

Curriculum Vitae

MICHAEL C. SUKOP, DEPARTMENT OF EARTH SCIENCES
Florida International University

EDUCATION

Degree	Institution	Field	Dates
PhD	University of Kentucky	Soil Science	1997-2001
MS	Washington State University	Soil Science	1986-1989
BS	The Pennsylvania State Univ.	Geological Science	1980-1982

FULL-TIME ACADEMIC EXPERIENCE

Institution	Rank	Field	Dates (M/Y)
Florida Intl. Univ.	Assistant Professor	Earth Sciences	8/2003-9/2008
Univ. of Connecticut	Postdoctoral Fellow	Civil/Environ Eng	7/2002-7/2003
Utah State Univ.	Postdoctoral Fellow	Soil Physics	7/2001-8/2002

PART-TIME ACADEMIC EXPERIENCE

Institution	Rank	Field	Dates
N/A			

NON-ACADEMIC EXPERIENCE

Place of Employment	Title	Dates
CH2M HILL Engineering, Redding CA	Hydrogeologist/ Soil Scientist	1989-1997
Donohue and Associates Engineering, Sheboygan WI	Hydrogeologist	1984-1986

EMPLOYMENT RECORD AT FIU

Rank	Dates
Assistant Professor	2003-2009

PUBLICATIONS IN DISCIPLINE

Books

Sukop, M.C. and D.T. Thorne, Jr., 2006 (second printing 2007). Lattice Boltzmann Modeling: An Introduction for Geoscientists and Engineers. Springer, Heidelberg, Berlin, New York 172 p.

Articles. Supervised students and post-docs underlined

Langevin, C.D., Dausman, A.M., and **Sukop, M.C.**, 2009, Solute and Heat Transport Model of the Henry and Hilleke Laboratory Experiment. *Ground Water*, in press. 14 p. Published Online: Jun 29 2009. [doi: 10.1111/j.1745-6584.2009.00596.x](https://doi.org/10.1111/j.1745-6584.2009.00596.x)

Sukop, M.C., 2009. Review of *Randomnicity: Rules and Randomness in the Realm of the Infinite* by Anastasios Tsonis, submitted to *Vadoze Zone Journal* (invited book review)

Bardsley, K.J., **M.C. Sukop**, A.M. Dausman, C.D. Langevin, 2009. Simulating Variable-density Flow Problems Using Lattice Boltzmann Methods (invited submission to special issue of *Hydrogeology Journal*)

Cihan, A., **M.C. Sukop**, J.S. Tyner, E. Perfect, and H. Huang, 2009. Analytical predictions and lattice Boltzmann simulations of intrinsic permeability for mass fractal porous media. *Vadose Zone J* 7(1):187–196. [doi: 10.2136/vzj2008.0003](https://doi.org/10.2136/vzj2008.0003)

Anwar, S. and **M.C. Sukop**, 2009. Regional scale transient groundwater flow modeling using lattice Boltzmann methods. *Computers & Mathematics with Applications*, 58:1015-1023., <http://dx.doi.org/10.1016/j.camwa.2009.02.025>

Anwar, S. and **M.C. Sukop**, 2008. Lattice Boltzmann models for flow and transport in saturated karst, *Ground Water* 47(3):401-413. [doi: 10.1111/j.1745-6584.2008.00514.x](https://doi.org/10.1111/j.1745-6584.2008.00514.x)

Cunningham, K.J., **M.C. Sukop**, H. Huang, P.F. Alvarez, H. A. Curran, J.F. Dixon, and R.A. Renken, 2008. Prominence of ichnologically-influenced macroporosity in the karst Biscayne aquifer: stratiform "super-K" zones, *Geological Society of America Bulletin* 121:1-2, 164-235. [doi: 10.1130/B26392.1](https://doi.org/10.1130/B26392.1)

Anwar, S., A. Cortis, and **M.C. Sukop**, 2008. Lattice Boltzmann Simulation of Solute Transport in Heterogeneous Porous Media with Conduits to Estimate Macroscopic Continuous Time Random Walk Model Parameters, *Progress in Computational Fluid Dynamics* 8:1-2, 213 - 221. [doi: 10.1504/PCFD.2008.018092](https://doi.org/10.1504/PCFD.2008.018092)

- Sukop, M.C., H. Huang, C.L. Lin, M.D. Deo, K. Oh, and J.D. Miller, 2008.** Distribution of multiphase fluids in porous media: Comparison between lattice Boltzmann modeling and micro-x-ray tomography, *Phys. Rev. E* 77, 026710, 7p. doi: [10.1103/PhysRevE.77.026710](https://doi.org/10.1103/PhysRevE.77.026710).
- Huang, H., D.T. Thorne, M.G. Schaap, and M.C. Sukop, 2007.** Proposed approximation for contact angles in Shan-and-Chen-type multicomponent multiphase lattice Boltzmann models, *Phys. Rev. E* 76, 066701, 6p. doi: [10.1103/PhysRevE.76.066701](https://doi.org/10.1103/PhysRevE.76.066701)
- Thorne, Jr., D.T., C.D. Langevin, and M.C. Sukop, 2006.** Addition of Simultaneous Heat and Solute Transport and Variable Fluid Viscosity to SEAWAT. *Computers and Geosciences* 32, 1758–1768. doi:[10.1016/j.cageo.2006.04.005](https://doi.org/10.1016/j.cageo.2006.04.005)
- Perfect, E., R.W. Gentry, M.C. Sukop, and J.E. Lawson, 2006.** Multifractal Sierpinski Carpets: theory and application to upscaling effective saturated hydraulic conductivity. *Geoderma* 134, 240-252. doi: [10.1016/j.geoderma.2006.03.001](https://doi.org/10.1016/j.geoderma.2006.03.001)
- Chau, J.F., D. Or, and M.C. Sukop, 2005.** Simulation of Gaseous Diffusion in Partially Saturated Porous Media Under Variable Gravity with Lattice Boltzmann Methods. *Water Resources Research* 41, W08410, 11p. doi: 10.1029/2004WR003821
- Sukop, M.C. and D. Or, 2005.** Lattice Boltzmann method for homogeneous and heterogeneous cavitation. *Physical Review E*, 71, 046703, 5p.
- Sukop, M.C. and D. Or, 2004.** Lattice Boltzmann method for modeling liquid-vapor interface configurations in porous media, *Water Resources Research*, 40, W01509, 11p. doi: 10.1029/2003WR002333.
- Sukop, M.C. and D. Or, 2003.** Invasion percolation of single component, multiphase fluids with lattice Boltzmann models. *Physica B* 338, 298-303.
- Sukop, M.C., G-J. van Dijk, E. Perfect, and W.K.P. van Loon, 2002.** Percolation thresholds in 2-dimensional prefractal models of porous media. *Transport in Porous Media* 48, 187-208.
- Perfect, E., M.C. Sukop, and G.R. Haszler, 2002.** Prediction of dispersivity for undisturbed soil columns from water retention parameters. *Soil Science Society of America Journal* 66, No. 3, 696-701.
- Sukop, M.C. 2001.** Dispersion in VLEACH and similar models. *Ground Water* 39, No. 6, 953-954.
- Sukop, M.C., E. Perfect, and N.R.A. Bird, 2001.** Impact of homogeneous and heterogeneous algorithms on water retention in simulated prefractal porous media.

