



ALERT - Geomaterials Member Data



Date: 23 September 2010

Team:	<i>Delft University of Technology Geo-Engineering</i>
Responsible ALERT member:	<i>Prof. Michael A. Hicks m.a.hicks@tudelft.nl</i>
Link to the website¹:	<i>www.geo.citg.tudelft.nl</i>
Size of the research group:	<i>Researchers: 14 Post-docs: 3 Doctoral Students: 38 Technical Assistants: 3</i>

Researchers	Topic(s) of interest²
<i>Michael Hicks</i>	<i>Constitutive Modelling (liquefaction, strain localisation, coupled problems) Stochastic Analysis (heterogeneity, random fields, Monte Carlo, reliability, risk) Adaptive Mesh Refinement (smoothing, error indicators, mesh generation)</i>
<i>Ronald Brinkgreve</i>	<i>Constitutive Modelling (elasticity, plasticity, hardening, softening, parameter selection) Finite Element Method and Numerical Methods / PLAXIS Regularization Techniques for Softening Materials</i>
<i>Johan Bosch</i>	<i>Underground Space Technology (tunnelling, foundation engineering, earth retaining structures, diaphragm walls, bored pile structures)</i>
<i>Hans Bruining</i>	<i>Multiphase Flow in Porous Media (transport processes, natural convection flow) Mathematics (hyperbolic conservation laws, numerical methods) Geostatistics (stochastic random fields, marked point processes, Markov chains, percolation theory) Physical Chemistry (thermodynamics, colloid/surface chemistry)</i>
<i>Wout Broere</i>	<i>Underground Construction (tunnelling, trenchless technologies, urban development) Foundation Engineering (pile foundations, offshore installations) Experimental Soil mechanics (centrifuge testing, photo-elasticity, element tests)</i>

¹ Link to the ALERT page active in the web page in the site of the local institution.



<i>Jelke Dijkstra</i>	<i>Physical Modelling (centrifuge testing, photo-elasticity, element tests)</i>
<i>Hilbert-Jan Everts</i>	<i>Foundation Engineering (building pits, infrastructure)</i>
<i>Timo Heimovaara</i>	<i>Biogeochemistry ((Non-)Equilibrium, redox chemistry, organic matter transformation)</i> <i>Geophysics (Electrical Resistivity Tomography, TDR, Induced polarization)</i> <i>Coupled Flow and Reactive Transport (multi phase flow, preferential pathways and biogeochemical reactivity)</i>
<i>Frans Molenkamp</i>	<i>Continuum Mechanics (saturated/unsaturated soils, multi-physics)</i> <i>Constitutive Modelling (instability, liquefaction, strain localisation, creep)</i> <i>Inverse and Stochastic Analyses (Kalman filters, correlated distributions)</i>
<i>Dominique Ngan-Tillard</i>	<i>Engineering Geology (subsurface modelling, degradation of materials)</i> <i>Geophysics (data integration)</i>
<i>Sjaak Oostveen</i>	<i>Continuum Modelling of Soils by a Coupled System of Grains, Liquid and Gas, with all kinds of related coupled problems (saturated/unsaturated soils, micro/macro gas bubbles, coupling phenomena)</i>
<i>Leon van Paassen</i>	<i>Engineering Geology (engineering properties of soils and rocks, physical modelling)</i> <i>Chemo- and Bio-Mechanical Couplings</i> <i>Bio-mediated Ground Improvement</i>
<i>Frits van Tol</i>	<i>Deep Foundations (pile capacity, pile load testing, installation effects)</i> <i>Deep Excavations (retaining structures, sheet pile walls, impact on buildings)</i> <i>Foundation Technology (grouting, diaphragm walls, experience databases)</i> <i>Tailings Engineering (dewatering fine oil sand tailings)</i>
<i>Gerard Uffink</i>	<i>Groundwater Mechanics, Flow and Transport</i>

Post-docs	Topic(s) of interest²
<i>Marti Lloret Cabot</i>	<i>Heterogeneity (unsaturated soils, reliability, stochastic analysis)</i>
<i>Jonathan Nuttall</i>	<i>Random finite element method (HPC, 3D finite elements, reliability)</i>
<i>Jerzy Babinski</i>	<i>Numerical modelling of concrete structures (non-local models)</i> <i>Objective modelling of soil behaviour (XFEM)</i>

² Each topic should be actively linked to the list of the relative pdf papers.



