

## **Publications**

### ***Peer-reviewed Papers***

1. Aramrak, S., M. Flury, and J. B. Harsh. 2011. Detachment of deposited colloids by advancing and receding air-water interfaces. *Langmuir* 27:9985–9993.
2. Aravena J.E., Berli M., Ghezzehei T.A., Tyler S.W. (2011) Effects of root-induced compaction on rhizosphere hydraulic properties - X-ray micro-tomography imaging and numerical simulations. *Environmental Science & Technology* 45:425-431.
3. Arora, B., and B.P. Mohanty, and J.T. McGuire, Inverse Estimation of Parameters for Multi-Domain Flow Models in Soil Columns with Different Macropore Densities. *Water Resources Research*. 47, doi:10.1029/2009WR009451, 2011. (featured article in WRR)
4. Arora, B., and B.P. Mohanty, and J.T. McGuire, Uncertainty in Dual Permeability Model Parameters for Structured Soils. *Water Resources Research*. In Press, 2011.
5. Blonquist, J.M.Jr., D.A. Robinson, S.D. Humphries and S.B. Jones. 2011. Improved Dielectric- and Electrical Conductivity-Anisotropy Measurements Using TDR in Unsaturated Mica. *Vadose Zone J.* 10:1097-1104, doi: 10.2136/vzj2010.0148.
6. Bradford, S. A., and H. Kim. 2012. Causes and Implications of colloid and microorganisms retention hysteresis. *Journal of Contaminant Hydrology*, in revision.
7. Bradford, S. A., S. Torkzaban, and A. Wiegmann. 2011. Pore-scale simulations to determine the applied hydrodynamic torque and colloid immobilization. *Vadose Zone Journal*, 10, 252-261.
8. Bradford, S. A., S. Torkzaban, and J. Šimůnek, Modeling colloid transport and retention in saturated porous media under unfavorable attachment conditions, *Water Resour. Res.*, 47, W10503, doi:10.1029/2011WR010812, 2011.
9. Casanova, J.J., S.R. Evett, and R.C. Schwartz. 2011a. Design of access-tube TDR sensor for soil water content: Theory. *IEEE Sensors J.*, PP(99):1-1. DOI:10.1109/JSEN.2011.2181354.
10. Casanova, J.J., S.R. Evett, and R.C. Schwartz. 2012. Design of access-tube TDR sensor for soil water content: Testing. Accepted by *IEEE Sensors J.*
11. Crow, W.T., A. Berg, M.H. Cosh, A. Low, B.P. Mohanty, R. Panciera, P. De Rosnay, D. Ryu, and J. Walker, Upscaling Sparse Ground-Based Soil Moisture Observations for the Validation of Satellite Surface Soil Moisture Products. *Review of Geophysics*. In Press, 2011.
12. Dabach, S., N. Lazarovitch, J. Šimůnek, and U. Shani, Numerical investigation of irrigation scheduling based on soil water status, *Irrigation Science* (accepted May 1 2011).
13. Derby, N.E., H.H. Hakk, F.X.M. Casey and T.M. DeSutter. 2011. Effects of Composting Swine Manure on Nutrients and Estrogens. *Soil Sci.* 176:91-98.
14. DeSutter, T., P. Goosen-Alix, L. Prunty, P.M. White, Jr., and F.X.M. Casey. 2011. Smooth Brome (*Bromus inermis* Leyss) and Soil Chemical Response to Concrete Grinding Residue Application. *Air Water Soil Pollut.* DOI: 10.1007/s11270-011-0816-7.
15. Evett, S.R., and R.C. Schwartz. 2011c. Discussion of "Soil Moisture Measurements: Comparison of Instrumentation Performances" by Ventura Francesca, Facini Osvaldo, Piana Stefano, and Rossi Pisa Paola February 2010, Vol. 136, No. 2, pp. 81-89. DOI: 10.1061/(ASCE)0733-9437(2010)136:2(81). *J. Irrig. Drain. Res.* 137(7):466-468.
16. Evett, S.R., R.C. Schwartz, J.J. Casanova, and Lee K. Heng. 2012c. Soil water sensing for water balance, ET and WUE. *Agric. Water Manage.* 104:1-9.
17. Evett, S.R., R.C. Schwartz, N. Mazahreh, M. Jitan, and I.M. Shaqir. 2011e. Soil water sensors for irrigation scheduling: Can they deliver a management allowed depletion? *Acta Horticulturae* 888:231-237. 2011.

18. Evett, S.R., R.S. Zalesny Jr., N.F. Kandil, J.A. Stanturf, and C. Soriano. 2011f. Opportunities for woody crop production using treated wastewater in Egypt. II. Irrigation strategies. *Int. J. Phytorem.* 13(1):122-139. 2011.
19. Fan, Z., F.X.M. Casey, H. Hakk, G.L. Larsen, and E. Khan. 2011. Sorption, Fate, and Mobility of Sulfonamides in Soils. *Water, Air, & Soil Pollution.* 218:49-61.
20. Franzen, D., D. Long, A. Sims, J. Lamb, F.X.M. Casey, J. Staricka, M. Halvorson, and V. Hofman. 2011. Evaluation of Methods to Determine Residual Soil Nitrate Zones Across the Northern Great Plains of the USA. *Precision Agriculture* 12:594-606.
21. Garcia, C.A., B. J. Andraski, D. A. Stonestrom, C. A. Cooper, J. Šimůnek, and S. W. Wheatcraft, Interacting vegetative and thermal contributions to water movement in desert soil, *Vadose Zone Journal*, 10(2), 552-564, 2011.
22. Gautam, M., J. Zhu and M. Ye (2011), Regularized artificial neural network training for biased soil hydraulic parameters, *Soil Science*, doi: 10.1097/SS.0b013e3182316c93.
23. GEBRENEGUS, T., T. GHEZZEHEI, and M. TULLER, 2011. Physicochemical Controls on Initiation and Evolution of Desiccation Cracks in Sand-Bentonite Mixtures: X-Ray CT Imaging and Stochastic Modeling. *Journal of Contaminant Hydrology*, 126(1-2): 100-112, doi: 10.1016/j.jconhyd.2011.07.004.
24. Hansen, D.J., J.T. McGuire, and B. P. Mohanty, Enhanced Biogeochemical Cycling and Subsequent Reduction of Hydraulic Conductivity Associated with Soil Interfaces in the Vadose Zone. *Journal of Environmental Quality.* 40, 6: 1941-1954, 2011.
25. Hunt, A. G., T. E. Skinner, R. P. Ewing, and B. Ghanbarian-Alavijeh, 2011, Dispersion of solutes in porous media, *Eur. Phys. J. B*, DOI: 10.1140/epjb/e2011-10805-y.
26. Jana, R., and B.P. Mohanty, A Comparative Study of Multiple Approaches to Soil Hydraulic Parameter Scaling Applied at the Hillslope Scale. *Water Resources Research.* In Press, 2011.
27. Jana, R., and B.P. Mohanty, A Topography-Based Scaling Algorithm for Soil Hydraulic Parameters at Hillslope Scales: Field Testing. *Water Resources Research.* In Press, 2011.
28. Jana, R., and B.P. Mohanty, Enhancing PTFs with Remotely Sensed data for Multi-Scale Soil Water Retention Estimation. *Journal of Hydrology*, doi:10.1016/i.jhydrol.2010.12.043, 2011.
29. Jana, R., and B.P. Mohanty, On Topographic Controls of Soil Hydraulic Parameter Scaling at Hillslope Scales. *Water Resources Research.* In Press, 2011.
30. Jia, X., M. Shao, X. Wei, D. She, X. Li, and R. Horton. 2011. Estimating total net primary productivity of managed grasslands by a state-space modeling approach in a small catchment on the Loess Plateau, China. *Geoderma* 160:281-291.
31. Jury, W. A., D. Or, Y. Pachepsky, H. M. Vereecken, J. W. Hopmans, L. R. Ahuja, B. E. Clothier, K. L. Bristow, G. J. Kluitenberg, P. Moldrup, J. Simunek, M. Th. van Genuchten, and R. Horton. 2011. Kirkhams legacy and contemporary challenges in soil physics research. *Soil Sci. Soc. Am. J. Soil Sci. Soc. Am. J.* 75:1589–1601.
32. Kandelous, M. M., J. Šimůnek, M. Th. van Genuchten, and K. Malek, Soil water content distributions between two emitters of a subsurface drip irrigation system, *Soil Science Society of America Journal*, 75(2), 488-497, 2011.
33. Kantar, M., C. Sheaffer, P.M. Porter, E.S. Krueger, and T.E. Ochsner. 2011. Growth stage influences forage yield and quality of winter rye. *Forage and Grazinglands*10.1094/FG-2011-0126-01-RS.
34. Kelleners, T.J and J.B. Norton. 2012. Determining water retention in seasonally frozen soils using Hydra impedance sensors. *Soil Sci. Soc. Am. J.*doi:10.2136/sssaj 2011.0222.

