CHAPTER VI
LITERATURE CITED

Allaire, S. E., S. Roulier, Al. J. Cessna (2009). Quantifying preferential flow in soils: A review of different techniques. Journal of Hydrology, 378: 179–204.

Bear, J. (1972). Dynamics of Fluids in Porous Media. Dover Publications, INC., New York. 764pp.

Beven, K. (2006). A manitesto for the equifinality thesis. J. Hydrol., 320(1-2): 141-156.

Beven, K. (1981). Micro-, meso-, macroporosity and channeling flow phenomena in soils. Soil Sci. Soc. Am. J., 45:1245.

Bouma , J., R.B. Brown and P.S.C. Rao (2003). Movement of Water: Basics of Soil-Water Relationships - Part III 1Report: (IFAS Extension) Florida Cooperative Extension Service.

Bradford, S.A., M. Bettehar, J. Šimůnek, and M. Th. van Genuchten (2004). Straining and attachment of colloids in physically heterogeneous porous media. Vadose Zone J., 3:384–394.

Brooks, R.H., and A.T. Corey (1964). Hydraulic properties of porous media. Hydrol. Colorado State Univ., Fort Collins.

Bruggeman, A. C. (1997). Preferential Movement of Solutes Through Soils. Biological Systems Engineering. Blacksburg, Virginia, the Faculty of the Virginia Polytechnic Polytechnic Institute and State University. Doctor of Philosophy: 337.

Butters, G., and W. Bandaranayake. 1993. Demonstrations in solute transport using dyes: II. Modeling. J. Nat. Resour. Life Sci. Educ., 22:126–130.

Carter, M. R. and E. G. Gregorich (2008). Soil Sampling and Methods of Analysis. Second Edition. Canadian Society of Soil Science; Boca Raton, FL: CRC Press, 1264 pages.

Clothier, B. E., S. R. Green and M. Deurer (2008). Preferential flow and transport in soil: progress and prognosis. European Journal of Soil Science, 59: 2–13.

Durner, W., E.Priesack, H.-J. Vogel and T. Zurmühl (1999), Determination of parameters for flexible hydraulic functions by inverse modeling. In: M. Th. van Genuchten, F. J. Leij, L. Wu (Editors), Characterization and Measurement of the Hydraulic Properties of Unsaturated Porous Media. University of California, Riverside, CA, pp. 817-829.

Durner, W. (1994). Hydraulic conductivity estimation for soils with heterogeneous pore structure. Water Resour. Res., 32(9): 211-223.

Fayer, M. J. (2000). UNSAT-H Version 3.0: Unsaturated soil water and heat flow model theory. User Manual and Examples. Numerical Technical Information Service- DE-AC06-76RLO 1830.

Feyen, J., D. Jacques, A. Timmerman and J. Vanderborght (1998). Modelling Water Flow and Solute Transport in Heterogeneous Soils: A Review of Recent Approaches. Agric. Eng. Res., 70: 231-256.

Gardner, W. H. (1962). How water moves in the soil. Agronomy Club, Department of Agronomy, Washington State University.

Gargiulo, G., S.A. Bradford, J. Šimůnek, P. Ustohal, H. Vereecken, and E. Klumpp (2008). Bacteria transport and deposition under unsaturated conditions: The role of water content and bacteria surface hydrophobicity. Vadose Zone J., 7:406–419.

Gargiulo, G., S.A. Bradford, J. Šimůnek, P. Ustohal, H. Vereecken, and E. Klumpp (2007). Bacteria transport and deposition under unsaturated conditions: The role of

the matrix grain size and the bacteria surface protein. J. Contam. Hydrol., 92:255–273.

Gazoly, E. M. H. (2002). Effect of organic conditioners application on some soil physical properties and loss of nutrient elements by leaching. M. Sc. Thesis, Faculty of Agriculture (Saba Basha) - Alexandria University.

Gerke, H. H., and M. Th. van Genuchten (1996). Macroscopic representation of structural geometry for simulating water and solute movement in dual-porosity media, Adv. Water Resour., 19: 343-357.

Gerke, H. H. and M. Th. van Genuchten (1993a). A dual-porosity model for simulating the preferential movement of water and solutes in structured porous media. Water Resour. Res., 29: 305-319.

