

REFERENCES

- Adams, B.A., Wulfsohn, D. & Fredlund, D.G. (1996). Air volume change measurement in unsaturated soil testing using a digital pressure-volume controller. *Geotechnical Testing Journal*, GTJODJ, 19(1): 12-21.
- Agar, J.G., Morgenstern, N.R. & Scott, J.D. (1986). Thermal expansion and pore pressure generation in oil sands. *Can. Geotech. J.*, 23: 327-333.
- Agar, J.G., Morgenstern, N.R. & Scott, J.D. (1987). Shear strength and stress-strain behaviour of Athabasca oil sand at elevated temperatures and pressures. *Can. Geotech. J.*, 24: 1-10.
- Ahmed, S., Lovell, C.W. & Diamond, S. (1974). Pore sizes and strength of compacted clay. *J. Geotech. Engrg.*, ASCE, 100 (4): 407-425.
- Akagi, H. & Komiya, K. (1995). Constant rate of strain consolidation properties of clayey soil at high temperature. *Proc. Int. Symp. on Compression and Consolidation of Clayey Soils*, Hiroshima. H. Yoshikuni and O. Kusakabe (eds.), A.A. Balkema, 1: 3-8.
- Alcoverro, J., Gens, A. & Alonso, E.E. (1998). Constitutive models for unsaturated soils: thermodynamic approach. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 455-460.
- Al-Hunaidi, M.O., Chen, P.A., Rainer, J.H. & Tremblay, M. (1996). Shear moduli and damping in frozen and unfrozen clay by resonant column tests. *Can. Geotech. J.*, 33: 510-514.
- Allam, M.M. & Sridharan, A. (1987). Stresses present in unsaturated soils. *J. Geotech. Engrg.*, ASCE, 113(11): 1395-1399.
- Almanza, R., Castañeda, R. & Silva, G. (1995). Temperature-electrolyte effects on clay soil liners. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 343-348.
- Al-Mukhtar, M. (1995). Macroscopic behaviour and microstructural properties of a kaolinite clay under controlled mechanical and hydraulic state. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 3-9.
- Alonso, E.E., Lloret, A., Gens, A. & Battle, F. (1989). A new approach for the prediction of long term heave. *Proc. 12th Int. Conf. on Soil Mechanics and Foundation Engineering*, Rio de Janeiro, 571-574.
- Alonso, E.E., Gens, A. & Josa, A. (1990). A constitutive model for partially saturated soils. *Géotechnique*, 40(3): 405-430.
- Alonso, E.E., Gens, A. & Lloret, A. (1991). Double structure model for the prediction of long-term movements in expansive materials. *Proc. 7th Int. Conf. on Comp. Meth. and Adv. in Geomechanics*, Cairns, 1: 541-548.
- Alonso, E.E., Gens, A. & Yuk Gehling, W.Y. (1994). Elastoplastic model for unsaturated expansive soils. *Proc. 3rd European Conf. on Numerical Methods in Geotech. Engrg*, Manchester. I. Smith (ed.), Balkema, 11-18.
- Alonso, E.E., Lloret, A., Gens, A. & Yang, D.Q. (1995). Experimental behaviour of highly expansive double-structure clay. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 11-16.
- Alonso, E.E., Lloret, A., Delahaye, C.H., Vaunat, J., Gens, A. & Volckaert, G. (1998a). Coupled analysis of a backfill hydration test. *Int. J. Numer. Anal. Meth. Geomech.*, 22: 1-27.
- Alonso, E.E., Gens, A. & Vaunat, J. (1998b). Yield and irreversible behaviour in expansive soils. *Proc. 5th Int. Workshop on Key Issues in Waste Isolation Research*, Barcelona.
- Alva-Hurtado, J.E. & Selig, E.T. (1981). Survey of laboratory devices for measuring soil volume change. *Geotechnical Testing Journal*, GTJODJ, 4 (1): 11-18.

- Anderson, D.G. & Stokoe, K.H. (1978). Shear modulus: a time dependent soil property. *Dynamic Geotechnical Testing*, ASTM STP 654, Philadelphia, 66-90.