35. Kelleners, T.J. and A.K. Verma. Modeling CO<sub>2</sub> production and transport in a mixed-grass rangeland soil. *Vadose Zone J.* (submitted Dec. 2011).
36. Köhne, J. M., T. Wöhling, V. Pot, P. Benoit, S. Leguédou, Y. Le Bissonnais, and J. Šimůnek, Coupled simulation of surface runoff and soil water flow using multi-objective parameter estimation, *J. of Hydrology*, 403, 141-156, 2011.
37. Krueger, E.S., T.E. Ochsner, P.M. Porter, and J.M. Baker. 2011. Winter rye cover crop management influences on soil water, soil nitrate, and corn development. *Agron. J.* 103:316-323.
38. Lenhart, C., H.M. Peterson, and J.L. Nieber, 2011. Increased streamflow in agricultural watersheds of the Midwest; implications for management, *Watershed Science Bull.*, Spring 2011:25-31.
39. Li, Y., K. Acharya, M. Stone, Z. Yu, M. Young, D. Shafer, J. Zhu, K. Gray, A. Stone, L. Fan, and J. Warwick (2011), Spatiotemporal patterns in nutrient loads, nutrient concentrations, and algal biomass in Lake Taihu, China, *Lake and Reservoir Management*, 27(4), 298-309, doi: 10.1080/07438141.2011.610560.
40. Li, Y., M. Li, and R. Horton. . 2011. Single and joint multifractal analysis of soil particle size distributions. *Pedosphere* 21: 75–83.
41. Liesch, A.M., E.S. Krueger, and T.E. Ochsner. 2011. Soil structure and physical properties under rye-corn silage double-cropping systems. *Soil Sci. Soc. Am. J.* 75:1307-1314.10.2136/sssaj2010.0292.
42. Lü, H., Z. Yu, R. Horton, Y. Zhu, Z. Wang, Z. Hao, and L. Xiang. 2011. Multi-scale assimilation of soil water data for root zone soil water prediction. DOI: 10.1002/hyp.8034. *Hydro. Process.* 25: 3158-3172.
43. Lu, S., T. Ren, Z. Yu, and R. Horton. 2011. Method to estimate the water vapor enhancement factor in soil. *European J. of Soil Science* 62:498–504.
44. Mohapatra, P.K, R. Vijay, P.R. Pujari, S. K. Sundaray, B.P. Mohanty, Determination of Processes Affecting Groundwater Quality in the Coastal Aquifer Beneath Puri City, India: A Multivariate Statistical Approach. *Water Science and Technology*, 64(4), 809-817, 2011.
45. Moroke, T.S., R.C. Schwartz, K.W. Brown, and A.S.R. Juo. Water use efficiency of dryland cowpea, sorghum and sunflower under reduced tillage. *Soil and Tillage Res.* 112:76-84. 2011.
46. Neumann, L. E., J. Šimůnek, and F. J. Cook, Implementation of quadratic upstream interpolation schemes for solute transport into HYDRUS-1D, *Environmental Modelling & Software*, 26(11), 1298-1308, 2011.
47. Novák, V., Kňava, K., and J. Šimůnek, Determining the influence of stones on hydraulic conductivity of saturated soils using numerical method, *Geoderma*, 161(3-4), 177-181, 2011.
48. Pelletier, M.G., J.A. Viera, R.C. Schwartz, R.J. Lascano, S.R. Evett, T.R. Green, J.D. Wanjura, and G.A. Holt. Fringe capacitance correction for a coaxial soil cell. *Sensors* 11:757-770. doi:10.3390/s110100757. 2011.
49. Pelletier, M.G., J.A. Viera, R.C. Schwartz, S.R. Evett, R.J. Lascano, and R.L. McMichael. Analysis of coaxial soil cell in reflection and transmission. *Sensors* 11:2592-2610 (doi:10.3390/s110302592). 2011.
50. Pelletier, M.G., S. Karthikeyan, T.R. Green, R.C. Schwartz, J.D. Wanjura, and G.A. Holt. Soil moisture sensing via swept frequency based microwave sensors. *Sensors* 12, 753-767 (doi:10.3390/s120100753). 2012.
51. Peterson, H.M., J.L. Nieber, and R. Kanivetsky, 2011. Hydrologic regionalization to assess anthropogenic changes, *J. Hydrol.*, doi:10.1016/j.jhydrol.2011.07.042.