Gerke, H. H. and M. Th. van Genuchten (1993b). Evaluation of a first-order water transfer term for variably saturated dual-porosity flow models, Water Resour. Res., 29: 1225-1238.

Gupta, H. V., S. Sorooshian and P. O. Yapo (1998). Toward improved calibration of hydrologic models:Multiple and noncommensurable measures of information. Water Resour. Res., 34(4):751-763.

Gustafson, D., J. Anderson, A. Amoozegar, and D.L. Lindbo (2005). Water Movement & Soil Treatment Text. in (D.L. Lindbo and N.E. Deal eds.) Model Decentralized Wastewater Practitioner Curriculum. National Decentralized Water Resources Capacity Development Project. North Carolina State University, Raleigh, NC.

Hendrickx, J.M.H. and M. Flury (2001). Uniform and preferential flow, mechanisms in the vadose zone, Conceptual Models of Flow and Transport in the Fractured Vadose Zone, National Research Council, National Academy Press, Washington, DC, pp. 149–187.

Hendrickx, J.M.H., L.W. Dekker and O.H. Boersma (1993). Unstable wetting fronts in water-repellent field soils. Journal of Environmental Quality, 22:109–118.

Holden, J. (2005). Mariotte Bottle Use in Hydrology. Volume, DOI: 10.1002/047147844X.pc380.

Jackson, M.L. (1973). Soil Chemical Analysis. Prentice-Hall, Inc. India.

Jarvis, N. J. (2007). A review of non-equilibrium water flow and solute transport in soil macropores: principles, controlling factors and consequences for water quality. European Journal of Soil Science, 58: 523–546.

Jellali, S., E. D., H. Kallali , S. Bennaceur , M. Anane , N. Jedidi (2010). Dynamic sorption of ammonium by sandy soil in fixed bed columns: Evaluation of equilibrium and non-equilibrium transport processes. Journal of Environmental Management, 91: 897–905.

Kamra, S. K., B. Lennartz , M.Th. Van Genuchten , P. Widmoser (2001). Evaluating non-equilibrium solute transport in small soil columns. Journal of Contaminant Hydrology 48: 189–212.

Kazemi, G. A., Ed. (2012). Hydrogeology- A Global Perspective. Chap 3. A Review of Approaches for Measuring Soil Hydraulic Properties and Assessing the Impacts of Spatial Dependence on the Results. InTech. Open Access Company.

Klute, A. (ed.) (1986). Methods of Soil Analysis. Part 1. 2nd ed. Agronomy Monogram NO. 9. Am. Soc. of Agron., Madison, WI.

Klute, A. and Dirksen, D.C. (1986). Hydraulic conductivity and diffusivity: Laboratory methods In: A. Klute (ed.), Methods of Soil Analysis. 2nd ed. Part 1. Agronomy Monogram. 9. America Society of Agronomy, Madison, WI. pp. 687-

Köhne, J. M., S. Köhne and J. Šimůnek (2008). A review of model applications for structured soils: a)Water flow and solute transport. J. of Contaminant Hydrology, 104:4-35.

Köhne J. M., B. P. Mohanty, and J. Šimůnek (2006): Inverse dual-permeability modeling of preferential water flow in a soil column and implications on field-scale solute transport prediction. Vadose Zone Journal, 5: 59–76.

Köhne, J. M., B.P. Mohanty, J.Šimůnek and H.H.Gerke (2004). Evaluation of a second-order water transfer term for variably saturated dual-permeability flow models. Water Resour. Res. vol. 40,W07409. doi:10.1029/2004WR003285.

Köhne, J. M., T. Wohling, V. Pot, P. Benoit, S. Leguedois, Y. Le Bissonnais and J. Šimůnek (2011). Coupled simulation of surface runoff and soil water flow using multi-objective parameter estimation. Journal of Hydrology, 403 : 141‑156.

Kosugi, K.(1996). Lognormal distribution model for unsaturated soil hydraulic properties, Water Resour. Res., 32(9), 2697-2703.

Lewandowska, J., A. Szymkiewicz, K. Burzynski and M. Vauclin (2004). Modeling of unsaturated water flow in double-porosity soils by the homogenization approach. Advances in Water Resources, 27: 283–296.