Water Resources Research 37, 2631-2636.

Sukop, M.C. 2000. Estimation of vertical concentration profiles from existing wells. *Ground Water*, 38, No. 6, 836-841.

Sukop, M. and C.G. Cogger, 1992. Adsorption of Carbofuran, Metalaxyl, and Simazine: Koc evaluation and relation to soil transport. *J. Environ. Sci. Health B* 27(5):565-590.

Proceedings. Supervised students and post-docs underlined (give full bibliographical references: author(s); journal title, publisher, title, date, volume and page number)

Sukop, M.C., S. Anwar, J.S. Lee, K.J. Cunningham, and C.D. Langevin, 2008, Modeling Ground-water Flow and Solute Transport in Karst with Lattice Boltzmann Methods, Proceedings of the U.S. Geological Survey Karst Interest Group Workshop, May 27-29, 2008, Bowling Green, Kentucky, Western Kentucky University Campus, E.L. Kuniandy, Ed., USGS Scientific Investigations Report 2008-5023, p. 77-86

Bardsley, K.J. and **M.C. Sukop**, 2008 Simulating Density-Dependent Flows Using the Lattice Boltzmann Method, Proceedings of the Salt Water Intrusion Meeting, Naples FL, July 23-27, p.14-17.

Dausman, A.M., C. Langevin, M.C. Sukop, and V. Walsh, 2008, Saltwater/Freshwater Interface Movement in Response to Deep-Well Injection in a Coastal Aquifer Proceedings of the Salt Water Intrusion Meeting, Naples FL, July 23-27, p. 50-53.

Cunningham, K.J., **Sukop, M.C., Huang, H., Alvarez, P.F.**, Curran, H.A., Wacker, M.A., Florea, L.J., Renken, R.A., and Dixon, J.F., 2008, Biogenic Macroporosity and Its Lattice Boltzmann Method Permeability in the Karst Biscayne Aquifer: In Sasowsky, I.D., Feazel, C.T., Mylroie, J.E., Palmer, A.N., and Palmer, M.V., eds., Karst from Recent to Reservoirs: Special Publication 14, Karst Waters Institute Proceedings, Leesburg, VA, p. 30-35.

Langevin, C.D., A.M. Dausman, D.T. Thorne, and **M.C. Sukop**, 2008. Modeling Solute and Heat Transport with SEAWAT, p. 476-480 in MODFLOW and More: Ground Water and Public Policy, Golden, Colorado, May 19-21 Eds: Poeter. E.P, M.C. Hill, and C. Zheng, 535p.

Dausman, A.M., Doherty, J., Langevin, C.D., and Sukop, M.C., 2008. Quantifying Data Contributions toward Reducing Predictive Uncertainty in a Variable-Density Flow and Solute/Heat Transport Model, p. 320-324 in MODFLOW and More: Ground Water and Public Policy, Golden, Colorado, May 19-21 Eds: Poeter. E.P, M.C. Hill, and C. Zheng, 535p.

Dausman, A.M., Langevin, C.D., and **Sukop, M.C.**, 2007, Simulation of submarine groundwater discharge salinity and temperature variations: implications for remote detection, in Sanford, W., Langevin, C.D., Polemio, M., and Povinec, P., eds., 2007, A new focus on groundwater-seawater interactions: IAHS Publication 312, Oxfordshire, United Kingdom, p. 272-280.

Dausman, A.M., Langevin, C.D., Doherty, J., **Sukop, M.C.**, and Walsh, V., 2007. A unique approach to calibrating a variable-density flow and transport model. Geological Society of America Abstracts with Programs, Vol. 39, No. 6, p. 110, Denver, Colorado, October 28-31, 2007.

Bardsley, K.J., S. Anwar, and **M.C. Sukop**, 2006. Simultaneous heat and solute transport modeling of ground water with lattice Boltzmann methods. 8 pp. in Proceedings of the XVI International Conference on Computational Methods in Water Resources, edited by Philip J. Binning Peter K. Engesgaard, Helge K. Dahle, George F. Pinder and William G. Gray., Copenhagen, Denmark, June 19-22, Internet access: <http://proceedings.cmwr-xvi.org/getFile.py/access?contribId=314&sessionId=7&resId=0&materialId=paper&confId=a051>

Thorne, D.T., C.D. Langevin, and **M.C. Sukop**, 2006. MODFLOW/MT3DMS-Based Simulation of Variable-Density Groundwater Flow with Simultaneous Heat and Solute Transport. 8 pp. in Proceedings of the XVI International Conference on Computational Methods in Water Resources, edited by Philip J. Binning, Peter K. Engesgaard, Helge K. Dahle, George F. Pinder and William G. Gray, Copenhagen, Denmark, June 19-22, Internet access: <http://proceedings.cmwr-xvi.org/getFile.py/access?contribId=313&sessionId=16&resId=0&materialId=paper&confId=a051>

Thorne, D.T. and **M.C. Sukop**, 2004. Lattice Boltzmann model for the Elder problem, In Computational Methods in Water Resources, p. 1549-1557 in Proceedings of the XVth International Conference on Computational Methods in Water Resources (CMWR XV), June 13-17, 2004, Chapel Hill, NC, USA. C.T. Miller, M.W. Farthing, W.G. Gray, and G. F. Pinder Eds., Elsevier, Amsterdam.

Perfect, E. and **M.C. Sukop**, 2001, Modeling Solute Dispersivity in Irregularly Shaped Soil Pores, p. 107-116 in Proceedings 4th Eastern Canada Soil Structure/Carbon Workshop, eds. W.D. Reynolds, C.F. Drury & C.S. Tan, Leamington, Ontario, Canada, August 23-25, 1999.