- Anderson, W.F., Goodwin, A.K., Pyrah, I.C. & Salman, T.H. (1997). Equipment for one-dimensional compression and triaxial testing of unsaturated granular soils at low stress levels. *Geotechnical Testing Journal*, GTJODJ, 20 (1): 74-89.
- Angulo-Jaramillo, R., Gaudet, J.-P., Thony, J.-L. & Vauclin, M. (1993). Détermination expérimentale des caractéristiques hydrodynamiques d'un sol gonflant non saturé pour la modélisation des écoulements. *Rev. Franç. Géotech.*, 62: 49-57.
- ASTM (1993). Annual book of ASTM standards, Vol. 04.08, Philadelphia.
- ASTM (1993). Annual book of ASTM standards, Vol. 14.03, Philadelphia.
- ASTM STP 470B (1981). Manual on the use of thermocouples in temperature measurement. ASTM Publication, Philadelphia.
- Atkinson, J.H. & Bransby, P.L. (1978). The mechanics of soils. An introduction to critical state soil mechanics. Mc Graw-Hill, London.
- Au, W.-C. & Chae, Y.S. (1980). Dynamic shear modulus of treated expansive soils. *J. Geotech. Engrg.*, ASCE, 106 (3): 255-273.
- Baldi, G., Borsetto, M. & Hueckel, T. (1986). Thermally induced strain and pore pressure in clays. *Proc. 1st Int. Conf. on Environmental Geotechnics*, H.Y. Fang (ed.), ENVO-Publishing Co. Bethlehem.
- Baldi, G., Hueckel, T. & Pellegrini, R. (1988). Thermal volume changes of mineral-water system in low porosity clay soils. *Can. Geotech. J.*, 25: 807-825.
- Baldi, G., Hueckel, T. & Pellegrini, R. (1991). Developments in modelling of thermo-hydrogeomechanical behaviour of Boom clay and clay based buffer materials. *Nuclear Science and Technology*, Commission of European Communities Report EUR 13365, Brussels.
- Balmaceda, A.R. (1991). Suelos compactados. Un estudio teórico y experimental. *PhD Thesis*, Universidad Politécnica de Cataluña.
- Barden, L. & Sides, G.R. (1967). The diffusion of air through the pore water of soils. *Proc. 3rd Asian Reg. Conf. on Soil Mechanics Foundation Engineering*, Israel, 1: 135-138.
- Barden, L. & Sides, G.R. (1970). Engineering behaviour and structure of compacted clay. *J. Soil Mech. Found. Div.*, ASCE, 96 (4): 1171-1200.
- Batchelor, G.K. (1983). An introduction to fluid dynamics. Cambridge University Press, Cambridge.
- Baumgartl, Th., Winkelmann, P., Graesle, W., Richards, B.G. & Horn, R. (1995). Measurement of the interaction of soil mechanical properties and hydraulic processes with a modified triaxial test. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 2: 433-438.
- Bear, J. (1972). Dynamics of fluids in porous media. American Elsevier Publishing Company, Inc. New York.
- Bear, J. & Gilman, A. (1995). Migration of salts in the unsaturated zone caused by heating. *Letters in Mathematical Physics*, 19: 139-156.
- Belanteur, N., Tacherifet, S. & Pakzad, M. (1997). Étude des comportements mécanique, thermo-mécanique et hydro-mecánique des argiles gonflantes et non gonflantes fortement compactées. *Rev. Franç. Géotech.*, 78: 31-50.
- Benson, C.H. & Daniel, D.E. (1990). Influence of clods on hydraulic conductivity of compacted clay. *J. Geotech. Engrg.*, ASCE, 116 (8): 1231-1248.
- Bentoumi, O. & Alimi-Ichola, I. (1996). Détermination expérimentale de la conductivité hydraulique d'un sol non saturé au laboratoire. *Bulletin of Int. Assoc. of Engineering Geology*, Paris, 53.
- Bergenstahl, L., Gabrielsson, A. & Mulabdic, M. (1994). Changes in soft clay caused by increases in temperature. *Proc. 13th Int. Conf. on Soil Mechanics and Foundation Engineering*, New Dehli, 4: 1637-1640.