Mallants, D., M. Vanclooster and J. Feyen (1996). Transect study on solute transport in a macroporous soil. Hydrological Processes, 10:55-70.

Matott, L.S. and A. J. Rabideau (2008). ISOFIT – A Program for Fitting Sorption Isotherms to Experimental Data. Environmental Modelling & Software, 23(5): 670-676.

Matott, L. S. (2006). ISOFIT version 1.2, A computer program for isotherm fitting. Free Software Foundation, Inc.

Millington, R.J. and J. P. Quirk (1959). Premeability of porous media. Nature (London), 183: 387-388.

Moore, R. D. (2004). Construction of a Mariotte Bottle for Constant-rate Tracer Injection into Small Streams. Watershed Management Bulletin, 8 (1): 15-16.

Mualem, Y. (1976). A new model for predicting the hydraulic conductivity of unsaturated porous media. Water Resour. Res., 12(3): 513-522.

Nielsen, D. R. and J.W. Biggar (1963). Miscible displacement: V: Exchange processes. Soil Sci. Soc. Am. Proc., 27:623 – 627.

Parker, J.C. and M. Th. van Genuchten. (1984). Determining Transport Parameters from Laboratory and Field Tracer Experiments. Virginia Agricultural Experiment Station, Bulletin 84-3 . Virginia Polytechnic Inst. and State Univ., Blacksburg, VA , pp 96.

Phillip, J. R. (1968). The theory of absorption in aggregated media. Aust. J. Soil Res., 6:1-19.

Pot, V., J. Šimůnek, P. Benoit, Y. Coquet, A. Yra and M. J. Martínez-Cordón (2005). Impact of rainfall intensity on the transport of two herbicides in undisturbed grassed filter strip soil cores. J. Contam. Hydrol., 81: 63-88.

Richards, L.A. (ed.). (1972). Diagnosis and Improvement of Saline and Alkaline soils. U.S. Dept. of Agric., Agric. Handbook No. 60.

Richards, L. A. (1931). Capillary conduction of liquids through porous mediums. Physics, 1: 318-333.

Selim, H.M., J. M. Davidson and R. S. Mansell (1976). Evaluation of a Two-site Adsorption- desorption Model for describing Solute Transport in Soils. In: Proc. Summer Computer Simulation Conf., Washington, D.C.

Šimůnek, J. and M. Th. van Genuchten (2008). Modelling non-equilibrium flow and transport with HYDRUS. Vadose Zone J., 7 (2):782–797.

Šimůnek, J., M. Th. van Genuchten and M. Šejna (2005). The HYDRUS-1D software package for simulating the one-dimensional movement of water, heat, and multiple solutes in variably-saturated media. Version 3.0, HYDRUS Software Series 1, Department of Environmental Sciences, University of California Riverside, Riverside, CA, 270 pp.

Šimůnek, J., M. Šejna and M. Th. van Genuchten (1999). The HYDRUS-2D software package for simulating two-dimensional movement of water, heat, and multiple solutes in variably-saturated media. Version 2.0. IGWMC-TPS-53. International Ground Water Modelling Center, Colorado School of Mines, Golden, CO.

Šimůnek, J., M. Š., H. Saito, M. Sakai, and M. Th. van Genuchten (2013). The HYDRUS-1D Software Package for Simulating the One-Dimensional Movement of Water, Heat, and Multiple Solutes in Variably-Saturated Media. California, 340: 11-14-23.

Šimůnek, J., J. M. Köhne, R. Kodešová, and M. Šejna (2008). Simulating non-equilibrium movement of water, solutes, and particles using HYDRUS: A review of recent applications. Soil and Water Research, 3(Special Issue 1), S42-S51.

Šimůnek, J., N. J. Jarvis, M. Th. van Genuchten and A. Gärdenäs (2003). Review and comparison of models for describing non-equilibrium and preferential flow and transport in the vadose zone, Journal of Hydrology, 272: 14-35.

