

- 1) Arnold, B. A., S. P. Kuzio, and, B. A. Robinson. Radionuclide Transport Simulation and Uncertainty Analyses with the Saturated-Zone Site-Scale Model at Yucca Mountain, Nevada, *J. Contam. Hydrol.*, 62-63, 401-419. (2003).
- 2) Auer, L.A., N.D. Rosenberg, K.H. Birdsell, and E.M. Whitney. The Effects of Barometric Pumping on Contaminant Transport, *J. Contam. Hydrol.* 24:145-166. (1996).
- 3) Bach, W., S. E. Humphris, and A. T. Fisher, Fluid flow and fluid-rock interaction within oceanic crust: reconciling geochemical, geological and geophysical observations, in *Subseafloor Biosphere at Mid-ocean Ridges*, edited by C. Cary, et al., pp. 99-117, American Geophysical Union, Washington, D.C. (2004).
- 4) Bower, K.M., Gable, C.W., Zyvoloski G.A., Grid resolution study of ground water flow and transport, *Ground Water*, 43(1), 122-132. (2005).
- 5) Birdsell KH, Newman BD, Broxton DE, Robinson BA. Conceptual models of vadose zone flow and transport beneath the Pajarito Plateau, Los Alamos, NM. *Vadose Zone J* ;4:620–36. (2005).
- 6) Birdsell, K.H., A.V. Wolfsberg, D. Hollis, T.A. Cherry, and K.M. Bower. Groundwater Flow and Radionuclide Transport Calculations for a Performance Assessment of a Low- Level Waste Site. *J. Contam. Hydrol.* 46:99-129. (2000).
- 7) Bower KM, Gable C, Zyvoloski G. Grid resolution study of groundwater flow and transport. *Groundwater*;43(1):122–32. (2005).
- 8) Chen, M., A. A., Keller, D. Zhang, Z. Lu, and G. A. Zyvoloski, A stochastic analysis of transient two-phase flow in heterogeneous porous media <http://www.ees.lanl.gov/staff/zhiming/Paper2006/Chen_2phase_vG.pdf>, *Water Resources Research*, 42, W03425, doi:10.1029/2005WR004257, (2006).
- 9) Dai, Z., A. Wolfsberg, Z. Lu, and P. Reimus, Upscaling matrix diffusion coefficients for heterogeneous fractured rocks, *Geophysical Research Letters*, 34, L07408, doi:10.1029/2007GL029332, (2007).
- 10) Eddebbarh, A. A., G. A. Zyvoloski, B. A. Robinson, E. M. Kwicklis, P. W. Reimus, B. W. Arnold, T. Corbet, S. P. Kuzio, and C. Faunt. The Saturated Zone at Yucca Mountain: An Overview of the Characterization and Assessment of the Saturated Zone as a Barrier to Potential Radionuclide Migration, *J. Contam. Hydrol.*, 62-63, 477-493. (2003).
- 11) Fabryka-Martin, J.T. ; Wolfsberg, A.V. ; Levy, S.S. ; Roach, J.L. ; Winters, S.T. ; et al. Distribution of fast hydrologic paths in the unsaturated zone at

- Yucca Mountain. High-Level Radioactive Waste Management. Proceedings of the Eighth International Conference p.93-6. (1998).
- 12) Fisher, A. T., E. E. Davis, and K. Becker, Borehole-to-borehole hydrologic response across 2.4 km in the upper oceanic crust: implications for crustal-scale properties, *J. Geophys. Res.*, 113, doi:10.1029/2007JB005447. (2008)
 - 13) Fisher, A. T., and R. Von Herzen, Models of hydrothermal circulation within 106 Ma seafloor: constraints on the vigor of fluid circulation and crustal properties below the Madeira Abyssal Plain, *Geochemistry Geophysics Geosystems (G3)*, 6(11), 10.1029/2005GC001013. (2005)
 - 14) Fisher, A. T., Marine hydrogeology: Future prospects for major advances, *Hydro. J.*, 13, 69-97, DOI: 10.1007/s10040-10004-10400-y. (2005)
 - 15) Fisher, A. T., Rates and patterns of fluid circulation, in *Hydrogeology of the Oceanic Lithosphere*, edited by E. E. Davis and H. Elderfield, pp. 339-377, Cambridge University Press, Cambridge, UK. (2004)
 - 16) Fisher, A. T., C. A. Stein, R. N. Harris, K. Wang, E. A. Silver, M. Pfender, M. Hutnak, A. Cherkaoui, R. Bodzin, and H. Villinger, Abrupt thermal transition reveals hydrothermal boundary and role of seamounts within the Cocos Plate, *Geophys. Res. Lett.*, 30(11), 1550, doi:1510.1029/2002GL016766. (2003)
 - 17) Fisher, A. T., Geophysical constraints on hydrothermal circulation: observations and models, in *Energy and mass transfer in submarine hydrothermal systems*, edited by P. Halbach, et al., pp. 29-52, Dahlem University Press, Berlin, Germany. (2003)
 - 18) Fisher, A. T., Permeability within basaltic oceanic crust, *Rev. Geophys.*, 36(2), 143-182. (1998).