52. Qiu, H., D.R. Huggins, J.Q. Wu, M.E. Barber, D.K. McCool, and S. Dun. 2011. Residue management impacts on field-scale snow distribution and soil water storage. *Trans. ASABE*, 2011. (in press)
53. Ramos, T. B., J. Šimůnek, M. C. Gonçalves, J. C. Martins, A. Prazeres, N. L. Castanheira, and L. S. Pereira, Field evaluation of a multicomponent solute transport model in soils irrigated with saline waters, *J. of Hydrology*, 407(1-4), 129-144, 2011.
54. Ratpukdi, T., F.X.M. Casey, T.M. DeSutter, and E. Khan. 2011. Bromate Formation by Ozone-VUV in Comparison with Ozone and Ozone-UV: Effects of pH, Ozone Dose, and VUV Power. *J. Environ. Engin. ASCE*, 137(3):187-195
55. Rau, B.M., D.W. Johnson, R.R. Blank, A. Lucchesi, T.G. Caldwell, and E.W. Schupp (2011), Transition from sagebrush steppe to annual grass (*Bromus tectorum*): Influence on belowground carbon and nitrogen, *Rangeland Ecology & Management*, 64, 139-147.
56. Rau, B.M., D.W. Johnson, R.R. Blank, R.J. Tausch, B.A. Roundy, R.F. Miller, T.G. Caldwell, and A. Lucchesi (2011), Woodland expansion's influence on belowground carbon and nitrogen in the Great Basin U.S., *J. Arid Environ.*, 75, 827-835.
57. Ravikumar, V, G. Vijayakumar, J. Šimůnek, S. Chellamuthu, R. Santhi, and K. Appavu, Evaluation of fertigation scheduling for sugarcane using a vadose zone flow and transport model, *Agricultural Water Management*, 98, 1431-1440, 2011.
58. Reichman, R., D. E. Rolston, S. R. Yates, and T. H. Skaggs. 2011. Diurnal variation of diazinon volatilization: Soil moisture effects. *Environ. Sci. Tech.* 45:2144–2149.
59. Reichman, R., S. R. Yates, T. H. Skaggs, and D. E. Rolston. 2012. Effects of soil moisture on the diurnal pattern of pesticide emission: Comparison of simulations with field measurements. *Atmos. Environ.* (Submitted).
60. Reichman, R., S. R. Yates, T. H. Skaggs, and D. E. Rolston. 2012. Effects of soil moisture on the diurnal pattern of pesticide emission: Numerical simulation and sensitivity analysis. *Atmos. Environ.* (Submitted)
61. RESURRECCION, A.C., P. MOLDRUP, M. TULLER, T.P.A. FERRE, K. KAWAMOTO, and T. KOMATSU, and L.W. DE JONGE, 2011. Relationship between specific surface area and the dry end of the water retention curve for soils with varying clay and organic carbon contents. *Water Resour. Res.*, 47, W06522, doi:10.1029/2010WR010229.
62. Sakai M., S.B. Jones and M. Tuller. 2011. Numerical evaluation of subsurface soil water evaporation derived from sensible heat balance, *Water Resour. Res.*, 47, W02547, doi:10.1029/2010WR009866.
63. Schuh, M., F.X.M. Casey, H. Hakk, T. DeSutter, K. Richards, E. Khan, and P. Oduor. 2011. An On-Farm Survey of Spatial and Temporal Stratifications of 17beta-Estradiol Concentrations. *Chemosphere* 82:1683-1689.
64. Schuh, M.C., F.X.M. Casey, H. Hakk, T.M. DeSutter, K.G. Richards, E. Khan, and P.G. Oduor. 2011. Effects of Field-Manure Applications on Stratified 17beta-Estradiol Concentrations. *J. Hazard. Mater.* 192:748-752.
65. Sheshukov, A. and J.L. Nieber, 2011. One-dimensional Freezing of Non-heaving Unsaturated Soils: Model Formulation and Similarity Solution, *Water Resour. Res.*, VOL. 47, W11519,doi:10.1029/2011WR010512.
66. Shouse, P. J., J. E. Ayars, and J. Šimůnek, Simulating root water uptake from a shallow saline groundwater resource, *Agricultural Water Management*, 98(5), 784-790, 2011.

67. Shrestha, S.L., X. Bai, D.J. Smith, H. Hakk, F.X.M. Casey, G.L. Larsen, and G. Padmanabhan. 2011. Synthesis and characterization of radiolabeled 17beta-estradiol conjugates. *J. Labeled Compounds Radiopharmaceuticals*. 54:267-271.
68. Singh, P., M. Flury, and W. F. Schillinger. 2011. Predicting seed-zone water content for summer fallow in the Inland Pacific Northwest, USA. *Soil Till. Res.* 115/116:94–104.
69. Skaggs, T. H. 2011. Assessment of critical path analyses of the relationship between permeability and electrical conductivity of pore networks. *Adv. Water Resour.* 34:1335–1342.
70. Stumpp, C., W. Stichler, M. Kandolf, and J. Šimůnek, Effects of land cover and fertilization method on water flow and solute transport in five lysimeters: A long-term study using stable water isotopes, *Vadose Zone Journal*, (accepted November 11 2011).
71. Torkzaban, S., J. Wan, T. Tokunaga, and S. A. Bradford. 2012. Impacts of bridging complexation on the transport of surface-modified nanoparticles in saturated sand. *Journal of Contaminant Hydrology*, in revision.
72. VAZ, C.M.P, I.C. DE MARIA, P.O. LASSO, and M. TULLER, 2011. Evaluation of an Advanced Benchtop Micro-Computed Tomography System for Quantifying Porosities and Pore-Size Distributions of Two Brazilian Oxisols. *Soil Sci. Soc. Am. J.* 75(3): 832-841, doi:10.2136/sssaj2010.0245.
73. VAZ, C.M.P, J.M. MANIERI, I.C. DE MARIA, and M. TULLER, 2011. Modeling and Correction of Soil Penetration Resistance for Varying Soil Water Content. *Geoderma*, 166(1):92-101, doi:10.1016/j.geoderma.2011.07.016.
74. Verma, A.K. and T.J. Kelleners. Depth-wise CO<sub>2</sub> production and transport in a Wyoming rangeland soil. *Soil Sci. Soc. Am. J.* (submitted Dec. 2011).
75. Wang, D., M. Paradelo, S. A. Bradford, W. J. G. M. Peijnenburg, L. Chu, and D. Zhou. 2011. Facilitated Transport of Cu with hydroxyapatite nanoparticles in saturated sand: Effects of solution ionic strength and composition. *Water Research*, 45, 5905-5915.
76. Wang, D., S. A. Bradford, M. Paradelo, W. J. G. M. Peijnenburg, and D. Zhou. 2011. Facilitated Transport of Cu with hydroxyapatite nanoparticles in saturated sand: Effects of velocity, pH, and iron oxide grain coating. *Soil Science Society of America Journal*, in press.
77. Wang, D., S. A. Bradford, R. W. Harvey, B. Gao, L. Cang, and D. Zhou. 2012. Humic acid facilitates the transport of ARS-labeled hydroxyapatite nanoparticles in iron oxide-coated sand. *Environmental Science & Technology*, in revision.
78. Wang, L., S. Wei, R. Horton, and M. Shao. 2011. Effects of vegetation and slope aspect on water budget in the hill and gully region of the Loess Plateau of China. *Catena* 87:90–100.
79. Weihermüller, L., R. Kasteel, J. Vanderborght, J. Šimůnek, and H. Vereecken, Uncertainty in pesticide monitoring using suction cups: Evidence from numerical simulations, *Vadose Zone Journal*, 10(4), 1287-1298, 2011.
80. Wendroth, O., V. Vasquez, and C.J. Matocha. 2011. Field experimental approach to bromide leaching as affected by scale-specific rainfall characteristics. *Water Resour. Res.* 47, W00L03, doi: 10.1029/2011WR010650.
81. Wilcox, B.P., L. Turnbull, M.H. Young, C.J. Williams, S. Ravi, M.S. Seyfried, D.R. Bowling, R.L. Scott, M.J. Germino, T.G. Caldwell, and J. Wainwright (2011), Invasion of shrublands by exotic grasses: ecohydrological consequences in cold versus warm deserts, *Ecohydrology*, 10.1002/eco.247.
82. Wilhelm, W., J. Johnson, D. Lightle, D. Karlen, J. Novak, N. Barbour, D. Laird, J. Baker, T. Ochsner, A. Halvorson, D. Archer, and F. Arriaga. 2011. Vertical distribution of corn stover dry mass grown at several US locations. *BioEnergy Research* 4:11.10.1007/s12155-010-9097-z.

