
CURRICULUM VITAE

Alexander Scheuermann
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EDUCATION

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| 02/2005 | Doctoral degree, Civil Engineering, University of Karlsruhe (TU), Germany
<i>Transient Seepage through quasi-homogeneous dykes (in German)</i> |
| 09/1998 | Diploma degree, Civil Engineering, Technical University of Athens, Greece
<i>Contact erosion due to horizontal groundwater flow (in German)</i> |

SCIENTIFIC RECORD

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| since 12/2006 | Senior Engineer at the Institute for Soil Mechanics and Rock Mechanics at the University of Karlsruhe (TU), leader of the research area "Soil Moisture Dynamic and Measuring Technique" |
| 11/2001 – 11/2006 | Scientific assistant at the Institute for Soil Mechanics and Rock Mechanics, Division of Embankment Dams and Landfill Technology at the University of Karlsruhe (TU) |
| 11/1998 – 10/2001 | Scholarship through the doctoral programme "Natural Disasters" at the University of Karlsruhe supported by the Deutsche Forschungsgemeinschaft (DFG) |
| 10/1991 – 10/1998 | Studies in Civil Engineering with extended studies in soil mechanics with gradation as Civil Engineer (Dipl.-Ing.). |

SCIENTIFIC INTERESTS

Development and use of electromagnetic measurement methods and application for geomechanic and geohydraulic purposes (field and lab)
Multi-phase flow in porous media
Dynamics of soil hydraulic properties due to non-equilibrium conditions
Preferential flow phenomena (fingering and capillary barrier effects)
Mechanics of unsaturated soils
Coupled physical processes
Phase transitions processes in saturated and unsaturated granular media (erosion processes, soil liquefaction)

SELECTED PUBLICATIONS

1. Preko, K., **Scheuermann, A.** and Wilhelm, H. (2009): Comparison of invasive and non-invasive electromagnetic methods in soil water content estimation of a dike model, *Journal of Geophysics and Engineering*, 6, 146-161.
 2. **Scheuermann***, A. and Hübner, C. (2009): On the feasibility of pressure profile measurement, *IEEE - Instrumentation and Measurement Magazine*, 58, 467-474.
 3. **Scheuermann***, A., Huebner, C., Schlaeger, S., Wagner, N., Becker, R. and Bieberstein, A. (2009): Spatial time domain reflectometry and its application for the measurement of water content distributions along flat ribbon cables in a full-scale levee model, *Water Resour. Res.*, 45, W00D24, doi:10.1029/2008WR007073.
 4. Wagner, N. and **Scheuermann***, A. (2009): On the relationship between matric potential and dielectric properties of organic free soils: A sensitivity study, *Canadian Geotechnical Journal*, (accepted).
 5. Rings, J., **Scheuermann, A.**, Preko, K. and Hauck, C. (2008): Soil water content monitoring on a dike model using electrical resistivity tomography, *Near Surface Geophysics*, 6, 123-132.
 6. Becker, R., **Scheuermann, A.**, Schlaeger, S., Hübner, C. and Wagner, N. (2008): Spatial Time Domain Reflectometry (Spatial TDR) - Principles, limitations and accuracy, Toll, D., Augarde, C., Gallipoli, D. and Wheeler, S., eds. *Unsaturated Soils - Advances in Geo-Engineering*, Taylor and Francis, 181-187.
 7. **Scheuermann, A.** (2008): Water content dynamics in unsaturated soils - Results of experimental investigations in laboratory and in situ, Toll, D., Augarde, C., Gallipoli, D. and Wheeler, S., eds. *Unsaturated Soils - Advances in Geo-Engineering*, Taylor and Francis, 197-203.
 8. **Scheuermann, A.**, Bieberstein, A., Triantafyllidis, T., Huebner, C., Becker, R., Schlaeger, S. and Wagner, N. (2008): Spatial Time Domain Reflectometry (Spatial TDR) - On the use in geotechnics and geohydraulics, Toll, D., Augarde, C., Gallipoli, D. and Wheeler, S., eds. *Unsaturated Soils - Advances in Geo-Engineering*, Taylor and Francis, 189-195.
 9. **Scheuermann, A.** and Bieberstein, A. (2007): Determination of the soil water retention curve and the unsaturated hydraulic conductivity from the particle size distribution, Schanz, T., eds. *Proc. Mechanics of Unsaturated Soils, Experimental Unsaturated Soil Mechanics*, Springer, 421-433.
 10. **Scheuermann, A.** and Bieberstein, A. (2007): Preferential water movement in homogeneous soils, Schanz, T., eds. *Proc. Mechanics of Unsaturated Soils, Experimental Unsaturated Soil Mechanics*, Springer, 461-473.
 11. **Scheuermann, A.** and A. Bieberstein. 2006. Monitoring of dams and dikes – water content determination using Time Domain Reflectometry (TDR). In: 13. Donau-Europäische Konferenz für Geotechnik, Ljubljana, Slowenien, Mai 29-31, 2006, Band 2, ISBN 961-90043-9-6, 493-498.
 12. Hauck, C. and **A. Scheuermann**. 2005. Comparing Time Domain Reflectometry and Electrical Resistivity tomography measurements for estimating soil water distributions. In K. Kupfer et al.: Sixth International Conference on Electromagnetic Wave Interaction with Water and Moist Substances, Weimar, Germany, May 29 – June 1, 2005, S. 511-518.
 13. **Scheuermann, A.** and A. Bieberstein. 2005. Influence of the initial water content on the transient seepage through dikes. In: International Symposium in Dam Safety and Detection of Hidden Troubles of Dams and Dikes, Xi'an, China, November 1-3.
 14. **Scheuermann, A.**, S. Schlaeger, R. Becker and A. Bieberstein. 2005. Measurement of moisture content in a highly electrical lossy material using Time Domain Reflectometry. In K. Kupfer et al.: Sixth International Conference on Electromagnetic Wave Interaction with Water and Moist Substances, Weimar, Germany, May 29 – June 1, 2005, S. 166-173.
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