

## **Reviewed Publications since 1999**

- Köhne J. M., H. H. Gerke, 2005. Spatial and temporal dynamics of preferential tracer movement towards a tile drain. *Vadoze Zone Journal* (in press).
- Hangen, E., H. H. Gerke, W. Schaaf, R. F. Hüttl, 2005. Assessment of preferential flow processes in a forest-reclaimed lignitic mine soil by multicell sampling of drainage water and three tracers. *J. Hydrol.* In press.
- Ellerbrock, R.H., Gerke H.H., Bachmann J., Goebel M.-O. 2005. Composition of organic matter fractions for explaining wettability of three forest soils, *Soil Sci. Soc. Am. J.*, in press.
- Köhne J. M., B. P. Mohanty, J. Simunek, H. H. Gerke (2004). Numerical evaluation of a second-order water transfer term for variably saturated dual-permeability models. *Water Resour. Res.* W07409, doi:10.1029/2004WR003285, July 2004.
- Ellerbrock, R. H., H. H. Gerke (2004). Characterizing organic matter of soil aggregate coatings and biopores by Fourier transform infrared spectroscopy. *European Journal of Soil Science* 55, 219-228. (doi: EJS 10.1046/j.1365-2389.2004.00593.x)
- Gerke, H. H., J. M. Köhne (2004). Dual-permeability modeling of preferential bromide leaching from a tile drained glacial till agricultural field. *Journal of Hydrology* 289 (1-4), 239-257.
- Hangen, E., H. H. Gerke, W. Schaaf, R. F. Hüttl (2004). Flow path visualization at a lignitic mine soil using iodine-starch staining, *Geoderma* 120, 121-135.
- Buczko, U., H.H. Gerke, R.F. Hüttl, Geostatistische Analyse von Georadar-Reflexionsmustern und Vergleich mit Korrelationsmustern hydraulischer Eigenschaften in Abraumkippen von Braunkohletagebauen. *Z. dt. geol. Ges.* 153/1, 1-16, 2002.
- Köhne, J.M., H.H. Gerke, S. Köhne, Effective diffusion coefficients of soil aggregates with surface skins. *Soil Sci. Soc. Am. J.* 66(5), 1430-1438, 2002.
- Gerke, H.H., J.M. Köhne, Estimating hydraulic properties of soil aggregate skins from sorptivity and water retention. *Soil Sci. Soc. Am. J.* 66(1), 26-36, 2002.
- Köhne, J.M., S. Köhne, H.H. Gerke, Estimating the hydraulic functions of dual-permeability models from bulk soil data. *Water Resour. Res.* 10.1029/2001WR000492, 27 July 2002.)
- Husain, J., H.H. Gerke, R.F. Hüttl, Infiltration measurements for determining effects of land use change on soil hydraulic properties in Indonesia. In: M. Pagliai, R. Jones (eds.), *Proc. Int. Conf., Sustainable Soil Management - Environmental Protection, A Soil Physical Approach, Advances in Geoecology* 35, pp. 229-236, Catena Verlag, Reiskirchen, 2002.
- Buczko, U., H.H. Gerke, R.F. Hüttl, Modeling spatial distributions of lignite mine spoil properties for simulating 2D variably saturated flow and transport. *Ecological Engineering*, 17(2-3), 103-114, 2001.
- Ellerbrock, R.H., A. Höhn, H.H. Gerke, FT-IR studies on soil organic matter from long-term field experiments. In: R.M. Rees, B.C. Ball, C.D. Campbell, C.A. Watson (Eds.): *Sustainable Management of Soil Organic Matter*. (British Soil Sci. Soc. Congress,