Skopp, J. (1981). Comments on Micro- Meso- and macroporosity of soil. Soil Sci. Soc. Am. J., 45:1246

Swarowsky, A., R.A. Dahlgren, K.W. Tate, J.W. Hopmans, A.T. O'Geen (2011). Catchment-Scale Soil Water Dynamics in a Mediterranean-Type Oak Woodland. Vadose Zone J., 10: 800-815.

Szymkiewicz, A. (2004). Modeling of Unsaturated Water Flow in Highly Heterogeneous Soils. Environmental engineering. Gda´nsk Gda´nsk University of Technology. PhD: 259.

Thoma, S. G., D. P. Gallegos and D.M. Smith (1992). Impact of fracture coating on fracture/matrix flow interaction in unsaturated porous media. Water Resour. Res., 28:1357-1367.

Tran Ngoc, T. D., J. Lewandowska, M. Vauclin and H. Bertin (2010). Two-scale modeling of solute dispersion in unsaturated double-porosity media: Homogenization and experimental validation. International Journal for Numerical and Analytical Methods in Geomechanics, 35(14):1536-1559.

Twarakavi, N. K. C., M. Sakai, and J. Šimůnek (2009). An objective analysis of the dynamic nature of field capacity. Water Resources Research, 45: W104109 pp. doi: 10.1029/2009WR007944

van Genuchten, M. Th. (1991). Recent Progress in Modelling Water Flow and Chemical Transport in the Unsaturated Zone. Hydrological Interactions between Atmosphere, Soil and Vegetation (Proceedings of the Vienna Symposium, August 1991). IAHS Publ. no. 204.

van Genuchten, M. Th. (1980). A closed-form equation for predicting the hydraulic conductivity of unsaturated soil. Soil Sci. Soc. Am. J., 44: 892-898.

van Genuchten, M. Th., and R. J. Wagenet (1989). Two-site/two-region models for pesticide transport and degradation: Theoretical development and analytical solutions, Soil Sci. Soc. Am. J., 53: 1303-1310.

van Genuchten, M.Th. and F.N. Dalton (1986). Models for simulating salt movement in aggregated field soils. Geoderma, 38:165–183.

van Genuchten, M.Th. and P.J. Wierenga (1986). Solute dispersion coefficients and retardation factors. P. 1025-1054 . In A. Klute (ed.) Methods of Soil Analysis . Part 1 2nd ed. Agron. Monogr. 9. ASA and SSSA, Madison, WI.

van Genuchten, M. Th., and P. J. Wierenga (1976). Mass transfer studies in sorbing porous media, I. Analytical solutions, Soil Sci. Soc. Am. J., 40: 473-481.

van Genuchten, M. Th., F. J. Leij, and S. R. Yates (1991). The RETC code for quantifying the hydraulic functions of unsaturated soils, Report No. EPA/600/2-91/065, R. S. Kerr Environmental Research Laboratory, U. S. Environmental Protection Agency, Ada, OK. 85 p.

Vogel, T., M. Císlerová, and J. W. Hopmans(1991). Porous media with linearly variable hydraulic properties, Water Resour. Res., 27(10): 2735-2741.

Vrugt, J. A., H. V. Gupta, L. A. Bastidas, W. Bouten and S. Sorooshian (2003). Effective and efficient algorithm for multi-objective optimization of hydrologic models. Water Resour. Res., 39(8):1214.

Warren, J. E., and P. J. Root (1963). The behavior of naturally fractured reservoirs, SOC. Petrol. Eng. J., 3: 245-255.

Watson, J., L. Hardy, T. Cordell, S. Cordell, Ed. Minch and C. Pachek (1995). How Water Moves Through Soil. United States: Cooperative Extension College of Agriculture, The University of Arizona.

Wohling, T. and J. A. Vrugt (2008). Combining multi-objective optimization and Bayesian model averaging to calibrate forecast ensembles of soil hydraulic models. Water Resour. Res., 44(12): W12432.

Yang, H., H. Rahardjo and E.-C. Leong (2006). Behavior of Unsaturated Layered Soil Columns during Infiltration. Journal of Hydrologic Engineering, 11(4): 329-337.

Zhou, L. (2002). Solute transport in layered and heterogeneous soils. The Department of Agronomy. United States, Louisiana State University. Doctor of Philosophy: 341.