 - 19) Harris, R. N., A. T. Fisher, and D. Chapman, Fluid flow through seamounts and implications for global mass fluxes, *Geology*, 32 (8), 725-728, doi:710.1130/G20387.20381. (2004)
 - 20) Hutnak, M., A. T. Fisher, C. A. Stein, R. Harris, K. Wang, E. Silver, G. Spinelli, M. Pfender, H. Villinger, R. MacKnight, P. Costa Pisani, H. DeShon, and C. Diamente, The thermal state of 18-24 Ma upper lithosphere subducting below the Nicoya Peninsula, northern Costa Rica margin, in *MARGINS Theoretical Institute: SIEZE Volume*, edited by T. Dixon, et al., pp. 86-122, Columbia University Press, New York. (2007)
 - 21) Hutnak, M., A. T. Fisher, L. Zühlendorff, V. Spiess, P. Stauffer, and C. W. Gable, Hydrothermal recharge and discharge guided by basement outcrops on 0.7-3.6 Ma seafloor east of the Juan de Fuca Ridge: observations and

- numerical models, *Geochemistry Geophysics Geosystems (G3)*, 7, doi:10.1029/2006GC001242. (2006).
- 22) Fessenden, J.E., Stauffer, P.H., and H.S Viswanathan, Natural Analogs of Geologic CO₂ Sequestration: Some General Implications for Engineered Sequestration. In AGU Monograph on CO₂ Sequestration, In Press (2008).
- 23) Harp D. R., Z. Dai, A. V. Wolfsberg, J. A. Vrugt, B. A. Robinson, V. V. Vesselinov, Aquifer structure identification using stochastic inversion, *Geophysical Research Letters*, 35, L08404, doi:10.1029/2008GL033585, (2008).
- 24) Keating, E. H., B. A. Robinson, and V. V. Vesselinov. Development and application of numerical models to estimate fluxes through the regional aquifer beneath the Pajarito Plateau, *Vadose Zone J.*, 4, 3, 653-671. (2005).
- 25) Keating, E., Vesselinov, V.V., Kwicklis, E., Lu, Z., Coupling a large-scale basin model with a high resolution local model using a finite-element flow and transport solver (FEHM) and an automated parameter estimator (PEST). *ModFlow 2001 and Other Modeling Odysseys* (ed. Seo, S., Poeter, E.P., Zheng, C.), International Ground Water Modeling Center, Colorado School of Mines, Golden, CO, v. I, pp. 168-173, 2001.
- 26) Keating, E.H., Vesselinov, V.V., Sources of uncertainty in well capture zone predictions, *Modflow and More 2003: Understanding through Modeling*, (ed. Poeter, E., Zheng, C., Hill, M., Doherty, J., and Seo, S.) International Ground Water Modeling Center, Colorado School of Mines, Golden, CO, v. I, pp. 538-543, 2003.
- 27) Keating, E.H., Vesselinov, V.V., Kwicklis, E., Lu, Z., Coupling large- and local-scale inverse models of the Española basin, *Ground Water*, 41(2), pp. 200-211, 2003.
- 28) Kwicklis, E.M., A.V. Wolfsberg, P.H. Stauffer, M.A. Walvroord, and M.J. Sully, Multiphase Multicomponent Parameter Estimation for Liquid and Vapor Fluxes in Deep Arid Systems Using Hydrologic Data and Natural Environmental Traces, *Vadose Zone Journal*, 2006 5:934-950. (2006).