Chapters in Books (give complete bibliographical references)

Sukop, M.C. and E. Perfect, 2004. Solute Transport. In D. Hillel, C. Rosenzweig, D. Powlson, K. Scow, M. Singer and D.L. Sparks, Eds. Encyclopedia of Soils in the Environment, Elsevier Ltd., Oxford, U.K. Vol. 3, p. 521-531.

Perfect, E. and **M.C. Sukop**, 2001. Models relating solute dispersion to pore space

geometry: a review, p. 77-146 in Physical and Chemical Processes of Water and Solute Transport/Retention in Soils. D. Sparks and M. Selim. Eds., Soil Sci. Soc. Am. Special Pub. 56,

Government Reports or Monographs (give complete bibliographical references)

Dausman, A.M., C.D. Langevin, D.T. Thorne, Jr., and M.C. Sukop (2009) Six Benchmark Problems for Testing Heat and Solute Transport with Variable Viscosity using SEAWAT Version 4, USGS Open File Report. Approved

Langevin, C.D., Thorne, D.T., Jr., Dausman, A.M., **Sukop, M.C.**, and Guo, Weixing, 2008, SEAWAT Version 4: A Computer Program for Simulation of Multi-Species Solute and Heat Transport: U.S. Geological Survey Techniques and Methods Book 6, Chapter A22, 39 p.

Perfect, E., M.S. Coyne, **M.C. Sukop**, G.R. Haszler, V.L. Quisenberry, and L. Bejat. 1998. Solute and bacterial transport through partially saturated intact soil blocks. p. 46. Kentucky Water Resources Research Institute Report, University of Kentucky, Lexington.

Sukop, M. and C.G. Cogger, 1989. Retention of pesticides by alluvial soils in western Washington: experimental variables, relation to soil properties, and spatial variability. State of Washington Water Research Center, Pullman, Washington. March 1989.

Book Reviews (give complete bibliographical references)

Review of: Randomicity: Rules and Randomness in the Realm of the Infinite by Anastasios Tsonis, Imperial College Press, UK. 204pp, Sept 2008. To appear in Vadose Zone Journal

OTHER PUBLICATIONS (List publications outside of discipline. Give complete bibliographical references.)

N/A

PRESENTED PAPERS, AND LECTURES (List title, date, and venue where presented)

Lectures

Invited: Lattice Boltzmann Methods: 21st Century Modeling Tool, Institute for Geoscience, Eberhard Karls Universität Tübingen (Germany), June 25, 2009.

Invited: Lattice Boltzmann Methods: 21st Century Modeling Tool, Earth and Planetary Sciences Department, University of Tennessee-Knoxville, September 6, 2007.

- Invited:** Relative Permeabilities of Fractal Porous Media with Lattice Boltzmann Methods, PEDOFRACT 2007, International Workshop on Scale Dependences in Soil and Hydrologic Systems. El Barco de Avila (Spain), July 3-6, 2007
- Invited:** Applying Lattice Boltzmann, Fractal, and Geostatistical Methods to Karst, PEDOFRACT 2007, International Workshop on Scale Dependences in Soil and Hydrologic Systems. El Barco de Avila (Spain), July 3-6, 2007
- Invited:** Lattice Boltzmann Methods: 21st Century Modeling Tool, Mechanical Engineering Department, University of Maryland Baltimore County, February 23, 2007.
- Invited:** Lattice Boltzmann Simulation of Solute Transport in Heterogeneous Porous Media with Conduits to Estimate Macroscopic Continuous Time Random Walk Model Parameters, International Conference on Mesoscopic Methods in Science and Engineering, Hampton VA, July 26, 2006
- Lattice Boltzmann Methods: 21st Century Modeling Tool, Geotopics seminar, University of Miami, Miami Florida, November 14, 2005
- Lattice Boltzmann methods for single and multiphase fluids and solute transport, Florida International University Civil and Environmental Engineering graduate environmental engineering seminar, Miami Florida, April 4, 2005
- Lattice Boltzmann methods and aquifer storage and recovery applications, Department of Geology, University of South Florida, Tampa Florida, October 15, 2004.
- Lattice Boltzmann methods for single and multiphase fluid and mass transport simulation, Physics Department Colloquium, Florida International University, Miami Florida, October 1, 2004.
- Lattice Boltzmann methods for multiphase fluids, Mechanical and Materials Engineering Department, Florida International University, Miami Florida, January 16, 2004
- Lattice Boltzmann models for gaseous diffusion in partially saturated porous media under variable gravity. Soil Science Society of America Annual Meeting, Denver Colorado, November 3, 2003
- Ground water and solute transport modeling and new approaches for fluids and porous media, Florida International University, Miami Florida, February 19, 2003
- Single component, multiphase Lattice Boltzmann models (LBM) in invasion percolation. Sixth International Conference on the Electrical Transport and Optical Properties of Inhomogeneous Media, Snowbird UT, July 15-19, 2002
- Simulating water/water vapor equilibria in porous media: single component/multiphase Lattice

Boltzmann method. Western Regional Research project W-188 Technical Committee Annual Meeting, Las Vegas, NV. January 3-4, 2002

Application of lattice gas cellular automata to determine soil moisture characteristics of pore spaces of known fractals. University of Kentucky Department of Agronomy Soil Science Seminar. Lexington Kentucky, September 1, 2000

Introduction to fractals and some potential applications. Unité de Science du Sol - INRA, Avignon, France. November 5, 1999

Scale-dependent dispersivities and the fractional convection - dispersion equation. Symposium - Issues of Scale and Spatial variability as Related to Solute Transport. IEG-73 - Information Exchange Group: "Classifying Soils for Solute transport as Affected by Soil Properties and Landscape Position." Lexington, Kentucky April 26, 1999

Introduction to fractals and some potential applications. University of Kentucky Department of Agronomy Soil Science Seminar. Lexington Kentucky, March 5, 1999

Injection well testing at the Air Force's Global Communications Facility in Davis, California. University of Kentucky Department of Geological Sciences Seminar. Lexington Kentucky, February 5, 1998

Spatial variability of soil physical properties and metalaxyl transport parameters. University of Kentucky Department of Agronomy Soil Science Seminar, Lexington Kentucky, December 5, 1997

Contaminant transport and attenuation. Presented to Thurston County Groundwater Advisory Committee, Olympia, WA. September 15, 1988

Presented Papers (Speaker/Presenter's name in bold. Supervised students and post-docs underlined.)