83. Wine, M.L., T.E. Ochsner, A. Sutradhar, and R. Pepin. 2011. Effects of eastern redcedar encroachment on soil hydraulic properties along Oklahoma's grassland-forest ecotone. *Hydrological Processes*:n/a-n/a.10.1002/hyp.8306.
84. Xiao, X., R. Horton, T.J. Sauer, J.L. Heitman, and T. Ren. 2011. Cumulative soil water evaporation as a function of depth and time. *Vadose Zone J.* 10:1016–1022.
85. Yang, C., Z. Yu, Z. Hao, J. Zhang, and J. Zhu (2011), Impacts of climate change on flood and drought events in the Huaihe River Basin, China, *Hydrology Research*, doi: 10.2166/nh.2011.112.
86. Yuan, F., T. Meixner, M. E. Fenn, and J. Šimůnek, Impact of transient soil water simulation on estimated nitrogen leaching and emission at high- and low-deposition forest sites in Southern California, *Journal of Geophysical Research*, 116, G03040, doi:10.1029/2011JG001644, 15 pp., 2011.
87. Zhao, P., M. Shao, and R. Horton. 2011. Performance of soil particle size distribution models for describing deposited soils adjacent to constructed dams in the China Loess Plateau. *Acta Geophysica* 59:124-138.
88. Zhu, J. (2011), Effect of layered structure on anisotropy of unsaturated soils, *Soil Science*, doi: 10.1097/SS.0b013e31824114f6.
89. Zhu, J. (2011), Sensitivity of advective travel time of contaminants to correlated formation porosities, *Hydrogeology Journal*, doi: 10.1007/s10040-011-0788-0.
90. Zhu, J., and A. W. Warrick (2011), Effective unsaturated hydraulic conductivity for layered soils of structured heterogeneity, *Soil Science Society of America Journal*, doi:10.2136/sssaj2011-0028.
91. Zhu, J., and D. Sun (2011), Soil hydraulic properties for moisture redistribution in large scale heterogeneous landscape, *Hydrological Sciences Journal*, accepted.
92. Zhu, J., M. H. Young, J. Healey, R. Jasoni, and J. Osterberg (2011), Answer to the comment on “Interference of river level changes on riparian zone evapotranspiration estimates from diurnal groundwater level fluctuations” by J. Zhu, M. Young, J. Healy, R. Jasoni, J. Osterberg, *Journal of Hydrology*, 408, 316-317, doi: 10.1016/j.jhydrol.2011.08.005.
93. Zhu, J., M. H. Young, J. Healey, R. Jasoni, and J. Osterberg (2011), Interference of river level changes on riparian zone evapotranspiration estimates from diurnal groundwater level fluctuations, *Journal of Hydrology*, 403(3-4), 381-389, doi:10.1016/j.jhydrol.2011.04.016.
94. Zhu, J., M. Stone, and W. Forsee (2011), Analysis of potential impacts of climate change on intensity-duration-frequency (IDF) relationships for six regions in the United States, *Journal of Water and Climate Change*, accepted.
95. Zhu, J., M. Young, and J. Osterberg (2011), Impacts of riparian zone plant water use on temporal scaling of groundwater systems, *Hydrological Processes*, 25, doi: 10.1002/hyp.8241.
96. Zhu, Y., Y. Wang, M. Shao, and R. Horton. 2011. Estimating soil water content from surface digital image gray level measurements under visible spectrum. *Can. J. Soil Sci.* 91: 69
97. Zitnick, K.K., N.W. Shappell, H. Hakk, T.M. DeSutter, E. Khan, F.X.M. Casey. 2011. Effects of Liquid Swine Manure on Dissipation of 17beta-Estradiol in Soil. *J. Hazard. Mater.* 186:1111-1117.

### ***Edited Book Sections***

1. Bittelli, M., A. Pistocchi, F. Tomei, P. Roggero, R. Orsini, M. Toderi, G. Antolini, and M. Flury. 2011. Criteria-3d: a mechanistic model for surface and subsurface hydrology for small

- catchments. p. 253–265. In M. K. Shukla (ed.) *Soil Hydrology, Land Use and Agriculture: Measurement and Modelling*. CABI International, Wallingford, UK.
2. Evett, S.R., P.D. Colaizzi, S.A. O’Shaughnessy, D.J. Hunsaker, and R.G. Evans. 2012a. *Irrigation Management*, In E.G. Njoku (ed.) *Encyclopedia of Remote Sensing*. Springer Science+Business Media, LLC, New York, NY.
  3. Evett, S.R., J.H. Prueger, and J.A. Tolc. 2012b. *Water and Energy Balances in the Soil-Plant-Atmosphere Continuum*. pp. 6-1-6-44 In Pan Ming Huang, Yuncong Li, and Malcolm E. Sumner (eds.) *Handbook of Soil Sciences: Properties and Processes*, 2nd Edition. CRC Press, Boca Raton, Florida 33487-2742 USA, ISBN 978-1-4398-0305-9.
  4. Mallants, D., M. Th. van Genuchten, J. Šimůnek, D. Jacques, and S. Seetharam, *Leaching of Contaminants to Groundwater*, Chapter 18, In “*Dealing with Contaminated Sites, From Theory to Practical Applications*”, F. A. Swartjes (ed.), Dordrecht, Netherlands, Springer Science+Business Media B.V., ISBN: 978-90-481-9756-9, DOI 10.1007/978-90-481-9757-6\_18, pp. 787-850, 2011.
  5. Mandava A.K., Regentova E.E., Berli M. (2011) *Image Denoising by Exploring the Context Information in the Wavelet Domain*, in: V. Mladenov, et al. (Eds.), *Advances in Communications, Computers, Systems, Circuits and Devices*, World Scientific and Engineering Academy and Society Press, Puerto De La Cruz, Tenerife. pp. 32-36.
  6. Or, Dani, Jon M. Wraith, David.A. Robinson and Scott B. Jones. 2011. *Soil Water Content and Water Potential Relationships*. In Malcolm E. Sumner ed., *Handbook of Soil Science*. CRC Press, Boca Raton.
  7. Radcliffe, D., and J. Šimůnek, *Water Flow in Soils*, Chapter 5, in *The Handbook of Soil Science, Properties and Processes*, Second Edition, Eds. P. M. Huang, Y. Li, and M. E. Summer, CRC Press, Taylor & Francis Group, Boca Raton, FL, ISBN 978-1-4398-0305-9, pp. 5-1 - 5-34, 2011.
  8. Sun, D., and J. Zhu (2011), *Unsaturated hydraulic conductivity for evaporation in heterogeneous soils*, Book Chapter in *Developments in Hydraulic Conductivity Research*, edited by O. Dikinya, INTECH, pp. 177-194.
  9. TULLER, M., 2011. *Soil Physics*. In P.M. Huang, Y. Li, and M.E. Sumner (eds.) *Handbook of Soil Sciences*, 2nd Edition, CRC Press, Boca Raton, FL, ISBN: 9781439803035.
  10. Wendroth, O.\*, K.C. Kersebaum, G. Schwab, and L. Murdock. 2011. *Spatial relationships of soil properties, crop indices and N application pattern with wheat growth and yield in a field*. In: Ahuja, L., and L. Ma (Eds.) *Methods of Introducing System Models in Field Research*, Volume 2 in the *Advances in Agricultural System Modeling Series*, ASA-SSSA-CSSA, Madison, WI. p. 229-259.
  11. Wendroth\*, O., S. Koszinski, and V. Vasquez. 2011. *Soil spatial variability*. p. 10-1-10-25. In: Huang, P.M., Y.C. Li, and M.E. Sumner (Eds.) *Handbook of Soil Science*, 2<sup>nd</sup> ed., CRC Press.
  12. Wendroth\*, O., E.L. Ritchey, S. Nambuthiri, J.H. Grove, and R.C. Pearce. 2011. *Spatial variability of soil physical properties*. p. 827-839. In: Gliński, J., J. Horabik, and J. Lipiec (Eds.), *Encyclopedia of Agrophysics*. Springer, Heidelberg, Germany.