- 29) Lichtner, P.C.; Kelkar, S.; and Robinson, B. "New Form of Dispersion Tensor for Axisymmetric Porous Media with Implementation in Particle Tracking." *Water Resources Research*, 38, (8), 21-1 through 21-16. Washington, D.C.: American Geophysical Union. TIC: 254597. (2002)
- 30) Lu, Z. and D. Zhang, Analytical solutions of statistical moments for transient flow in two-dimensional bounded, randomly heterogeneous media <<http://www.ees.lanl.gov/staff/zhiming/Paper2005/ana2d.pdf>>, *Water Resources Research*, 41, W01016, doi:10.1029/2004WR3389, (2005).

- 31) Lu, Z. , and D. Zhang, A comparative study on quantifying uncertainty of flow in heterogeneous media using Monte Carlo simulations, the conventional and the KL-based moment-equation approaches <<http://www.ees.lanl.gov/staff/zhiming/Paper2004/SIAM.pdf>>, SIAM J. on Scientific Computing, 26(2), 558-577, (2004).
- 32) Lu, Z. and D. Zhang, Conditional simulations of flow in randomly heterogeneous porous media using a KL-based moment-equation approach <http://www.ees.lanl.gov/staff/zhiming/Paper2004/KL_COND.pdf>, Advances in Water Resources, 27(9), 859-874, (2004).
- 33) Lu, Z. , and D. Zhang, Stochastic studies of well capture zones in bounded heterogeneous media <<http://www.ees.lanl.gov/staff/zhiming/Paper2003/2002WR001633.pdf>>, Water Resour. Res., 39(4), 1100, doi:10.1029/2002WR001633, (2003).
- 34) Lu, Z. , and D. Zhang, Stochastic analysis of transient flow in heterogeneous variably saturated porous media: the van Genuchten-Mualem constitutive model <<http://www.ees.lanl.gov/staff/zhiming/Paper2002/VZJ137.pdf>>, Vadose Zone Journal, 1, 137-149. (2002).
- 35) Lu, Z. , and D. Zhang, On stochastic modeling of flow in multimodal heterogeneous formations <<http://www.ees.lanl.gov/staff/zhiming/Paper2002/2001WR001026.pdf>>, Water Resour. Res., 38(10), 1190, doi:10.1029/2001WR001026. (2002).
- 36) Miller, T.A., V. V. Vesselinov, P.H. Stauffer, K. H. Birdsell, and C. W. Gable, INTEGRATION OF GEOLOGIC FRAMEWORKS IN MESHING AND SETUP OF COMPUTATIONAL HYDROGEOLOGIC MODELS, PAJARITO PLATEAU, NEW MEXICO, *New Mexico Geological Society Guide Book, 58th Field Conference*, Geology of the Jemez Mountains Region III (2007).
- 37) Morales-Casique, E., Neuman, S.P., Vesselinov, V.V., Maximum likelihood Bayesian averaging of air flow models in unsaturated fractured tuff, pp.70-75, IAHS Publication 320, ISBN 978-1-901502-49-7, 2008.
- 38) Neeper, DA; and Stauffer, P, Unidirectional gas flow in soil porosity resulting from barometric pressure cycles, *Journal of Contaminant Hydrology*; v.78, no.4, p.281-289. (2005).
- 39) Neuman, S.P., Illman, W.A., Vesselinov, V.V., Thompson, D.L, Chen, G., Guzman, A., Lessons learned from field studies at the Apache Leap Research Site in Arizona, in *Conceptual Models of Flow and Transport in the Fractured Vadose Zone*, National Research Council, National Academy Press, Washington, DC, pp. 295-334, 2001.

- 40) Pawar, R.J., and G.A. Zyvoloski. 2006. A novel method to couple wellbore flow to reservoir flow p. 1 –8. *In* P.J. Binning et al. (ed.) Proc. Int. Conf. on Computational Methods in Water Resour., 16th, Copenhagen, Denmark. 19–22 June 2006. Available at proceedings.cmrwxvi.org/getFile.py/access?contribId=305&sessionId=10&resId=0&materialId=paper&confId=a051 (verified 23 Apr. 2008). Technical Univ. of Denmark, Lyngby. (2006) .
- 41) Robinson, BA ; Wolfsberg, AV ; Viswanathan, HS ; Reimus, PW . A colloid-facilitated transport model with variable colloid transport properties. *GEOPHYSICAL RESEARCH LETTERS* Vol.34, iss.9 (2007).