Cunningham, K.J., M.C. Sukop, H. A. Curran, R.A. Renken, and J.F. Dixon (2009) Macroporosity Related to Bioturbation in the Karst Carbonate Biscayne Aquifer, Southeastern Florida: Stratiform "Super-K" Zones American Association of Petroleum Geologists Annual Convention & Exhibition, 7-10 June 2009, Denver, Colorado

Sukop, M.C. and S. Anwar (2008) Lattice Boltzmann Methods for Flow and Transport in Highly Heterogeneous Domains, EOS Trans, AGU 89(3), Fall Meet. Suppl., Abstract H31K-03

Anwar, S., M.C. Sukop, V.C. Engel, and E.A. Variano, (2008) Tracer test inversion to determine vegetative flow resistance with Lattice Boltzmann models, EOS Trans, AGU 89(3), Fall Meet. Suppl., Abstract H31F-0960

Bardsley, K.J. and M.C. Sukop (2008) Simulating density-dependent flows using the lattice Boltzmann method, EOS Trans, AGU 89(3), Fall Meet. Suppl., Abstract H31F-0940

- Bardsley, K.J. and M.C. Sukop, 2008 Simulating Density-Dependent Flows Using the Lattice Boltzmann Method, Proceedings of the Salt Water Intrusion Meeting, Naples FL, June 23-27, p.14-17.**
- Dausman, A.M., C. Langevin, M.C. Sukop, and V. Walsh, 2008, Saltwater/Freshwater Interface Movement in Response to Deep-Well Injection in a Coastal Aquifer Proceedings of the Salt Water Intrusion Meeting, Naples FL, June 23-27, p. 50-53.**
- Anwar, S.** M.C. Sukop, V.C. Engel and E.A. Variano, 2008. Tracer Test Inversion to Determine Vegetative Flow Resistance with Lattice Boltzmann Models. In GEER 2008, Greater Everglades Ecosystem Restoration Planning, Policy and Science Meeting, Everglades Restoration 2050 – Advancing the Science to Achieve Success, Program & Abstracts, July 28-August 1, 2008 Naples, Florida, p. 10.
- Ho, D.T., **E.A. Variano**, V.C. Engel, and M.C. Sukop, 2008. Measurements and Modelling of Vegetation Effects on Flow in Ridge and Slough Landscape, In GEER 2008, Greater Everglades Ecosystem Restoration Planning, Policy and Science Meeting, Everglades Restoration 2050 – Advancing the Science to Achieve Success, Program & Abstracts, July 28-August 1, 2008 Naples, Florida, p. 447
- Sukop, M.C., H. Huang, K. J. Cunningham, and P. F. Alvarez, 2008. High-Resolution X-ray Computed Tomography of Macroporous Karst for Permeability Measurement and Non-Darcian Flow via Lattice Boltzmann Models, In GEER 2008, Greater Everglades Ecosystem Restoration Planning, Policy and Science Meeting, Everglades Restoration 2050 – Advancing the Science to Achieve Success, Program & Abstracts, July 28-August 1, 2008 Naples, Florida, p. 425
- Lee, J.S., M.C. Sukop, and K.J. Cunningham, 2008. Lattice Boltzmann Methods Applied to Three-Dimensional Virtual Cores Constructed from Digital Optical Borehole Images of a Karst Carbonate Aquifer, In GEER 2008, Greater Everglades Ecosystem Restoration Planning, Policy and Science Meeting, Everglades Restoration 2050 – Advancing the Science to Achieve Success, Program & Abstracts, July 28-August 1, 2008 Naples, Florida, p. 426
- Sukop, M.C., H. Huang, K.J. Cunningham, P.F. Alvarez** (2008), High-Resolution X-ray Computed Tomography of Macroporous Karst for Permeability Measurement and Non-Darcian Flow via Lattice Boltzmann Models, EOS Trans. AGU, 89(23), Jt. Assem. Suppl., Abstract NS23A-04 (Oral presentation)
- Anwar, S.** and M. Sukop (2008), Lattice Boltzmann Methods for Fluid and Solute Transport Modeling in Karst Aquifers, EOS Trans. AGU, 89(23), Jt. Assem. Suppl., Abstract H33D-08 (Oral presentation)
- Bardsley, K.J.** and M. C. Sukop (2008), Simulating density-dependent flows using the lattice Boltzmann method, EOS Trans. AGU, 89(23), Jt. Assem. Suppl., Abstract H53B-08

(Oral presentation)

Lee, J.S., M.C. Sukop, and K.J. Cunningham (2008), Lattice Boltzmann Methods Applied to Three-Dimensional Virtual Cores Constructed from Digital Optical Borehole Images of a Karst Carbonate Aquifer, EOS Trans. AGU, 89(23), Jt. Assem. Suppl., Abstract NS23A-03 (Oral presentation)

Biswas, H., A. Melesse, M. McClain, and M. Sukop (2008), Groundwater flow modeling using PMWIN model in the Wakal River basin, Rajasthan, India, EOS Trans. AGU, 89(23), Jt. Assem. Suppl., Abstract H41B-04

Variano, E.A., D.T. Ho, V. Engel, P.J. Schmieder, M.C. Reid, M. Sukop (2008), Physical and numerical modeling of flow through the Everglades, 2008 Ocean Sciences Meeting: From the Watershed to the Global Ocean, 2-7 March 2008, Orlando, Florida, USA, Co-sponsored by the American Society of Limnology and Oceanography, the American Geophysical Union, The Oceanography Society, and the Estuarine Research Federation, Meeting Abstracts p. 472

Sukop, M.C., H. Huang, C.L. Lin, M.D. Deo, K. Oh, J.D. Miller (2007), Validation of Lattice Boltzmann Modeling of Multiphase Fluids in Porous Media with Micro-X-ray Tomography Data, EOS Trans. AGU, 88 (52), Fall Meet. Suppl., Abstract H42C-07 (Oral presentation)

Anwar, S. and M.C. Sukop (2007), Groundwater flow modeling using Lattice Boltzmann models, EOS Trans. AGU, 88 (52), Fall Meet. Suppl., Abstract H33D-1624

Cihan, A., J.S. Tyner, E. Perfect, M. Sukop, and **H. Haibo** (2007), Analytical and Lattice Boltzmann Predictions of Intrinsic Permeability for Deterministic and Randomized Fractal Porous Media, EOS Trans. AGU, 88 (52), Fall Meet. Suppl., Abstract H53E-1465

Anwar, S. and M.C. Sukop. 2007 Verification of lattice Boltzmann models for solute transport modeling in karst aquifers. International Conference on Mesoscopic Methods in Engineering and Science. Germany, July 16-20

Sukop, M.C., P.F. Alvarez, K.J. Cunningham, and C.D. Langevin. 2007. Investigating Non-Darcy Flow in Highly Porous Aquifer Materials with Lattice Boltzmann Methods. International Conference on Mesoscopic Methods in Engineering and Science, Munich, Germany, July 16-20 (Oral presentation)