#### ***Published Abstracts and Proceedings***

1. Albalasmeh A.A., Berli M., Shafer D., Ghezzehei T.A. (2011) *Effects of Low Temperature Fire On Soil Aggregate Stability*, Soil Science Society of America, Soil Science Society of America, San Antonio, TX. Abstract no. 117-44.
2. Alfieri, J.G., W.P. Kustas, J.H. Prueger, A.N. French, L.E. Hipps, J.L. Chavez, S.R. Evett, and T.A. Howell. *The impacts of strongly advective conditions on measurement uncertainty of the*

energy band carbon dioxide fluxes over irrigated cropland. Joint FluxNet/SpecNet Workshop, Berkeley, CA 94704, June 7-9, 2011.

3. Alfieri, J.G., W.P. Kustas, J.H. Prueger, S.R. Evett, A.N. French, L.E. Hipps, C.M.U. Neale, W.P. Dulaney, and L.G. McKee. Hot, dry, & windy: The impacts of strongly advective conditions on measurements of evaporative water loss from irrigated croplands. BARC Poster Day, April 27, 2011, Beltsville, MD 20705.
4. Andreas Schwen<sup>2</sup> and Ole Wendroth. 2011. Spatial variability of macropore structures in soils under different land use. Oral presentation, Annual Meeting German Soil Science Society, Sept. 3.-9., Berlin, Germany.
5. Aravena J.E., Ruiz S., Mandava A.K., Regentova E.E., Ghezzehei T.A., Berli M., Tyler S.W. (2011) Simulating root-induced rhizosphere deformation and its effect on water flow, American Geophysical Union, Fall Meeting, American Geophysical Union, San Francisco. EOS Abstract
6. BABCOCK, E.L., M. TULLER, and S.B. JONES, 2011. Quantification and Monitoring of Gas Emission from Agricultural Sources: Measurement Technology and Limitations. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
7. BABCOCK, E.L., M. TULLER, S.B. JONES, and J. WALWORTH, 2011. Greenhouse Gas Emissions from Agriculture and Animal Operations: Influencing Factors, Measurement Limitations, and Potential Mitigation Strategies. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
8. Bai, X., F.X.M. Casey, H. Hakk, S.L. Shrestha, T.M. DeSutter, E. Khan and P.G. Oduor. 2011. Modeling Sorption and Degradation of <sup>17</sup>beta-Estradiol-<sup>17</sup>-Sulfate in Agricultural Soils. In Annual Meetings Abstracts. ASA, CSSA, and SSSA, Madison, WI.
9. Baumhardt, R.L., and R.C. Schwartz. 2011. Tillage, Residue, and Crop Rotation Effects on Rain Infiltration and Sediment Transport. Paper 271-2. ASA-CSSA-SSSA Annual International Meeting, October 16-19, 2011, San Antonio, TX.
10. Bell, J.M., R.C Schwartz, K.J. McInnes, T.A. Howell, and C.S. Morgan. 2011. Quantification of soil water evaporation using TDR-microlysimetry [abstract]. Paper 341-6. ASA-CSSA-SSSA Annual International Meeting, October 16-19, 2011, San Antonio, TX.
11. Berli M., Ghezzehei T.A., Menon M., Nico P.S., Tyler S.W., Young M.H. (2011) Unraveling Rhizosphere Physics Using X-ray Microtomography - Progress Report and Next Steps, W2188 Soil Physics, Las Vegas, NV.
12. Berli M., Ruiz S., Aravena J.E., Bolduc L., Ghezzehei T.A., Cook D.P., Mandava A.K., Regentova E.E., Menon M., Nico P.S., Tyler S.W., Young M.H. (2011) Exploring Rhizosphere Structure Alterations Using X-ray Tomography and Finite Element Calculations, DOE Subsurface Biogeochemical Research (SBR) Contractor-Grantee Workshop, US Department of Energy, Office of Science, Washington, DC.
13. Berli M., Ruiz S.A., Aravena J.E., Bolduc L., Ghezzehei T.A., Cook D.P., Mandava A.K., Regentova E.E., Menon M., Nico P., Tyler S.W., Young M.H. (2011) Simulating rhizosphere structure alterations using finite element calculations, European Geoscience Union General Assembly, European Geoscience Union, Vienna, Austria. EGU2011-13530.
14. Caldwell, T.G., E.V. McDonald, S.N. Bacon, R. Schumer, and T.F. Bullard (2011), Cleared circles: anthropogenic or biogenic? Use of non-invasive geophysical techniques to determine origin, Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Charleston, SC, April 10-14.



15. Caldwell, T.G., T. Wöhling, G.N. Flerchinger, M.H. Young, E.V. McDonald, S.P. Hardegree (2011), Inverse Modeling water contents of semiarid soils using multiobjective parameter optimization, ASA-CSSA-SSSA International Annual Meeting, San Antonio, TX, Oct. 16-19.
16. Casanova, J.J., S.R. Evett, and R.C. Schwartz. 2011b. Design and testing of access-tube TDR soil water sensor. Paper No: 1110994. 2011 ASABE Annual International Meeting, Louisville, Kentucky, August 7-10, 2011. Amer. Soc. Agric. Biol. Engr., St. Louis, MO.
17. Casanova, J.J., S.R. Evett, and R.C. Schwartz. 2011c. Field tests of a down-hole TDR profiling water content measurement system. Paper 243-6. ASA-CSSA-SSSA Annual International Meeting, October 16-19, 2011, San Antonio, TX.
18. Cerise, L., D. Dumroese, P. McDaniel and R. Heinse (2011). Effects of Hill-slope Terracing on Soil Properties in Semi-arid Ponderosa Pine Habitat in Western Montana. ASA-CSSA-SSSA 2011 Joint Annual Meeting, San Antonio, TX, Oct. 16--19, Agronomy Abstracts, ASA, Madison, WI.
19. Chambers, K.B., F.X.M. Casey, H. Hakk, N.W. Shappell, T.M. DeSutter and E. Khan. 2011. Bioavailability of Colloidal Organic Carbon Bound Estrogen. In Annual Meetings Abstracts [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
20. Chávez, J.L., and S.R. Evett. Using soil water sensors to improve irrigation management, Proc. 24th Annual Central Plains Irrigation Conf., Colby, KS, 21-22 Feb. 2012.
21. Cosh, M.H., T. Ochsner, L.G. McKee, and S.R. Evett. 2010. Early results of the SMAP In Situ Sensor Testbed. American Geophysical Union Fall 2010 Meeting, San Francisco, Ca, December 13-17, 2010.
22. DE JONGE, L., P. MOLDRUP, M. TULLER, A.C. RESURRECCION, and T. KOMATSU, 2011. Soil Specific Surface Area from Hyper-Dry-Region Water Retention: Links to External and Internal Surface Areas and the Clay to Carbon Ratio. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
23. DEEPAGODA, C., P. MOLDRUP, M. TULLER, M. PEDERSEN, L. DE JONGE, P. SCHJONNING, K. KAWAMOTO, and T. KOMATSU, 2011. Gas Diffusivity-Based Analysis of Tomato Growth Media. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
24. Dun, S., J.Q. Wu, W.J. Elliot, J.R. Frankenberger, D.C. Flanagan, and D.K. McCool. 2011. Applying online WEPP to assess forest watershed hydrology, Pap. 11085. Int. Symp. Erosion Landscape Evol., Anchorage, AK, Sep 18–21, 2011.
25. Engda, T.A., T.J. Kelleners, G.B. Paige. Automated soil moisture monitoring to measure drought conditions in Wyoming rangelands. Poster presentation at the Soil Sci. Soc. Am. Annual Meeting, Oct 16-19, 2011, San Antonio, TX.
26. Evett, S.R., M.A. Jitan, and N.T.H. Mazahreh. 2010a. Energy, water balances and fluxes in the soil-plant-atmosphere continuum: Dryland and desert cases. Drylands, Deserts, and Desertification: The Route to Restoration, 3rd Int'l Conf., Sede Boqer Campus, Israel, November 8-11, 2010.
27. Evett, S.R., N. Agam, W.P. Kustas, P.D. Colaizzi and R.C. Schwartz. 2011a. Soil heat flux determined from diel water content and temperature variations. Paper 341-8. ASA-CSSA-SSSA Annual International Meeting, October 16-19, 2011, San Antonio, TX.
28. Evett, S.R., R.C. Schwartz, and J.J. Casanova. 2010b. Soil water sensing for water balance, ET and WUE. Meeting on Water Use Efficiency – Challenges for Agriculture, Volcani Center, Bet Dagan, Israel.