- 42) Robinson, BA; Cole, G; Carey, JW; Witkowski, M; Gable, CW; Lu, ZM; Gray, R, A vadose zone flow and transport model for Los Alamos Canyon, Los Alamos, New Mexico *VADOSE ZONE JOURNAL*; v.4, no.3, p.729-743. (2005).
- 43) Robinson, BA ; Cole, G ; Carey, JW ; Witkowski, M ; Gable, CW ; et al. A vadose zone flow and transport model for Los Alamos Canyon, Los Alamos, New Mexico. *VADOSE ZONE JOURNAL* Vol.4, iss.3, p.729-743. (2005).
- 44) Robinson, BA ; Broxton, DE ; Vaniman, DT. Observations and modeling of deep perched water beneath the Pajarito Plateau. *VADOSE ZONE JOURNAL* Vol.4, iss.3, p.637-652. (2005).
- 45) Robinson, BA ; McLin, SG ; Viswanathan, HS. Hydrologic behavior of unsaturated, fractured tuff: Interpretation and modeling of a wellbore injection test. *VADOSE ZONE JOURNAL* Vol.4, iss.3, p.694-707. (2005).
- 46) Robinson, B.A., and H.S. Viswanathan. Application of the theory of micromixing to groundwater reactive transport models. *Water Resour. Res.* 39(11):1313, doi:10.1029/2003WR002368. (2003).
- 47) Robinson, B. A., C. Li, and C. K. Ho. Performance Assessment Model Development and Analysis of Radionuclide Transport in the Unsaturated Zone, Yucca Mountain, Nevada, *J. Contam. Hydrol.*, 62-63, 249-268. (2003).
- 48) Robinson, BA ; Viswanathan, HS ; Valocchi, AJ. Efficient numerical techniques for modeling multicomponent ground-water transport based upon simultaneous solution of strongly coupled subsets of chemical components. *ADVANCES IN WATER RESOURCES* Vol.23, iss.4, p.307-324. (2000).
- 49) Robinson, B.A., and G.Y. Bussod, 2000. "Radionuclide Transport in the Unsaturated Zone at Yucca Mountain: Numerical Model and Preliminary Field Observations," in *Dynamics of Fluids in Fractured Rock*, Geophysical Monograph 122, second edition, B. Faybishenko, P.A.

- Witherspoon, and S.M. Benson (Eds.), American Geophysical Union, Washington, D.C., pp. 323-336. (2000).
- 50) Robinson, B. A., H. S. Viswanathan, and A. J. Valocchi. Efficient Numerical Techniques for Modeling Multicomponent Ground-Water Transport Based Upon Simultaneous Solution of Strongly Coupled Subsets of Chemical Components, *Adv. In Water Resour.*, 23, 307-324.(2000).
- 51) Robinson, B.A. ; Wolfsberg, A.V. ; Gable, C.W. ; Viswanathan, H.S. Radionuclide transport in the unsaturated zone at Yucca Mountain . High-Level Radioactive Waste Management. Proceedings of the Eighth International Conference p.156-8. (1998).
- 52) Robinson, B. A. A Strategy for Validating a Conceptual Model for Radionuclide Migration in the Saturated Zone Beneath Yucca Mountain, *Rad. Waste Manag. and Environ. Restor.*,19, 73-96. (1994).
- 53) Rosenberg, N., A. T. Fisher, and J. Stein. Large-scale lateral heat and fluid transport in the seafloor: revisiting the well-mixed aquifer model, *Earth Planet. Sci. Lett.*, 182, 93-101. (2000).
- 54) Sakamoto, Y., T. Komai, T. Kawamura, H. Minagawa, and N. Tenma et al. Modification of permeability model and history matching of laboratory-scale experiment for dissociation process of methane hydrate: Part 2 - Numerical study for estimation of permeability in methane hydrate reservoir, *Int. J. Offshore Polar Eng.* (2007) .
- 55) Soll, W., and K. Birdsell. The Influence of Coatings and Fills on Flow in Fractured, Unsaturated Tuff Porous Media Systems. *Water Resources Research*, Vol. 34, No. 2, pp. 193-202. (1998).
- 56) Spinelli, G. A., and A. T. Fisher (2004), Hydrothermal circulation within rough basement on the Juan de Fuca Ridge flank, *Geochem., Geophys., Geosystems*, 5(2), Q02001, doi:02010.01029/02003GC000616. (2004).