- Bernier, F., Volckaert, G., Alonso, E. & Villar, M. (1997). Suction-controlled experiments on Boom clay. *Engineering Geology*, 47: 325-338.
- Biarez, J., Fleureau, J.-M., Zerhouni, M.-I. & Soepandji, B.S. (1988). Variations de volume des sols argileux lors de cycles de drainage-humidification. *Rev. Franç. Géotech.*, 41: 63-71.
- Bishop, A.W. (1959). The principle of effective stress. *Tecknisk Ukeblad*, 106(39): 859-863.

- Bishop, A.W. & Donald, I.B.(1961). The experimental study of partly saturated soil in the triaxial apparatus. *Proc. 5th Int. Conf. on Soil Mechanics and Foundation Engineering*, Paris, 13-21.
- Bishop, A.W. & Blight, G.E. (1963). Some aspects of effective stress in saturated and partly saturated soils. *Géotechnique*, 13(3): 177-197.
- Bishop, A.W. & Wesley, L.D. (1975). A hydraulic triaxial apparatus for controlled stress path testing. *Géotechnique*, 25 (4): 657-670.
- Bocking, K.A. & Fredlund, D.G. (1980). Limitations of the axis translation technique. *Proc. 4th Int. Conf. on Expansive Soils*, Denver, Colorado, 117-135.
- Boley, B.A. & Weiner, J.H. (1960). Theory of thermal stresses. John Wiley & Sons, Inc., New York.
- Bolt, G.H. (1956). Physico-chemical analysis of the compressibility of pure clays. *Géotechnique*, 6 (2): 86-93.
- Bolzon, G., Schrefler, B.A. & Zienkiewicz, O.C. (1996). Elastoplastic soil constitutive laws generalized to partially saturated states. *Géotechnique*, 46(2): 279-289.
- Boudali, M., Leroueil, S. & Srinivasa Murthy, B.R. (1994). Viscous behaviour of natural clays. *Proc. 13th Int. Conf. on Soil Mechanics and Foundation Engineering*, New Dehli, 1: 411-416.
- Bovet, D., Jouanna, P., Recordon, E. & Saix, C. (1995). Experimental studies. *Modern Issues in Non-Saturated Soils*. A. Gens, P. Jouanna and B.A. Schrefler (eds.), Springer-Verlag, Wien, 159-199.
- Brandl, H. (1992). Mineral liners for hazardous wastes containment. *Géotechnique*, 42 (1): 57-65.
- Burghignoli, A. & Paoliani, P. (1985). Hydrodynamic and mechanical aspects of heat transfer in clay. *Proc. 11th Int. Conf. on Soil Mechanics and Foundation Engineering*, San Francisco, 3: 1245-1248.
- Burghignoli, A., Desideri, A. & Miliziano, S. (1992). Deformability of clays under non isothermal conditions. *Rivista Italiana di Geotecnica*, 26 (4): 227-236.
- Burghignoli, A., Desideri, A. & Miliziano, S. (1995). Discussion. *Soils and Foundations*, 35(3): 122-124.
- Burland, J.B. & Symes, M.J. (1982). A simple axial displacement gauge for use in the triaxial apparatus. *Géotechnique*, 32 (1): 62-65.
- Burland, J.B. (1990). On the compressibility and shear strength of natural clays. *Géotechnique*, 40(3): 329-378.
- Butterfield, R. (1979). A natural compression law for soils (an advance on e-log p'). *Géotechnique*, 29(4): 469-480.
- Campanella, R.G. & Mitchell, J.R. (1968). Influence of temperature variations on soil behaviour. *J. Soil Mech. Found. Div.*, ASCE, 94(3): 709-734.
- Castellan, G.W. (1971). Physical chemistry. Addison-Wesley Publishing Company, Reading, Massachusetts, 2nd ed.
- CATSIUS CLAY Topical report (1998). Calculation and testing of behaviour of unsaturated clay as barrier in radioactive waste repositories. Compiled by E.E. Alonso and J. Alcoverro. European Commission, Directorate-General Science, Research and Development, DOC XII/286/98-EN.
- Chahal, R.S. (1964). Effect of temperature and trapped air on the energy status of water in porous media. *Soil Science*, 98: 107-112.