29. Evett, S.R., R.C. Schwartz, N. Ibragimov, N.T.H. Mazahreh, and N. Katbeh-Bader. 2011d. Local and profile soil water content monitoring: A comparison of methods in terms of apparent and actual spatial variation. European Geophysical Union General Assembly, Vienna, Austria, April 5-8, 2011. Geophysical Research Abstracts. Vol. 13, EGU2011-1956, 2011.
30. Evett, S.R., R.C. Schwartz, R.J. Lascano, and M.G. Pelletier. 2010c. In-soil and down-hole soil water sensors: Characteristics for irrigation management. Proc. 5th Decennial National Irrigation Conf., 5-8 December 2010, Phoenix, Arizona. Paper No. IRR10-8346. ASABE, St. Joseph, Mich. (CD-ROM).
31. Forsee, W. J., and J. Zhu, Analysis of extreme event precipitation intensities for different durations from NARCCAP data, North American Regional Climate Change Assessment Program 3rd Users Workshop, April 7-8, Boulder, Colorado, U.S.A.
32. Forsee, W., and J. Zhu, Variability and uncertainty of extreme precipitation intensities from NARCCAP simulations, American Geophysical Union Fall Meeting, December 5–9, 2011, San Francisco, California, U.S.A.
33. Galeandro, A., J. Šimůnek, and V. Simeone, Analysis of infiltration processes into fractured and swelling soils as triggering factors of landslides, Proceedings of the Second World Landslide Forum, October 3-9 2011, Rome, Italy, 6 pp., 2011.
34. Gautam, M., and J. Zhu, Issues and guidance for artificial neural network pedotransfer function development, ASA-CSSA-SSSA 2011 International Annual Meetings, October 16 – 19, 2011, San Antonio, Texas, U.S.A.
35. Gautam, M., K. Chief, K. Wilde, and W. Smith, Jr. 2011. Climate change vulnerabilities- an integrated assessment in Pyramid Lake Paiute Indian Reservation. American Geophysical Union, Fall Meeting, American Geophysical Union, San Francisco, CA. EOS Abstract No. NH13B-1381.
36. Heinse, R. and A. Vanhoozer (2010). Microclimatic Impacts of Green Spaces: Sociological and Biophysical Scale Considerations for Municipal Site Developments. AGU Fall Meeting Abstracts, San Francisco, CA, 13-17 December, 2011.
37. Ibragimov, N.M., R.C. Schwartz, S.R. Evett, M.Y. Esanbekov, F.M. Khasanova, I.T. Karabaev, and L.A. Mirzaev. 2011. Tillage intensity and residue effects on early season evaporation and yield in mung bean. Paper 343-1. ASA-CSSA-SSSA Annual International Meeting, October 16-19, 2011, San Antonio, TX.
38. JONES, S.B., D. OR, R. HEINSE, and M. TULLER, 2011. Beyond Earth: Designing Root Zone Environments for Reduced Gravity. Proceedings of the 1st International Conference and Exploratory Workshop on Soil Architecture and Physico-Chemical Functions (CESAR), Research Centre Foulum, Denmark, Nov 30 – Dec 2, pp. 157-161.
39. Jones, S.B., M. Sakai and M. Tuller. 2011. Partitioning Evaporation and Infiltration Processes with an Array of Multifunction Heat Pulse Probes. AGU Fall Meeting Abstracts, San Francisco, CA, December 5-9.
40. JONES, S.B., M. SAKAI, A. BEMBENEK, and M. TULLER, 2011. A Penta-Needle Heat Pulse Probe Array for Soil Subsurface Evaporation and Heat Flux Estimates. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
41. JONES, S.B., M. SAKAI, and M. TULLER, 2011. Partitioning Evaporation and Infiltration Processes with an Array of Multifunction Heat Pulse Probes. AGU International Annual Meeting, San Francisco, CA, Dec. 5-9, 2011.

42. Jones, Scott B., Masaru Sakai, Morteza Sadeghi and Markus Tuller. 2011. A Penta-Needle Heat Pulse Probe Array for Soil Subsurface Evaporation and Heat Flux Estimates. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
43. Kelleners, T.J. The effects of coal-bed natural gas produced water on infiltration. Oral presentation at the UCOWR/NIWR annual conference, July 11-14, 2011,
44. Kelleners, T.J. Water Research Program: Fate of coalbed methane produced water in disposal ponds in the Powder River Basin. Oral presentation for the Wyoming Water Development Commission, Nov 29, 2011, Cheyenne, WY.
45. Koonce, J., MH. Young, D.A. Devitt, Z. Yu, A. Wagner, L.F. Fenstermaker. 2011. Soil Water and Thermal Gradients in the Vadose Zone: Assessing Evapotranspiration, Recharge Rates and Shifts in Phreatophytic Water Source. Presented at the Fall AGU Meeting, San Francisco, CA.
46. Kreba, S.2, O. Wendroth, and M. Coyne. 2011. Land use impact on soil structure. Poster, Annual Meeting, ASA-CSSA-SSSA, Oct. 16-19, 2011, San Antonio, Texas.
47. Kreba, S.2, O. Wendroth, and R. McCulley. 2011. Temporal stability of soil water storage, carbon dioxide, and nitrous oxide flux. Poster, Annual Meeting, ASA-CSSA-SSSA, Oct. 16-19, 2011, San Antonio, Texas.
48. KULKARNI, R., M. TULLER, W. FINK, and D. WILDENSCHILD, 2011. Three-Dimensional Multiphase Segmentation of X-Ray CT Data of Porous Materials Using a Bayesian Markov Random Field Framework. Workshop on Image Analysis for Porous Media, Austin, TX, Jul. 14-15, 2011.
49. Kustas, W.P., M.C. Anderson, S.R. Evett and T.J. 2011. Trout. Examples of USDA-ARS contributions to the advancement of remote sensing tools for ET estimation. 2011 Western States ET Workshop - Using ET to Reduce Costs and Improve Efficiency in Water Resource Management, October 12-13, 2011, Boise, Idaho.
50. Lascano, R.J., C.H.M. van Bavel, and S.R. Evett. 2010. Calculation of water evaporation in arid climates. Drylands, Deserts, and Desertification: The Route to Restoration, 3rd Int'l Conf., Sede Boqer Campus, Israel, November 8-11, 2010.
51. Leslie, I., and R. Heinse (2010). Imaging Preferential Flow Pathways In Forested Hillslopes Using Electrical Resistivity Tomography. ASA-CSSA-SSSA 2011 Joint Annual Meeting, San Antonio, TX, Oct. 16--19, Agronomy Abstracts, ASA, Madison, WI.
52. Leslie, I., E. White Temple, A. Smith and R. Heinse (2011). Characterization of Soil Pipe Networks on Forested Hillslopes using Electrical Resistivity Tomography. 3rd Annual EPSCoR Tri-State Western Consortium Meeting, Santa Ana Pueblo, NM, April 6th-8th, 2011.
53. Ling Lu, Jobie Carlisle, Lawrence Higgs and Scott B. Jones. 2011. Modeling Evapotranspiration in a Semi-arid Mountain Ecosystem Integrating HYDRUS-1D and Weather Data. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
54. Lu., Ling, Jobie Carlisle and S.B. Jones. 2011. Modeling Conifer Forest Evapotranspiration in a Semi-arid Mountain Ecosystem. Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, March 29-30.
55. M. Sadeghi, B. Ghahraman, A.N. Ziaei, K. Davary, K. Reichardt, and S.B. Jones. 2011. Scaled Solutions of Richards' Equation for Infiltration and Drainage Considering Dissimilar Soils. AGU Fall Meeting Abstracts, San Francisco, CA, December 5-9.
56. McDonald, E.V., S.E. Baker, S.N. Bacon, and T.G. Caldwell (2011), What is desert dust? Defining dust with respect to testing of military equipment for the U.S. Army, 9th International Conference on Military Geosciences, Las Vegas, NV 19-24 June.