Sukop, M.C., H. Huang, P.F. Alvarez, K.J. Cunningham, and C.D. Langevin. 2007. Applying Lattice Boltzmann, Fractal, and Geostatistical Methods to Karst. PEDOFRACT 2007, International Workshop on Scale Dependences in Soil and Hydrologic Systems. El Barco de Avila, Spain, July 3-6 (Oral presentation)

Sukop, M.C. and **H. Huang,** 2007. Relative Permeabilities of Fractal Porous Media with Lattice Boltzmann Methods. PEDOFRACT 2007, International Workshop on Scale Dependences

in Soil and Hydrologic Systems. El Barco de Avila, Spain, July 3-6 (Oral presentation)

Dausman, A.M., C. Langevin, and M.C. Sukop. 2007. Utilizing a Variable-Density Numerical Model with Flow Dependence on Temperature and Salinity to Guide the Collection of Submarine Groundwater Discharge Data. International Union of Geodesy and Geophysics XXIV General Assembly, Perugia Italy, July 2-13

Sukop, M.C., C.D. Langevin, and K.J. Cunningham (2006), Modeling Flow and Solute Transport in Karst Aquifers with Lattice Boltzmann Methods, Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract H42C-08 (Oral presentation)

Anwar, S., A. Cortis, M.C. Sukop, (2006), Lattice Boltzmann Simulation of Solute Transport in Heterogeneous Porous Media with Conduits to Estimate Macroscopic Continuous Time Random Walk Model Parameters, Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract H21C-1384

Bardsley, K.J., D.T. Thorne, J.S. Lee, and M.C. Sukop (2006), An Implementation of Hydrostatic Boundary Conditions for Variable Density Lattice Boltzmann Methods, Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract H33D-1535

Dausman, A.M., C.D. Langevin, **M.C. Sukop**, and V. Walsh (2006), Development and Calibration of a Variable-Density Numerical Model of a Deep-well Injection Site near the Southeastern Florida Coast, Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract H33D-1538

Dausman, A.M., C. Langevin, V. Walsh and M.C. Sukop. 2006. Modeling the Potential for Plume Migration from a Deep Well Injection Site. National Ground Water Association Ground Water Summit, San Antonio, Texas, April 23-26

Sukop, M.C., **S. Anwar**, **K.J. Bardsley**, 2005, Transport in large scale porous media with conduits via lattice Boltzmann models, Eos Trans. AGU, 86(52), Fall Meet. Suppl., Abstract H42A-04 (Oral presentation)

Gentry, R.W., E. Perfect, and M.C. Sukop, 2005. Effective Hydraulic Conductivity Scaling in a 2-Dimensional Geometrical Multifractal Model for Aquifer Heterogeneity, Eos Trans. AGU, 86(52), Fall Meet. Suppl., Abstract H11D-1289

Sukop, M.C., **D. T. Thorne**, and **S. Anwar**. 2004. Lattice Boltzmann Methods and Their Boundary Conditions for Solute Transport. EOS Trans. AGU, 85(47), Fall Meet. Suppl., Abstract H32A-07 (Oral presentation)

Sukop, M.C. and **D. Thorne**. 2004. Lattice Boltzmann Modeling for ASR Systems. Aquifer Storage Recovery IV, Tampa FL, April 15-16.

Chau, J., D. Or, S. B. Jones, and M. C. Sukop. 2004. Lattice Boltzmann Modeling of Gaseous Diffusion in Unsaturated Porous Media under Variable Gravity Conditions. 2004 Joint

Assembly: AGU, the Canadian Geophysical Union (CGU) and the Society of Exploration Geophysicists (SEG) - 17-21 May 2004, Montreal, Canada

- Sukop, M.C.** and D. Or. 2003. Lattice Boltzmann Models for Diffusion in Partially Saturated Porous Media under Variable Gravity, Soil Science Society of America Annual Meeting, Denver, Colorado. (Oral presentation).
- Sukop, M.C.** and D. Or. 2002. Unsaturated Hydraulic Conductivity of Fracture and Capillary Networks via Lattice Boltzmann Methods. EOS Transactions 83(47) H62G-12. (Oral presentation)
- Sukop, M.C.** and D. Or. 2001. Application of Lattice Boltzmann Method to Simulation of Liquid-Vapor Interfacial Configuration in Angular Pores. EOS Transactions 82(47) H12B-0292.
- Sukop, M.C.** and E. Perfect. 2000. Multifractal Behavior of Heterogeneous Fractal Porous Media. EOS Transactions 81(48) NG71B-16.
- Perfect E.** and M.C. Sukop. 2000. Statistical Relations between Water Retention Parameters and Solute Dispersivity for Short, Undisturbed Soil Cores. EOS Transactions 81(48) H51D-12.
- Sukop, M.C.,** G-J. van Dijk, E. Perfect, W.K.P van Loon. 2000. Percolation Thresholds in 2-Dimensional Prefractal Models of Porous Media. Agronomy Abstracts. (Oral presentation)
- Perfect, E.** and M.C. Sukop. 1998. Models to predict the dispersion of non-reactive solutes from pore characteristics. Agronomy Abstracts.
- Perfect, E.,** M.S. Coyne, M. Sukop, V .L. Quisenberry , and L. Bejat. 1998. Measuring solute transport in structured soils using time domain reflectometry. Kentucky Water Resources Annual Symposium. Lexington, KY, p. 13-14.
- Mulla, D.J.,** M.C. Sukop, C. Cogger, and L.W. Getzin. 1989. Field Scale Variability: Effects on Pesticide Transport. Agronomy Abstracts.
- Sukop, M.** and C. Cogger. 1988. Spatial Structure of Pesticide Sorption Coefficients. Agronomy Abstracts.
- Sukop, M.** and C. Cogger. 1987. Pesticide Transport in Unsaturated Soil Columns. Agronomy Abstracts.

a) Graduate Student Supervision

As Dissertation/Thesis Supervisor, Committee Chair/Co-Chair. Chronologic order.