- Edinburgh 1999), CABI Publishing CAB International, Wallingford, Oxon UK, pp. 34-41, 2001.
- Ellerbrock, R.H., A. Höhn, H.H. Gerke, Land use effects on soil organic matter composition - A method for functional group analysis. - In: Swift, R. Spark, K.M. (Eds.): Understanding and Managing Organic Matter in Soils, Sediments and Waters. Proceedings of the 9<sup>th</sup> International Conference of the Humic Substances Society (IHSS 9), September 21.-25. 1998, Adelaide, Australia, 263-268, 2001, Hyde Park Press, Adelaide.
- Ellerbrock, R.H., A. Höhn, H.H. Gerke, FT-IR studies on soil organic matter influenced by different land use. In: W.D. Reynolds, C.F. Drury, C.S. Tan (Eds.): Proceedings of the Soil Structure/Carbon Workshop. (4<sup>th</sup> Eastern Canada Soil Structure Workshop, Leamington, Ontario, 23.-25.8. 1999), pp. 211-219, ISBN: 0-9698191-2-9, Harrow, Ontario, Canada, 2001.
- Gerke, H.H., E. Hangen, W. Schaaf, R.F. Hüttl, Spatial variability of potential water repellency in a lignitic mine spoil afforested with *Pinus nigra*. *Geoderma* 102, 255-274, 2001.
- Gerke, H.H., J.W. Molson, E.O. Frind, Modeling the impact of physical and chemical heterogeneity on solute leaching in pyritic overburden mine spoils. *Ecological Engineering*, 17(2-3), 91-101, 2001.
- Hangen, E. H.H. Gerke, W. Schaaf, R.F. Hüttl, 3D-Wurzelverteilung 16-jähriger Schwarzkiefern in einem heterogenen pyrithaltigen Kippenboden. In: W. Merbach, L. Wittenmayer, J. Augustin (Hrsg.), *Physiologie und Funktion von Pflanzenwurzeln*. 11. Borkheider Seminar zur Ökophysiologie des Wurzelraumes, pp. 18-23, B.G. Teubner, Stuttgart, Leipzig, Wiesbaden, 2001.
- Ellerbrock, R.H., A. Höhn, H.H. Gerke, FT-IR Studies on soil organic matter of long-term field experiments. In: M. Kaemmerer, M. Guiesse, J.-R. Bailly, J.-C. Revel (Eds.): *Entering the Third Millenium with a common approach to Humic Substances and Organic Matter in Water, Soil and Sediments*, 24-28 July 2000 Toulouse (France); Proceedings of the 10th International meeting of the International Humic Substances Society: Vol. 3, 1279-1282; Oxford (Pergamon Press), 2000.
- Gerke, H.H., U. Buczko und R.F. Hüttl, Beschreibung von Transport- und Umwandlungsvorgängen in der wasserungesättigten Zone heterogener Braunkohletagebau-Abraumkippen der Lausitz (Teilprojekt 15). In: Hüttl, R.F., E. Weber und D. Klem, Brandenburgische Technische Universität Cottbus (Hrsg.), *Ökologisches Entwicklungspotential der Bergbaufolgelandschaften im Niederlausitzer Braunkohlerevier*, pp. 219-237, B.G. Teubner, Stuttgart, 2000.
- Gerke, H.H., W. Schaaf, E. Hangen und R.F. Hüttl, Präferenzielle Wasser- und Luftbewegung in heterogenen aufgeforsteten Kippenböden im Lausitzer Braunkohletagebauegebiet (Teilprojekt 19). In: Hüttl, R.F., E. Weber und D. Klem, Brandenburgische Technische Universität Cottbus (Hrsg.), *Ökologisches Entwicklungspotential der Bergbaufolgelandschaften im Niederlausitzer Braunkohlerevier*, pp. 258-274, B.G. Teubner, Stuttgart, Leipzig, Wiesbaden, 2000.
- Rolland, W., H.H. Gerke, D. Biemelt, W. Schaaf, M. Kügler, Zusammenschau Transportprozesse. In: Hüttl, R.F., E. Weber und D. Klem, Brandenburgische Technische Universität Cottbus (Hrsg.), *Ökologisches Entwicklungspotential der Bergbaufolgelandschaften im Niederlausitzer Braunkohlerevier*, pp. 332-346, B.G. Teubner, Stuttgart, Leipzig, Wiesbaden, 2000.

- Vogel, T., H.H. Gerke, R. Zhang, M. Th. Van Genuchten, Modeling flow and transport in a two-dimensional dual-permeability system with spatially variable hydraulic properties. *Journal Of Hydrology* 238 (1-2) pp. 78-89, 2000.
- Buczko, U., H.H. Gerke, R.F. Hüttl, Modellierung von Wasserfluß und Stofftransport in der ungesättigten Zone heterogener Abraumkippen des Braunkohlentagebaus im Lausitzer Revier. *Z. dt. geol. Ges.* 150(4), 753-768, 1999.
- Ellerbrock, R.H., A. Höhn, H.H. Gerke, Characterization of soil organic matter from a sandy soil in relation to management practice using FT-IR spectroscopy. *Plant and Soil* 213, 55-61, 1999
- Gerke, H.H., M. Arning, H. Stöppler-Zimmer, Modeling long-term compost application effects on nitrate leaching, *Plant and Soil* 213(1/2), 75-92, 1999.
- Gerke, H.H., U. Hornung, Y. Kelanemer, M. Slodicka, S. Schumacher, *Optimal Control of Soil Venting: Mathematical Modeling and Applications*. ISNM - International Series of Numerical Mathematics 127, 168 p., Birkhäuser Verlag, Basel, 1999.
- Ludwig, R., H.H. Gerke, O. Wendroth, Describing water flow in macroporous field soils using the modified MACRO model. *Journal Of Hydrology* 215, 135-152, 1999.