57. Meckel, T., R. Trevino, D.L. Carr, M.H. Young. 2011 Gulf of Mexico Miocene CO2 Site Characterization Mega Transect. Presented at the Assoc. Am State Geologists National Meeting, Dubuque, IA, June 2011.
58. Merkler D., Berli M., Stropky M. (2011) A Look At Southern Nevada's Soil Moisture Sites During Rainfall Events; SNOTEL, SCAN and the Desert Research Institute SEPHAS Lysimeters, Soil Science Society of America, Annual Meeting, Soil Science Society of America, San Antonio, TX. Abstract no. 368-2.
59. Niemeyer, R., A. Fremier, R. Heinse, F. DeClerck and W. Chavez (2011). Land Use and Vegetation-Infiltration Relationships in the Pacific Lowlands of Nicaragua. AGU Fall Meeting Abstracts, San Francisco, CA, 5-9 December, 2011.
60. Pohlmann, K., J. Zhu, J. Healy, P. Matuska, and K. Isakson, Development of a framework for analysis of water accounting in lower Colorado River aquifers, June 6-8, 2011, Golden, Colorado, U.S.A.
61. RATTANAPICHAI, W., S.B. JONES, R.W. MACE, and M. TULLER, 2011. An Automated Microlysimeter for Long-Term Monitoring of Soil Evaporation. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
62. Rienzi, E.2, J. Fox, O. Wendroth, and J.H. Grove. Temporal Sediment Particle Size Distribution and Organic Carbon Release with Low and High Kinetic Energy Wetting In Interrill Erosion. Poster, Annual Meeting, ASA-CSSA-SSSA, Oct. 16-19, 2011, San Antonio, Texas.
63. Ritchey, E.L., J.H. Grove, R.C. Pearce, and O. Wendroth. Spatial analysis as an alternative strategy for interpreting penetrometer resistance data. Oral presentation, Annual Meeting, ASA-CSSA-SSSA, Oct. 16-19, 2011, San Antonio, Texas.
64. Robinson, D.A., I. Lebron, S.B. Jones, R. Ryel. 2011. Soil moisture sequestration in drylands: ecosystem engineering in pinyon juniper woodland via soil water repellency. JULES meeting: Soils. CEH Wallingford, January 12-13.
65. Robinson, D.A., S.B. Jones, I. Lebron, B. Rawlins, M. Lark, B. Emmett, and A. Keith. 2011. Geophysics Role in the Spatial Prediction of Soil Natural Capital and Ecosystem Services. Invited talk presented at the ASA-CSSA-SSSA International Annual Meeting held in San Antonio, TX, Oct. 16-19, 2011.
66. Sakai, M., and S.B. Jones. 2011. Simultaneous Determination of Soil Water Flux and Thermal Properties with a Penta-Needle Heat Pulse Probe. The Japanese Society of Irrigation, Drainage and Rural Engineering annual Meeting. Sept. 6-9, 2011.
67. Sakai, Masaru, Changbing Yang, Gerard Kluitenberg and Scott B. Jones. 2011. Improved Determination of Soil Water Flux and Thermal Properties with a Penta-Needle Heat Pulse Probe. ASA, CSSA, and SSSA International Annual Meeting, San Antonio, TX, Oct. 16-19.
68. Scanlon, B.R., K. Schilling, M.H. Young, I.J. Duncan, P.W. Gerbens-Leenes. 2011. Impacts of Past Land Use Changes on Water Resources: An Analog for Assessing Effects of Proposed Bioenergy Crops. Presented at the Fall AGU Meeting, San Francisco, CA.
69. Schwartz, R.C., A.J. Schlegel, S.R. Evett, and R.L. Baumhardt. 2011b. Monitoring near surface soil water and associated dynamics of infiltration and evaporation fluxes. Paper 341-13. ASA-CSSA-SSSA Annual International Meeting, October 16-19, 2011, San Antonio, TX.
70. Schwartz, R.C., S.R. Evett, A.J. Schlegel, and R.L. Baumhardt. 2011a. Monitoring near surface soil water and associated dynamics of infiltration and evaporation fluxes. European Geophysical Union General Assembly, Vienna, Austria, April 5-8, 2011. Geophysical Research Abstracts, Vol. 13, EGU2011-1990.

71. Sun, D., and J. Zhu, Lateral flow across multi-parallel columns and their implications on large-scale evapotranspiration modeling, American Geophysical Union Fall Meeting, December 5–9, 2011, San Francisco, California, U.S.A.
72. Sun, D., and J. Zhu, Multi-dimensionality of evapotranspiration, 96th ESA Annual Meeting, August 7–12, 2011, Austin, Texas, U.S.A.
73. Sun, D., and J. Zhu, The significance of lateral flows on water flux across heterogeneous fields, ASA-CSSA-SSSA 2011 International Annual Meetings, October 16 – 19, 2011, San Antonio, Texas, U.S.A.
74. Sun, H., W. Chen, Y. Zhang, and J. Zhu, A fractal Richards' equation to capture the non-Boltzmann scaling of water flows in unsaturated soils, American Geophysical Union Fall Meeting, December 5–9, 2011, San Francisco, California, U.S.A.
75. SUTITARNNONTR, P., M. TULLER, and S.B. JONES, 2011. Metal Oxide Gas Sensors for Monitoring Regulated and Greenhouse Gas Fluxes from Manure Sources. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
76. TULLER, M., and R. KULKARNI, 2011. An Advanced Bayesian Algorithm for Multiphase Segmentation of 3-D X-Ray Micro Computed Tomography Data of Porous Materials. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
77. TULLER, M., and R. KULKARNI, 2011. Multiphase Segmentation of 3-D X-Ray Micro Computed Tomography Data of Porous Materials. AGU International Annual Meeting, San Francisco, CA, Dec. 5-9, 2011.
78. TULLER, M., C.M.P. VAZ, P.O. LASSO, and R. KULKARNI, 2011. A New Generation of High-Resolution Benchtop Micro-CT Scanners for Application in Earth Sciences. Abstract EGU2011-5798. European Geosciences Union (EGU) General Assembly, Vienna, Austria, Apr. 3-8, 2011.
79. Tuller, M., G. S. Nearing, S. B. Jones and R. Heinse (2011). Geophysical Characterization of Inactive Mine Tailings---A First Step for Revegetation. Geophysical Research Abstracts Vol. 13, EGU General Assembly 2011.
80. Twarakavi N., Chief K., Berli M., Caldwell T.G., Daniels J., Young M.H. (2011) Closing the Water Balance for Arid Soils – First Results from a Large Lysimeter Study, American Geophysical Union, Fall Meeting, American Geophysical Union, San Francisco, CA. EOS Abstract No. H53A-1378.
81. VAZ, C.M.P, S.B. JONES, A. JACOBSEN, and M. TULLER, 2011. Evaluation of Electromagnetic Sensors Using Acetic Acid/Water Mixtures - Dielectric Constant and Electrical Conductivity Responses. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
82. VAZ, C.M.P, S.B. JONES, S.M. MEDING, and M. TULLER, 2011. Evaluation of Commercially Available Electromagnetic Sensors for Measuring Soil Water Content and Electrical Conductivity in Mineral, Organic and Saline Soils. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, Oct. 16-19, 2011.
83. Vaz, Carlos M.P., Scott B. Jones and Markus Tuller. 2011. Evaluation of commercially available electromagnetic sensors for measuring soil water content and electrical conductivity in mineral, organic and saline soils. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
84. Vaz, Carlos M.P., Scott B. Jones, Astrid Jacobsen, Markus Tuller. 2011. Evaluation of electromagnetic sensors using acetic acid/water mixtures – the dielectric constant and electrical