NAME	YEARS	DISSERTATION/ THESIS TITLE	DEGREE AWARDED	RESULTING PUBLICATIONS (SUPERVISED STUDENTS AND POST-DOCS UNDERLINED)	CURRENT POSITION
Carmen Serpa	2003-2005	Lattice Boltzmann Method Simulation of Flow in Idealized Intersections of Systematic Fractures and Cross Joints	MS, Geosciences		Hydrogeologist II Department of Geological Survey, Natural Resources – Newfoundland – Canada
Pedro Alvarez	2003-2007	Lattice Boltzmann Modeling of Fluid Flow to Determine the Permeability of a Karst Specimen	MS, Geosciences	Cunningham, K.J., M.C. Sukop, H. Huang, P.F. Alvarez, H. A. Curran, J.F. Dixon, and R.A. Renken, 2008. Prominence of ichnologically-influenced macroporosity in the karst Biscayne aquifer: stratiform “super-K” zones (in press in Geological Society of America Bulletin. 17 pages). Doi: 10.1130/B26392.1	US Air Force
Zuhal Ozturk (co-chair)	2004-2006	Trichloroethylene Fate and Transport Studies and Biodegradation Kinetics in the	PhD, Environmental Engineering		Engineer: Metcalf & Eddy AECOM Sunrise, Florida

		Saturated Zone			
Jozsef Garai	2006-2007	Thermodynamic Description and Phase Transformation of Highly Symmetrical Monoatomic Structures	PhD, Geosciences		Postdoctoral Researcher, Department of Mechanical and Materials Engineering, Florida International University, Miami, Florida
Shadab Anwar	2004-2008	Lattice Boltzmann Modeling of Fluid Flow and Solute Transport in Karst Aquifers	PhD, Geosciences	<p><u>Anwar, S.</u> and M.C. Sukop. Lattice Boltzmann models for flow and transport in phreatic karst (in press in Ground Water)</p> <p><u>Anwar, S.</u> and M.C. Sukop, 2008. Regional scale transient groundwater flow modeling using lattice Boltzmann methods (in press in Progress in Computational Fluid Dynamics. 15 pages)</p> <p><u>Anwar, S.</u>, A. Cortis, and M.C. Sukop, 2008. Lattice Boltzmann Simulation of Solute Transport in Heterogeneous Porous Media with Conduits to Estimate Macroscopic Continuous Time Random Walk Model Parameters, Progress in Computational Fluid Dynamics 8:1-2, 213 – 221. doi: 10.1504/PCFD.2008.018092</p>	Postdoctoral Researcher, School of Natural Resources & Environment, University of Florida, Gainesville, FL

Alyssa Dausman	2005-2008	Quantifying the Effects of Temperature and Concentration on Variable-Density Flow in Numerical Modeling of Groundwater Systems: Implications for Predictive Uncertainty and Data Collection		<p>Government Report:</p> <p>Langevin, C.D., <u>Thorne, D.T., Jr.</u>, <u>Dausman, A.M.</u>, Sukop, M.C., and Guo, W., 2008, SEAWAT Version 4: A Computer Program for Simulation of Multi-Species Solute and Heat Transport: U.S. Geological Survey Techniques and Methods Book 6, Chapter A22, 39 p.</p> <p>Proceedings:</p> <p>Langevin, C.D., <u>A.M. Dausman</u>, <u>D.T. Thorne</u>, and M.C. Sukop, 2008. Modeling Solute and Heat Transport with SEAWAT, in MODFLOW and More: Ground Water and Public Policy, Golden, Colorado, May 19-21, Poeter. E.P, M.C. Hill, and C. Zheng, Eds., 535p.</p> <p><u>Dausman, A.M.</u>, Doherty, J., Langevin, C.D., and Sukop, M.C., 2008. Quantifying Data Contributions toward Reducing Predictive Uncertainty in a Variable-Density Flow and Solute/Heat Transport Model, in MODFLOW and More: Ground Water and Public Policy, Golden, Colorado, May 19-21, Poeter. E.P, M.C. Hill, and C. Zheng, Eds., 535p.</p>	US Geological Survey, Ft. Lauderdale
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				<p><u>Dausman, A.M.</u>, Langevin, C.D., and Sukop, M.C., 2007, Simulation of submarine groundwater discharge salinity and temperature variations: implications for remote detection, in Sanford, W., Langevin, C.D., Polemio, M., and Povinec. P., eds., 2007, A new focus on groundwater-seawater interactions: IAHS Publication 312, Oxfordshire, United Kingdom, p. 272-280.</p> <p><u>Dausman, A.M.</u>, Langevin, C.D., Doherty, J., Sukop, M.C., and Walsh, V., 2007. A unique approach to calibrating a variable-density flow and transport model. Geological Society of America Abstracts with Programs, Vol. 39, No. 6, p. 110, Denver, Colorado, October 28-31, 2008.</p>	
Katie Bardsley	2005-Present	PhD, Geosciences in progress		<p>Proceedings:</p> <p><u>Bardsley, K.J.</u>, <u>S. Anwar</u>, and M.C. Sukop, 2006. Simultaneous heat and solute transport modeling of ground water with lattice Boltzmann methods. CMWR XVI – Computational Methods in Water Resources, XVI International Conference, Copenhagen, Denmark, June 19-22</p>	
Jeffery Lee	2007-2008	PhD, Geosciences program			Unknown

		terminated			
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As Post-doctoral Supervisor. Chronologic order.

NAME	YEARS	DISSERTATION/ THESIS TITLE	DEGREE AWARDED	RESULTING PUBLICATIONS (SUPERVISED STUDENTS AND POST-DOCS UNDERLINED)	CURRENT POSITION
Danny Thorne, Jr.	2003-2005	N/A (Post-doctoral)	N/A (Post-doctoral)	<p>Authored Book: Sukop, M.C. and <u>D.T. Thorne, Jr.</u>, 2006 (second printing 2007). Lattice Boltzmann Modeling: An Introduction for Geoscientists and Engineers. Springer, Heidelberg, Berlin, New York 172 p.</p> <p><u>Huang, H., D.T. Thorne, M.G. Schaap, and M.C. Sukop</u>, 2007. Proposed approximation for contact angles in Shan-and-Chen-type multicomponent multiphase lattice Boltzmann models, Phys. Rev. E 76, 066701. doi: 10.1103/PhysRevE.76.066701</p> <p><u>Thorne, Jr., D.T.</u>, C.D. Langevin, and M.C. Sukop, 2006. Addition of Simultaneous Heat and Solute Transport and Variable Fluid Viscosity to SEAWAT. Computers and Geosciences 32, 1758–1768. doi:10.1016/j.cageo.2006.04.005</p> <p>Langevin, C.D., <u>Thorne, D.T., Jr.</u>, <u>Dausman, A.M.</u>, Sukop, M.C., and Guo,</p>	Assistant Professor, Georgetown College

