p. 33-56.
122. Tonn, B., M. English, and R. Turner, The future of bioregions and bioregional planning *Futures*, 2006. 38(4): p. 379-381.

123. Tonn, B., M. English, R. Turner, and A. Hemrick, The future of bioregional planning in the Southern Appalachian Man and the Biosphere region *Futures*, 2006. 38(4): p. 490-504.
124. Tsai, C.J., S.A. Harding, T.J. Tschaplinski, R.L. Lindroth, and Y.N. Yuan, Genome-wide analysis of the structural genes regulating defense phenylpropanoid metabolism in *Populus*. *New Phytologist*, 2006. 172(1): p. 47-62.
125. Tschaplinski, T.J., G.A. Tuskan, M.M. Sewell, G.M. Gebre, E.T.I. Donald, and C. Pendleyi, Phenotypic variation and quantitative trait locus identification for osmotic potential in an interspecific hybrid inbred F-2 poplar pedigree grown in contrasting environments. *Tree Physiol.*, 2006. 26(5): p. 595-604.
126. Tsouris, C., J. Noonan, T.Y. Ying, and S. Yiacomi, Surfactant effects on the mechanism of particle capture in high-gradient magnetic filtration. *Separation and Purification Technology*, 2006. 51(2): p. 201-209.
127. Tuskan, G.A., S. DiFazio, S. Jansson, J. Bohlmann, I. Grigoriev, U. Hellsten, N. Putnam, S. Ralph, S. Rombauts, A. Salamov, J. Schein, L. Sterck, A. Aerts, R.R. Bhalerao, R.P. Bhalerao, D. Blaudez, W. Boerjan, A. Brun, A. Brunner, V. Busov, M. Campbell, J. Carlson, M. Chalot, J. Chapman, G.L. Chen, D. Cooper, P.M. Coutinho, J. Couturier, S. Covert, Q. Cronk, R. Cunningham, J. Davis, S. Degroeve, A. Dejardin, C. Depamphilis, J. Detter, B. Dirks, I. Dubchak, S. Duplessis, J. Ehlting, B. Ellis, K. Gendler, D. Goodstein, M. Gribskov, J. Grimwood, A. Groover, L. Gunter, B. Hamberger, B. Heinze, Y. Helariutta, B. Henrissat, D. Holligan, R. Holt, W. Huang, N. Islam-Faridi, S. Jones, M. Jones-Rhoades, R. Jorgensen, C. Joshi, J. Kangasjarvi, J. Karlsson, C. Kelleher, R. Kirkpatrick, M. Kirst, A. Kohler, U. Kalluri, F. Larimer, J. Leebens-Mack, J.C. Leple, P. Locascio, Y. Lou, S. Lucas, F. Martin, B. Montanini, C. Napoli, D.R. Nelson, C. Nelson, K. Nieminen, O. Nilsson, V. Pereda, G. Peter, R. Philippe, G. Pilate, A. Poliakov, J. Razumovskaya, P. Richardson, C. Rinaldi, K. Ritland, P. Rouze, D. Ryaboy, J. Schmutz, J. Schrader, B. Segerman, H. Shin, A. Siddiqui, F. Sterky, A. Terry, C.J. Tsai, E. Uberbacher, P. Unneberg, J. Vahala, K. Wall, S. Wessler, G. Yang, T. Yin, C. Douglas, M. Marra, G. Sandberg, Y.V. de Peer and D. Rokhsar, The genome of black cottonwood, *Populus trichocarpa* (Torr. & Gray). *Science*, 2006. 313(5793): p. 1596-1604.
128. Wan, X.F., J. Zhou, and D. Xu, CodonO: a new informatics method for measuring synonymous codon usage bias within and across genomes. *Int. J. Gen. Syst.*, 2006. 35(1): p. 109-125.
129. Wang, W. and B.H. Gu, Incorporating calcogenide (CdS, ZnS, PbS and Ag2S) nanocrystals into silica nanospheres for photonic applications. *Abstr. Pap. Am. Chem. Soc.*, 2006. 231.