- conductivity responses. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
85. Verma, A.K. and T.J. Kelleners. Depth-wise CO<sub>2</sub> production and transport in a Wyoming rangeland soil. Poster presentation at the Soil Sci. Soc. Am. Annual Meeting, Oct 16-19, 2011, San Antonio, TX.
  86. Wendroth, O. 2011. Spatio-temporal soil water and related processes. Invited Keynote Lecture. Brazilian Soil Physics Meeting, September 12 -16, 2011, Department of Biosystems Engineering, Luiz de Queiroz College of Agriculture, University of São Paulo. ESALQ - USP, Piracicaba - SP, Brazil
  87. Wendroth, O., C.J. Matocha, and L. Murdock. 2011. Additive State-Space Model for Decomposing Variation at Different Scales: Opportunities for Experiments in Variable Landscapes. Oral presentation, Annual Meeting, ASA-CSSA-SSSA, Oct. 16-19, 2011, San Antonio, Texas.
  88. Wendroth, O., G.Schwab, and L. Murdock. “How close is close enough?” Oral plenary session presentation, 8th European Conference on Precision Agriculture, Prague, Czech Republic, July 10-13, 2011.
  89. Wilson, G.V ., J.L. Nieber and R.C. Sidle, 2011. Internal erosion during soil pipeflow: role in gully erosion and hillslope stability, IN: D.C. Flanagan, J.C. Ascough II, and J.L. Nieber (editors), International Symposium on Erosion and Landscape Evolution, Sept. 18-21, 2011, Anchorage, AL, CD-ROM, paper number 45.
  90. Wright, L., D.A. Devitt and Michael Young. 2011. Fate and Transport of Pharmaceuticals in Soil Turfgrass Systems Irrigated with Reclaimed Water. Presented at the Am. Soc. Agronomy Meetings, San Antonio. TX.
  91. Wutthida Rattanapichai, Scott B. Jones, Bill Mace and Markus Tuller. 2011. An Automated Microlysimeter for Long-term Monitoring of Soil Evaporation. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
  92. Yang, Y.2, and O. Wendroth. 2011. Spatial variability of wet-range soil hydraulic conductivity as affected by land use. Oral presentation, Annual Meeting, ASA-CSSA-SSSA, Oct. 16-19, 2011, San Antonio, Texas.
  93. Young, M.H T. G. Caldwell, L. Chen, D.S. Shafer, J.J. Miller, W.J. Meyer. 2011. Multi-scale characterization of arid soil properties for predicting hydrologic processes. Extended abstract, Presented at the ASCE EWRI conference, Singapore.
  94. Young, M.H. R. Green, M. McCullough, D.A. Devitt, J.F. Healey. 2011. Field-Scale Monitoring of PPCP/EDC Transport at Active Golf Course Sites. Presented at the Am. Soc. Agronomy Meetings, San Antonio. TX.
  95. Young, M.H., D. Or, J.W. Hopmans. 2011. The Future of Soil in Earth Sciences. Presented at the Geological Society Am. Meetings, Minneapolis, MN.
  96. Young, M.H., J.-P. Nicot. 2011. Above-Ground Energy/Water Aspects of Unconventional Gas and Hydrofracing. Presented at the Assoc. Am State Geologists National Meeting, Dubuque, IA, June 2011.
  97. Zhang, R., J. Zhu, and L. Shu, Significance of conduit flow in a highly heterogeneous karst basin, American Geophysical Union Fall Meeting, December 5–9, 2011, San Francisco, California, U.S.A.
  98. Zhu, J., and D. Sun, Soil hydraulic parameters for moisture redistribution in heterogeneous landscape, ASA-CSSA-SSSA 2011 International Annual Meetings, October 16 – 19, 2011, San Antonio, Texas, U.S.A.

99. Zhu, J., and M. Young, Impacts of riparian zone plant water use on fractal dynamics of groundwater levels, American Geophysical Union Fall Meeting, December 5–9, 2011, San Francisco, California, U.S.A.
100. Zhu, J., and M. Young, Riparian zone evapotranspiration and groundwater system dynamics, 96th ESA Annual Meeting, August 7–12, 2011, Austin, Texas, U.S.A.

#### ***Technical Reports and Patent Applications***

1. Langergraber, G., and J. Šimůnek, The HYDRUS Wetlands Module, Version 2, *HYDRUS Software Series 4*, Department of Environmental Sciences, University of California Riverside, Riverside, CA, 56 pp., 2011.
2. Šimůnek, J., M. Th. van Genuchten, and M. Šejna, The HYDRUS Software Package for Simulating Two- and Three-Dimensional Movement of Water, Heat, and Multiple Solutes in Variably-Saturated Media, Technical Manual, Version 2.0, PC Progress, Prague, Czech Republic, pp. 258, 2011.
3. Šejna, M., J. Šimůnek, and M. Th. van Genuchten, The HYDRUS Software Package for Simulating Two- and Three-Dimensional Movement of Water, Heat, and Multiple Solutes in Variably-Saturated Media, User Manual, Version 2.0, PC Progress, Prague, Czech Republic, pp. 280, 2011.
4. Evett, S.R., S.K. Anderson, J.J. Casanova and R.C. Schwartz. 2011b. Provisional patent application serial No. 61/515,381 - Filed 1 August 2011. Entitled "Soil Water and Conductivity Sensing System".
5. Schwartz, R.C., and S.R. Evett. 2011. Combined use of neutron thermalization and electromagnetic sensing in assessing soil water dynamics. Pp. 18-19 In *Soils Newsletter*, Vol. 34, No. 1, July 2011. Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture and FAO/IAEA Agriculture and Bio-technology Laboratory, Seibersdorf, Austria.
6. Jones, S.B. C.B. Yang, M. Sakai and F. Silfa. 2011. Systems and Methods for Determining Soil Thermal Properties and Water Flux Using a Multi-Needle Heat Pulse Probe. *US Provisional Patent Application No: 61/510,770*, filed July 22, 2011.