- 57) Stauffer, P.H., H.S Viswanathan, R.J. Pawar, and G.D. Guthrie, A system model for geologic sequestration of carbon dioxide. *Environ. Sci. Technol.*, ASAP (12/17/08). **DOI:** 10.1021/es800403w
- 58) Stauffer, P.H., J.A. Vrugt, H.J. Turin, C.W. Gable, and W.E. Soll, Untangling diffusion from advection in unsaturated porous media: Experimental data, modeling, and parameter uncertainty assessment. *Vadose Zone J.*, In Press (2008).
- 59) Stauffer, P.H., J.K., Hopkins, and T. Anderson, “A Soil Vapor Extraction Pilot Study in a Deep Arid Vadose Zone Part 2: Simulations in Support of Decision Making Processes”, in Proceedings of the Waste Management

- Conference, paper 7185, Tucson AZ, Feb 26-March 1 2007, 19 pages. (2007).
- 60) Stauffer, P.H, H.S. Viswanathan, R.J. Pawar, M.L. Klasky, and G.D. Guthrie M. Klasky. CO₂-PENS: A CO₂ Sequestration Systems Model Supporting Risk-Based Decisions, in Proceedings of the XVI International Conference on Comp. Methods in Water Resources, edited by P. J. Binning P. K. Engesgaard, H.K. Dahle, G. F. Pinder and W.G. Gray. Copenhagen, Denmark. 8 pages (2006).
- 61) Stauffer, P.H., K.H. Birdsell, M.S. Witkowski, and J. K. Hopkins, Vadose Zone Transport of 1,1,1-Trichloroethane: Conceptual Model Validation through Numerical Simulation, *Vadose Zone Journal* 2005 4: 760-773. (2005).
- 62) Stauffer, P.H. and W. J. Stone, Surface Water\Groundwater Connection at the Los Alamos Canyon Weir Site: Part 2. Modeling of Tracer Test Results, *Vadose Zone Journal* 2005 4: 718-728. (2005).
- 63) Stauffer P.H., and Rosenberg, N.D., Vapor phase transport at a hillside landfill, *Environmental and Engineering Geoscience*, Vol. VI, No. 1, p. 71-84. (2000).
- 64) Stauffer P.H., Auer, L.H., and Rosenberg, N.D., Compressible gas in porous media: A finite amplitude analysis of natural convection, *Int. J. of Heat and Mass Transfer*, 40 (7), 1585-1589. (1997).
- 65) Stein, J. S., and A. T. Fisher (2001), Multiple scales of hydrothermal circulation in Middle Valley, northern Juan de Fuca Ridge: physical constraints and geologic models, *J. Geophys. Res.*, 106 (B5), 8563-8580.
- 66) Stein, J. S., and A. T. Fisher (2003), Observations and models of lateral hydrothermal circulation on a young ridge flank: numerical evaluation of thermal and chemical constraints, *Geochem., Geophys., Geosystems*, 10.1029/2002GC000415.
- 67) Tenma, N., T. Yamaguchi, and G. Zyvoloski, The Hijiori Hot Dry Rock test site, Japan Evaluation and optimization of heat extraction from a two-layered reservoir, *Geothermics*, 37 p.19-52. (2008)
- 68) Tseng, PH ; Soll, WE ; Gable, CW ; Turin, HJ ; Bussod, GY ; et al. Modeling unsaturated flow and transport processes at the Busted Butte Field Test Site, Nevada. *JOURNAL OF CONTAMINANT HYDROLOGY* Vol.62-3, spec. iss.SI, p.303-318. (2003.)
- 69) Tseng, PH ; Bussod, GY. Evaluation of the filter paper technique for in situ sampling of solute transport in unsaturated soils and tuffs. *WATER RESOURCES RESEARCH* Vol.37, iss.7, p.1913-1928. (2001).

- 70) Tseng, PH ; Zyvoloski, GA. A reduced degree of freedom method for simulating non-isothermal multi-phase flow in a porous medium. *ADVANCES IN WATER RESOURCES* Vol.23, iss.7, p.731-745. (2000).
- 71) Valentine, G. A., D. Zhang, and B. A. Robinson. Modeling Complex, Nonlinear Geological Processes, *Annual Reviews Earth and Planet. Sci.*, 30, 35-64. (2002).