				W., 2008, SEAWAT Version 4: A Computer Program for Simulation of Multi-Species Solute and Heat Transport: U.S. Geological Survey Techniques and Methods Book 6, Chapter A22, 39 p.	
Haibo Huang	2006-2007	N/A (Post-doctoral)	N/A (Post-doctoral)	<p>Cunningham, K.J., M.C. Sukop, <u>H. Huang</u>, P.F. Alvarez, H. A. Curran, J.F. Dixon, and R.A. Renken, 2008. Prominence of ichnologically-influenced macroporosity in the karst Biscayne aquifer: stratiform “super-K” zones (in press in Geological Society of America Bulletin. 17 pages). Doi: 10.1130/B26392.1</p> <p>Sukop, M.C., <u>H. Huang</u>, C.L. Lin, M.D. Deo, K. Oh, and J.D. Miller, 2008. Distribution of multiphase fluids in porous media: Comparison between lattice Boltzmann modeling and micro-x-ray tomography, Phys. Rev. E 77, 026710. doi: 10.1103/PhysRevE.77.026710</p> <p><u>Huang, H.</u>, D.T. Thorne, M.G. Schaap, and M.C. Sukop, 2007. Proposed approximation for contact angles in Shan-and-Chen-type multicomponent multiphase lattice Boltzmann models, Phys. Rev. E 76, 066701. doi: 10.1103/PhysRevE.76.066701</p>	Associate Professor, Department of Modern Mechanics, University of Science and Technology of China, Hefei, Anhui Province, China

				<p>Cihan, A., M.C. Sukop, J.S. Tyner, E. Perfect, and <u>H. Huang</u>, Analytical predictions and lattice Boltzmann simulations of intrinsic permeability for mass fractal porous media (in press in Vadoze Zone Journal)</p> <p>Proceedings:</p> <p>Cunningham, K.J., Sukop, M.C., <u>Huang, H.</u>, <u>Alvarez</u>, P.F., Curran, H.A., Wacker, M.A., Florea, L.J., Renken, R.A., and Dixon, J.F., 2008, Biogenic Macroporosity and Its Lattice Boltzmann Method Permeability in the Karst Biscayne Aquifer: In Sasowsky, I.D., Feazel, C.T., Mylroie, J.E., Palmer, A.N., and Palmer, M.V., eds., Karst from Recent to Reservoirs: Special Publication 14, Karst Waters Institute Proceedings, Leesburg, VA, p. 30-35.</p>	
BoJing Zhu	2009-present	N/A (Post-doctoral)	N/A (Post-doctoral)		

As Dissertation/Thesis Committee Member.

NAME	YEARS	DISSERTATION/ THESIS TITLE	DEGREE AWARDED	RESULTING PUBLICATIONS	CURRENT POSITION
Seckin Gokaltun	2005-2008	Lattice Boltzmann Method for Flow and Heat Transfer in Microgeometries	PhD, Mechanical Engineering		Research Analyst, Applied Research Center, FIU, Miami FL
Ryan Moreno	2005-2006	A study of branching fluid networks for enhancing the performance of thermal-fluid devices	PhD, Mechanical Engineering		Administration / S.T.E.M. Education Consultant, REM Learning Center, Miami FL
Ramon Moral	2005-2008	Hybrid Multi-Objective Optimization and Hybridized Self-Organizing Response Surface Method	PhD, Mechanical Engineering		Technical Staff Engineer, Foxconn, Sunrise FL and FIU Materials and Mechanical Engineering Department Adjunct Professor
Keqiang Xing	2005-2007	Numerical Investigation on the Heat Transfer Enhancement Using Micro/Nano Phase-Change Particulate Flow	PhD, Mechanical Engineering		Research Assistant, Civil Engineering, FIU, Miami FL
Melroy Borges	2005-2008	Life cycle of Deccan trap magma chambers: a crystal scale elemental and strontium isotopic investigation	PhD, Geosciences		Materials Engineer III, Corning, Inc. Corning NY

Carlos Altberto Molina-Veliz	2003-2005	Fluid Flow Modeling Through Bed-Confined Fracture Networks in Layered Rocks with an Emphasis on Cross Joints and Throughgoing Fracture Zones	MS, Geosciences		Shell, Houston TX
Vincent J. DiFrenna	2003-2005	Effect of Scaling on Hydraulic Conductivity in a Karst Aquifer	MS, Geosciences		
Varinia Consiglio	2006-	An Analysis of Thrombosis using the Lattice Boltzmann Method	MS, Biomedical Engineering		Manufacturing Engineer, Boston Scientific, Miami FL
Chris Haugh	2006-2007	The influence of anastomosis angle and linear taper on an arteriovenous graft for hemodialysis	MS, Biomedical Engineering		PhD student, Biomedical Engineering, FIU, Miami FL
Virginia Walsh	2005-Present	PhD, Geosciences in progress			
Jeremy Stalker	2005-2008		PhD, Geosciences		
Vaibhav Jain	2005-Present	PhD, Mechanical Engineering in progress			
Yao Yan	?-2006	PhD program terminated, Geosciences			
Ronald Gutierrez	2006-Present	PhD, Biomedical Engineering in progress			
Himadri Biswas	2008-Present	MS, Environmental Studies in progress			
Kateryna Ananyeva	2009-Present	PhD, Agronomy, Michigan State University in progress			

CREATIVE WORK

(List date and type of work and/or place of presentation. If the creative work has received recognition, such as design award, competition prize, exhibition or publication by others, or critical review, indicate the level of recognition as well as the peer-review context and process.)

Computer rendering of flow in a fractal porous medium. Cover of February 2009 issue of Vadose Zone Journal. Not peer-reviewed.

WORKS IN PROGRESS

Papers submitted to journals for consideration (list Journal and date of submission)

Thorne D.T. Jr., K.J. Bardsley, and M.C. Sukop. Hydrostatic Boundary Conditions for Density-Dependant Flow Simulations with Lattice Boltzmann Methods (under review by Computers and Geosciences; submitted February 2009)

Other completed papers

N/A

Research in Progress

- Simulation of temperature- and concentration-induced buoyant flows in compressible and incompressible fluids in porous media (Collaboration with Dr. Christian Langevin/United States Geological Survey and Professor Danny Thorne/Georgetown College)
- Inverse modeling of solute transport in the Everglades for vegetative resistance determination (Collaboration with Dr. Victor Engle/Everglades National Park and Professor Evan Variano/University of California Berkeley)
- Impact of large pores and conduits on ground water flow (Collaboration with Dr. Kevin Cunningham/United States Geological Survey)
- Simulation of macroporous karst aquifer rocks with geostatistical methods (Collaboration with Dr. Kevin Cunningham/United States Geological Survey)

Grant Proposals (list title of project, agency receiving proposal, and date of submission)

FUNDED RESEARCH

(List all investigators, title of project, funding agency [if the funding is a subcontract, from what organization], project dates, and amount of funding [when there are co-PIs on an award, give the portion of the total award coming to the candidate]).