Present PhD students	Title of the thesis
<i>Patrick Arnold</i>	<i>Influence of heterogeneity on the stability of unsaturated slopes</i>
<i>Siamak Bakhtiari</i>	<i>Influence of heterogeneity on the liquefaction potential of 3D slopes</i>
<i>Elisa Battistutta</i>	<i>Swelling and sorption experiments on methane, nitrogen, and carbon dioxide for enhanced coal bed methane</i>
<i>Shirish Kumar Baviskar</i>	<i>Preferential hydraulic flow through landfill medium</i>
<i>Vera van Beek</i>	<i>Piping phenomena: erosion, sludge and displacement piping</i>
<i>Anders Beijer-Lundberg</i>	<i>Pile installation effects in soft soils</i>
<i>Ajay Bjatt</i>	<i>Using wet lands for arsenic remediation in Bihar (India)</i>
<i>Emmanuel Buaba</i>	<i>Probabilistic modelling of 3D rock slopes</i>
<i>XiaoHui Chen</i>	<i>Unsaturated isothermal hydro-mechanical-chemo modelling based on modified mixture theory</i>
<i>Nguyen Chi</i>	<i>Investigation of rapid pile testing</i>
<i>Bruno Coelho</i>	<i>Behaviour of transition zones in railways</i>
<i>Jan van Dalen</i>	<i>Improvement of diaphragm wall installation process</i>
<i>Ali Akbar Eftekhari</i>	<i>Exergy analysis of underground coal gasification with storage of CO₂.</i>
<i>Suzanne van Eekelen</i>	<i>Piled embankments</i>
<i>Harun Kürşat Engin</i>	<i>Numerical modelling of installation effects of piles driven in sand</i>
<i>John van Esch</i>	<i>Adaptive multiscale finite element method for subsurface flow simulation</i>
<i>Daniele Festa</i>	<i>Tunnel-boring process in urban environment: improved modelling to improve reliability</i>
<i>Nathanael Geleynse</i>	<i>Physics-based modelling of river deltas</i>
<i>Amin Ameri Ghasrodashti</i>	<i>CO₂ injection in fractured carbonate oil reservoirs: recovery accompanied by CO₂ storage</i>
<i>Anneke Hommels</i>	<i>Inverse modelling of soil behaviour including geological heterogeneity</i>
<i>Jeroen Hoving</i>	<i>Nonlinear soil vibration induced by high-speed trains</i>
<i>Richard de Jager</i>	<i>Flow slides of submerged slopes composed of loose sands</i>
<i>Pantelis Karamitopoulos</i>	<i>Depositional models of coal deposits</i>
<i>Roozbekh Khosrokhavar</i>	<i>Storage of carbon dioxide in depleted gas fields</i>



<i>Suze Anne Korteland</i>	<i>Measurement of enhanced mixing in porous media</i>
<i>Elina Kuitunen</i>	<i>Influence of nuclear repository design on management of gases</i>
<i>François Mathijssen</i>	<i>Material modelling and constitutive behaviour of organic soils</i>
<i>Raymond van der Meij</i>	<i>Benefits of artificial computing in geo-engineering</i>
<i>Annemieke Mens</i>	<i>Application of artificial intelligence to Geo Brain database</i>
<i>Jonathan Nuttall</i>	<i>High performance computing using the Random Finite Element Method</i>
<i>Michel Ponziani</i>	<i>Electrical survey of peat deposits</i>
<i>Alexander Rohe</i>	<i>Uniqueness limits of boundary-value problems for Mohr-Coulomb materials</i>
<i>Sanez Saeid</i>	<i>Physical aspects of heat transfer for low gradient geothermal energy</i>
<i>Narjes Shojaikaveh</i>	<i>Influence of N₂/CO₂ injection to the wettability behavior of the coal-water-gas system</i>
<i>Tan Shuhong</i>	<i>The Material Point Method in geotechnical engineering</i>
<i>Rodriaan Spruit</i>	<i>Detection methods to assess quality of diaphragm walls</i>
<i>Rahul Thorat</i>	<i>Improved gas injection</i>
<i>Yutian Yao</i>	<i>Engineering treatment of fine oil sands tailings</i>