130. Wang, W., C.M. Ruan, and B.H. Gu, Development of gold-silica composite nanoparticle substrates for perchlorate detection by surface-enhanced Raman spectroscopy. *Anal. Chim. Acta*, 2006. 567(1): p. 121-126.
131. Washington-Allen, R.A., N.E. West, R.D. Ramsey, and R.A. Efroymson, A protocol for retrospective remote sensing-based ecological monitoring of rangelands. *Range Ecol. Manage.*, 2006. 59: p. 19-29.
132. Wayson, C.A., J.C. Randolph, P.J. Hanson, C.S.B. Grimmond, and H.P. Schmid, Comparison of soil respiration methods in a mid-latitude deciduous forest. *Biogeochemistry*, 2006. 80(2): p. 173-189.
133. Weathers, K.C., S.M. Simkin, G.M. Lovett, and S.E. Lindberg, Empirical modeling of atmospheric deposition in mountainous landscapes. *Ecol. Appl.*, 2006. 16(4): p. 1590-1607.
134. Wei, X.M., T.F. Yan, N.G. Hommes, X.D. Liu, L.Y. Wu, C. McAlvin, M.G. Klotz, L.A. Sayavedra-Soto, J.Z. Zhou, and D.J. Arp, Transcript profiles of *Nitrosomonas europaea* during growth and upon deprivation of ammonia and carbonate. *FEMS Microbiol. Lett.*, 2006. 257(1): p. 76-83.
135. Wim De Windt, H.G., Wolfgang Krömer, Petra Van Damme, Jan Dick, Jan Mast, Nico Boon, Jizhong Zhou, and Willy Verstraete AggA is required for aggregation and increased biofilm formation of a hyper-aggregating mutant of *Shewanella oneidensis* MR-1. *Microbiology*, 2006. 152: p. 721-729.
136. With, K.A., G.R. Schrott, and A.W. King, The implications of metalandscape connectivity for population viability in migratory songbirds. *Landsc. Ecol.*, 2006. 21(2): p. 157-167.
137. Wu, L.Y., X. Liu, C.W. Schadt, and J.Z. Zhou, Microarray-based analysis of subnanogram quantities of microbial community DNAs by using whole-community genome amplification. *Appl. Environ. Microbiol.*, 2006. 72(7): p. 4931-4941.
138. Wu, W.M., J. Carley, M. Fienen, T. Mehlhorn, K. Lowe, J. Nyman, J. Luo, M.E. Gentile, R. Rajan, D. Wagner, R.F. Hickey, B.H. Gu, D. Watson, O.A. Cirpka, P.K. Kitanidis, P.M. Jardine, and C.S. Criddle, Pilot-scale in situ bioremediation of uranium in a highly contaminated aquifer. 1. Conditioning of a treatment zone. *Environ. Sci. Technol.*, 2006. 40(12): p. 3978-3985.
139. Wu, W.M., J. Carley, T. Gentry, M.A. Ginder-Vogel, M. Fienen, T. Mehlhorn, H. Yan, S. Carroll, M.N. Pace, J. Nyman, J. Luo, M.E. Gentile, M.W. Fields, R.F. Hickey, B.H. Gu, D. Watson, O.A. Cirpka, J.Z. Zhou, S. Fendorf, P.K. Kitanidis, P.M. Jardine, and C.S. Criddle, Pilot-scale in situ bioremediation of uranium in a