PI/CO-PIs	TITLE	AGENCY	DATES	AMOUNT
Michael C. Sukop	Lattice Boltzmann Methods for Concentration- and Temperature-Induced Density Driven Flows	National Science Foundation	8/1/2005-present	\$243,967
Michael C. Sukop	Determination of Sheetflow Hydrodynamic Properties	South Florida Water Management District	5/1/2008-9/30/2008	\$18,933
Michael C. Sukop	Lattice Boltzmann Measurement of Borehole-Scale Hydraulic Conductivity of Biscayne Aquifer Materials	US Geological Survey	1/1/2008-12/31/2008	\$70,000
Michael C. Sukop	Lattice Boltzmann Measurement of Hydraulic Conductivity of Digitized Macroporous Limestones Representative of Miami-Area Aquifer Materials	US Geological Survey	3/1/2007-1/15/2008	\$33,592
Michael C. Sukop	Lattice Boltzmann Measurement of Hydraulic Conductivity of Digitized Macroporous Limestone	US Geological Survey	9/1/2006-8/31/2007	\$12,273
Michael C. Sukop	SEAWAT Heat Transport and Thermal Buoyancy Enhancement Project	US Geological Survey	8/2004-8/2005	\$56,000
Professor Jan Miller, University of Utah. Co-PI: Michael C. Sukop	Development of a 3D Lattice-Boltzmann Model for Fluid Flow Simulation under Partially-saturated Conditions in Packed Beds of Particles	Center for Advanced Separation Technologies (Subcontract to University of Utah)	11/1/2005-10/31/2007	\$40,000 (FIU share)

PROPOSALS SUBMITTED BUT NOT FUNDED

(List title of project, funding agency, project dates, and amount of requested funding)

PI/CO-PIs	TITLE	AGENCY	DATE	AMOUNT
Michael C. Sukop	Development of Next Generation Ground Water Flow and Transport Models	National Science Foundation	06/01/2007	\$262,703
Co-PIs: Michael C. Sukop, Professor Ed Perfect, University of Tennessee	Collaborative Research: Advancing fractal models of porous media by linked numerical measurements and theoretical prediction of relative permeability	National Science Foundation	06/01/2007	\$174,632
Co-PIs: Michael C. Sukop, Dr. Andrea Cortis, Lawrence Berkeley National Laboratory	Collaborative Research: Linking Porous Medium Geometry with Advanced Solute Transport Model Parameters via Lattice Boltzmann Methods	National Science Foundation	06/01/2006	\$371,852
Co-PIs: Michael C. Sukop, Professor Jan Miller, University of Utah	NSF/Sandia: Collaborative Research: Multi-scale X-ray Microtomographic Validation of Countercurrent Air and Lixivant Solution Flow Modeling in Partially-Saturated Porous Media	National Science Foundation	03/01/2006	\$195,155
Michael C. Sukop	CAREER: Lattice Boltzmann Methods for Environmental Fluid Mechanics and Solute Transport	National Science Foundation	07/21/2005	\$852,740
Co-PIs: Michael C. Sukop, Dr. Charles Downer/Everglades National Park	Lattice Boltzmann Modeling of Tamiami Trail Physical Barrier Modifications	US Department of Interior	05/04/2004	\$306,766
Professor René Price Co-PIs: Michael C. Sukop, Zafer Top/University of Miami, James	Collaborative Research: Estimating Brackish Groundwater Discharge in the Coastal Southern Everglades	National Science Foundation	02/18/2004	\$532,471

Happel/University of Miami				
Michael C. Sukop	Linking Porous Medium Geometry with Advanced Solute Transport Model Parameters via Lattice Boltzmann Methods	National Science Foundation	12/01/2003	\$361,804
Professor René Price Co-PIs: Michael C. Sukop, Leonard Scinto	Quantifying Carbon Fluxes in a Coastal Carbonate Platform: Hydrologic and Biogeochemical Processes	National Science Foundation	10/22/2003	\$628,377

PATENT DISCLOSURES, APPLICATIONS, AND AWARDS

N/A

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

Department: N/A

School/College: N/A

University: N/A

OFFICES HELD IN PROFESSIONAL SOCIETIES

N/A

OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

Peer Reviewer for:

National Science Foundation, United States Geological Survey, Austrian Science Fund, Israel Science Foundation, Water Resources Research, Journal of Hydrology, Journal of Hydrologic Engineering, Hydrogeology Journal, Vadose Zone Journal, Transport in Porous Media, Advances in Water Resources, Journal of Colloid and Interfacial Science, Journal of Physics and Chemistry of Solids, Soil Science Society of America, Journal of Environmental Quality, European Journal of Soil Science, Soil and Tillage Research, Geochemical Journal, American Society of Mechanical Engineers, Computers and Geosciences, International Journal of Thermal Sciences; Estuarine, Coastal and Shelf Science; Environmental Science and Technology, International Journal of Modern Physics C, Microfluidics and Nanofluidics, Kearney Foundation of Soil Science, American Chemical Society/Petroleum Research Fund, Non-linear Processes in Geophysics, Biot Conference on Poromechanics, Computers and Mathematics with Applications, Journal of Geophysical Research-Atmospheres, International Journal of Computational Fluid Dynamics

Co-convener Recent Advances in Groundwater Hydrology Session (H11), American Geophysical Union 2008 Joint Assembly, Ft. Lauderdale FL, May 27–30

Student Presentation Judge, American Geophysical Union 2007 Fall Meeting

Bio/Porous Media Flow Session Chairman, International Conference on Mesoscopic Methods in Engineering and Science, Hampton VA, July 24-28, 2006

Student Presentation Judge, American Geophysical Union 2004 Fall Meeting

Student Poster Judge, American Geophysical Union 2002 Fall Meeting

Student Research Symposium Judge, American Society of Agronomy 2000 Annual Meeting

Science Fair Judge: Lexington, KY 1999 - 2001; Redding, CA 1990 - 1997

American Society of Civil Engineers Mathcounts program presentations to 6th and 7th graders, 1990 - 1997

Professional Registrations

California Certified Hydrogeologist No. 91

California Registered Geologist No. 5615

Kentucky Professional Geologist No. 2236

Memberships

American Geophysical Union, Hydrology Section, 1997-Present

National Ground Water Association/Association of Ground Water Scientists and Engineers, 1991-Present

International Association for Mathematical Geology, 2008-Present