- 72) Vesselinov, V.V., Uncertainties In Transient Capture-Zone Estimates, *Computational Methods in Water Resources XVI*, (edited by P. Binning, P. Engesgaard, H. Dahle, G. Pinder & W. Gray), Balkema, Rotterdam, ISBN 90-5809-124-4, pp. 307-314, 2006.
- 73) Vesselinov, V.V., Robinson, B.A., Delineation of capture zones in transient groundwater flow systems, *ModelCARE 2005 Calibration and reliability in groundwater modeling: From uncertainty to decision making* (edited by M.Bierkens et al.), pp. 246-252, IAHS Publication 304, ISSN 0144-7815, 2006.
- 74) Vesselinov, V.V., Estimation of parameter uncertainty using inverse model sensitivities, *Computational Methods in Water Resources XV (CMWR 2004)* (ed. Miller, C., Farthing, M.W., Gray, W.G., Pinder, G.), Elsevier, ISBN 0-444-51839-8, pp. 508-514, 2004.
- 75) Vesselinov, V.V., Keating, E.H., Zyvoloski, G.A., Analysis of model sensitivity and predictive uncertainty of capture zones in the Española Basin regional aquifer, Northern New Mexico, *ModelCARE 2002 Calibration and reliability in groundwater modelling: A few steps closer to reality* (edited by K. Kovar & Z. Hrkal), IAHS Publication 277, ISBN 1-901-502-07-4, pp. 508-514, 2003.
- 76) Vesselinov, V.V., Neuman, S.P., Numerical inverse interpretation of single-hole pneumatic tests in unsaturated fractured tuff, *Ground Water*, 36(5), pp 685-695, 2001.
- 77) Vesselinov, V.V., Neuman, S.P., Illman, W.A., Three-dimensional numerical inversion of pneumatic cross-hole tests in unsaturated fractured tuff: 1. Methodology and borehole effects, *Water Resources Research*, 37(12), pp 3001-3018, 2001.
- 78) Vesselinov, V.V., Neuman, S.P., Illman, W.A., Three-dimensional numerical inversion of pneumatic cross-hole tests in unsaturated fractured tuff: 2. Equivalent parameters, high-resolution stochastic imaging and scale effects, *Water Resources Research*, 37(12), pp 3019-3042, 2001.
- 79) Vesselinov, V.V., Neuman, S.P., Illman, W.A., Three-dimensional inverse modeling of air injection tests in unsaturated fractured rocks, *ModelCARE 99 Calibration and reliability in groundwater modelling: Coping with*

- uncertainty (edited by F. Stauffer, W. Kinzelbach, K. Kovar & E. Hoehn), IAHS Publication no. 265, IAHS Press, Wallingford, Oxfordshire, UK, pp. 263-249, 2000.
- 80) Vesselinov, V.V., Neuman, S.P., Illman, W.A., Zyvoloski, G.A., Three-dimensional inversion of pneumatic tests in fractured rocks, *Computational Methods in Water Resources XIII (CMWR 2000)* (edited by L. R. Bentley, J. F. Sykes, W. G. Gray, C. A. Brebbia & G. F. Pinder), Balkema, Rotterdam, ISBN 90-5809-124-4, pp. 307-314, 2000.
- 81) Viswanathan, H.S., R.J. Pawar, P. H. Stauffer, J.P. Kaszuba, J.W. Carey, S.C. Olsen, G.N. Keating, D. Kavestski, and G.D. Guthrie, Development of a hybrid process and system model for the assessment of wellbore leakage at a geologic CO₂ sequestration site, *Environ. Sci. Technol.*, 42, 7280-7286 (2008).
- 82) Viswanathan, HS ; Valocchi, AJ. Comparison of streamtube and three-dimensional models of reactive transport in heterogeneous media. *JOURNAL OF HYDRAULIC RESEARCH* (2004) Vol.42, spec. iss.SI, p.141-145. (2004).
- 83) Viswanathan, HS; Robinson, BA; Gable, CW; Carey, JW, A geostatistical modeling study of the effect of heterogeneity on radionuclide transport in the unsaturated zone, Yucca Mountain, *Journal of Contaminant Hydrology*; v.62-63, p.319-336. (2003).