- highly contaminated aquifer. 2. Reduction of U(VI) and geochemical control of U(VI) bioavailability. *Environ. Sci. Technol.*, 2006. 40(12): p. 3986-3995.
140. Wullschleger, S.D. and P.J. Hanson, Sensitivity of canopy transpiration to altered precipitation in an upland oak forest: evidence from a long-term field manipulation study. *Glob. Change Biol.*, 2006. 12(1): p. 97-109.
141. Yang, B., A.P. Morse, R.H. Shaw, and K.T. Paw U, Large-eddy simulation of turbulent flow across a forest edge. Part II: Momentum and turbulent kinetic energy budgets. *Boundary-Layer Meteorology*, 2006. 121(3): p. 433-457.
142. Yang, B., M.R. Raupach, R.H. Shaw, K. Tha, U. Paw, and A.P. Morse, Large-eddy simulation of turbulent flow across a forest edge. Part I: Flow statistics. *Boundary-Layer Meteorology*, 2006. 120(3): p. 377-412.
143. Yang, X.H., G.A. Tuskan, and Z.M. Cheng, Divergence of the Dof gene families in poplar, *Arabidopsis*, and rice suggests multiple modes of gene evolution after duplication. *Plant Physiol.*, 2006. 142(3): p. 820-830.
144. Zhao, K., H.X. Xu, B.H. Gu, and Z.Y. Zhang, One-dimensional arrays of nanoshell dimers for single molecule spectroscopy via surface-enhanced raman scattering. *J. Chem. Phys.*, 2006. 125(8).
145. Zhou, P., C.Y. Su, B.W. Li, and Q. Yi, Treatment of high-strength pharmaceutical wastewater and removal of antibiotics in anaerobic and aerobic biological treatment processes. *Journal of Environmental Engineering-Asce*, 2006. 132(1): p. 129-136.
146. Zhou, X. and J. Zhou, Oligosaccharide microarrays fabricated on aminoxyacetyl functionalized glass surface for characterization of carbohydrate–protein interaction *Biosensors and Bioelectronics*, 2006. 72: p. 1688-1691.
147. Zhou, X. and J. Zhou, Protein microarrays on hybrid polymeric thin films prepared by self-assembly of polyelectrolytes for multiple-protein immunoassays. *Proteomics*, 2006. 6: p. 1451-1458.
148. Zhou, X.C. and J.Z. Zhou, Oligosaccharide microarrays fabricated on aminoxyacetyl functionalized glass surface for characterization of carbohydrate–protein interaction. *Biosensors & Bioelectronics*, 2006. 21(8): p. 1451-1458.
149. Zhou, X.C. and J.Z. Zhou, Protein microarrays on hybrid polymeric thin films prepared by self-assembly of polyelectrolytes for multiple-protein immunoassays. *Proteomics*, 2006. 6(5): p. 1415-1426.

Technical Reports

150. Cada, G., M. Ryon, C. Luckett, and J. Smith, The effects of turbine passage on C-start behavior of salmon at the Wanapum Dam, Washington, ORNL/TM-2006/88. 2006, Oak Ridge: Oak Ridge National Laboratory.
151. Lawler, J.S., J.W. McKeever, M.E. Downing, R.D. Stahlhut, R. Bremmer, J.M. Shoemaker, A.K. Seksarian, B. Poore, and J. Lutz, CRADA Final Report: Application of Dual-Mode Inverter Control to Commercially Available Radial-Gap Permanent Magnet Motors, ORNL/TM-2006/029. 2006,
<http://www.osti.gov/energycitations/servlets/purl/890028-IEchfu/890028.PDF#search=%22%22Application%20of%20Dual-Mode%20Inverter%22%22>
152. Otaduy, P.J., Modeling Reluctance-Assisted PM Motors, ORNL/TM-2005/185. 2006, http://www.osti.gov/energycitations/product.biblio.jsp?osti_id=885945
153. Schweitzer, M., J.A. Shonder, P.J. Hughes, and R.L. Schmoyer, Methodology for Recalculating and Verifying Savings Achieved by the Super ESPC Program, ORNL/CON-497. July 2006.
154. Storey, J.M.E., J.E. Parks, L.S. A., W.K. Kahl, and R.L. Miller, Characterization of Heavy-Duty Truck Air Quality Impacts by Ambient Air Monitoring at the Watt Road Environmental Laboratory, ORNL/TM-2006/102. July 2006, Oak Ridge: Oak Ridge National Laboratory.

Patents

155. Phelps, T.J., R.J. Lauf, J.W. Moon, and Y. Roh, *Fermentative process for making inorganic nanoparticles*, L. UT-Battelle, Oak Ridge, Tenn. , 2006, UT-Battelle: U.S. 7,060,473.