- 84) Viswanathan, HS ; Robinson, BA ; Valocchi, AJ ; Triay, IR. A reactive transport model of neptunium migration from the potential repository at Yucca Mountain. *JOURNAL OF HYDROLOGY* (AUG 1998) Vol.209, iss.1-4, p.251-280. (1998).
- 85) Vrugt, J.A., P. H. Stauffer, Th. Wöhling, B. A. Robinson, and V. V. Vesselinov, Inverse Modeling of Subsurface Flow and Transport Properties Using Recent Advances in Global Optimization, Parallel Computing, and Sequential Data Assimilation, *Vadose Zone J.*, 7(2), 843-864 (2008) .
- 86) Vrugt, J. A., M. P. Clark, C. G. H. Diks, Q. Duan, and B. A. Robinson, Multi-objective calibration of forecast ensembles using Bayesian model averaging, *Geophys. Res. Lett.*, 33, 19, L19817, doi:10.1029/2006GL027126. (2006).
- 87) Vrugt, J. A. B. A. Robinson, and V. V. Vesselinov. Improved inverse modeling for flow and transport in subsurface media: Combined parameter and state estimation, *Geophys. Res. Lett.*, 32,18, L18408. (2005).
- 88) Walvoord, MA ; Plummer, MA ; Phillips, FM ; Wolfsberg, AV. Deep arid system hydrodynamics - 1. Equilibrium states and response times in thick

- desert vadose zones . WATER RESOURCES RESEARCH Vol.38, iss.12, p.1308-1308. (2002).
- 89) Wolfsberg, AV ; Fabryka-Martin, JT ; Levy, SS. Use of chlorine-36 and other geochemical data to test a groundwater flow model for Yucca Mountain, Nevada. RADIOACTIVE WASTE MANAGEMENT p.243-255. (1999).
- 90) Wolfsberg, AV ; Robinson, BA ; FabrykaMartin, JT. Migration of solutes in unsaturated fractured rock at Yucca Mountain: Measurements, mechanisms, and models. MATERIALS RESEARCH SOCIETY SYMPOSIUM PROCEEDINGS Vol.412, p.707-714. (1996).
- 91) Zhang, D. and Lu, Z. , An efficient, higher-order perturbation approach for flow in randomly heterogeneous porous media via Karhunen-Loeve decomposition
<<http://www.ees.lanl.gov/staff/zhiming/Paper2004/JCP2004.pdf>>, Journal of Computational Physics, 194(2), 773-794, 2004.
- 92) Zhang, D. and Lu, Z. , Stochastic delineation of well capture zones
<<http://www.ees.lanl.gov/staff/zhiming/Paper2004/SERRA2004.pdf>>, Stochastic Envir. Res. and Risk Assessment, 18(1), 39-46, 2004.
- 93) Zhang Y., Person M., Gable C.W., Representative Hydraulic Conductivity Of Hydrogeologic Units: Insights From An Experimental Stratigraphy. J. Hydrology, 339, P65-78, doi:10.1016/j.jhydrol.2007.03.007. (2007).
- 94) Zhang Y., Person M., Gable C.W., Equivalent hydraulic conductivity of an experimental stratigraphy: Implications for basin-scale flow simulations. Water Resour. Res., 42, W05404, doi:10.1029/2005WR004720. (2006).
- 95) Zhang Y, Person M., Paola C., Gable C.W., Wen X-H., Davis J.M., Geostatistical Analysis of an Experimental Stratigraphy. Water Resour. Res., 41, W11416, doi:10.1029/2004WR003756. (2004).
- 96) Zyvoloski, G.A.; Bruce A. Robinson a, Hari S. Viswanathan, Generalized dual porosity: A numerical method for representing spatially variable sub-grid scale processes. Advances in Water Resources 31, 535-544 (2008).
- 97) Zyvoloski, G.A., Vesselinov, V.V., An investigation of numerical grid effects in automated calibration, Ground Water, (Special issue: Modflow and More 2003: Understanding through Modeling), v.44, no.6, p.814-825, 2006.
- 98) Zyvoloski, G., E. Kwicklis, A. A. Eddebarh, B. Arnold, C. Faunt, and B. A. Robinson. The Site-Scale Saturated Zone Flow Model for Yucca Mountain: Calibration of Different Conceptual Models and Their Impact on Flow Paths, J. Contam. Hydrol., 62-63, 731-750. (2003).