- Chapman, N.A. (1985). Feasibility studies for a radioactive waste repository in a deep clay formation. Commission of European Communities, Report EUR 10061, Brussels.
- Chatterji, P.K. & Morgenstern, N.R. (1990). A modified shear strength formulation for swelling clay soils. *Physico-Chemical Aspects of Soil and Related Materials*, ASTM STP 1095, K.B. Hoddinott and R.O. Lamb (eds.), Philadelphia, 118-135.
- CIEMAT (1998). Ensayos THM para el proyecto FEBEX, primer informe. Technical Report CIEMAT/IAE/54111/4/98, Instituto de Medioambiente, Madrid.
- Clayton, C.R.I. & Khatrush, S.A. (1986). A new device for measuring local axial strains on triaxial specimens. *Géotechnique*, 36 (4): 593-597.
- Clayton, C.R.I., Khatrush, S.A., Bica, A. & Siddique, A. (1989). The use of Hall effect semiconductors in geotechnical instrumentation. *Geotechnical Testing Journal*, GTJODJ, 12 (1): 69-76.

- Cole, D.M. (1978). A technique for measuring radial deformation during repeated load triaxial testing. *Can. Geotech. J.*, 15: 426-429.
- Constantz, J. (1991). Comparison of isothermal and isobaric water retention paths in nonswelling porous materials. *Water Resour. Res.*, 12(12): 3165-3170.
- Coop, M.R., Atkinson, J.H. & Taylor, R.N. (1995). Strength and stiffness of structured and unstructured soils. *Proc. 11th European Conf. on Soil Mechanics and Foundation Engineering*, Copenhague, 1: 55-62.
- Coop, M.R., Jovicic & Atkinson, J.H. (1997). Comparisons between soil stiffnesses in laboratory tests using dynamic and continuous loading. *Proc. 14th Int. Conf. on Soil Mechanics and Foundation Engineering*, Hamburg, 1: 267-270.
- Corey, A.T. (1957). Measurement of water and air permeability in unsaturated soil. *Soil Sci. Soc. Am. Proc.*, 21: 7-10.
- Coussy, O. (1995). Mechanics of porous continua. *John Wiley & Sons Ltd*. Chichester.
- Coussy, O., Eymard, R. & Lassabatère, T. (1998). Constitutive modelling of unsaturated drying deformable materials. *J. Engrg. Mechanics*, ASCE, 124(6): 658-667.
- Crawford, C.B. (1986). State of the art: evaluation and interpretation of soil consolidation tests. *Consolidation of Soils: Testing and Evaluation*, ASTM STP 892, R.N. Yong and F.C. Townsend (eds.), Philadelphia, 71-103.
- Cruz, S. (1996). Assaig del sòl no saturat sota càrrega isòtropa i succió controlada. Desenvolupament d'un equip d'assaig i modelització numèrica. *MSc Thesis*, Universidad Politécnica de Cataluña.
- Cuccovillo, T. & Coop, M.R. (1997). The measurement of local axial strains in triaxial tests using LVDTs. *Géotechnique*, 47(1): 167-171.
- Cuevas, J., Villar, M.V., Martín, M., Cobena, J.C. & Leguey, S. (1998). Thermo-hydraulic gradients on bentonite: time-dependent distribution of soluble salts, microstructural effects and modification of the hydraulic and mechanical behaviour. *Proc. 5th Int. Workshop on Key Issues in Waste Isolation Research*, Barcelona.
- Cui, Y.G. (1993). Etude du comportement d'un limon compacté non saturé et de sa modélisation dans un cadre élasto-plastique. *PhD Thesis*, Ecole Nationale des Ponts et Chaussées, Paris.
- Cui, Y.G. & Delage, P. (1996). Yielding and plastic behaviour of an unsaturated compacted silt. *Géotechnique*, 46(2): 291-311.
- Cui, Y.G., Delage, P. & Alzoghbi, P. (1998a). Microstructure and collapse behaviour of a loess from Northern France. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 31-36.
- Cui, Y.G., Yahia-Aissa, M. & Delage, P. (1998b). A model for the volume change behaviour of heavily compacted swelling clays. *Proc. 5th Int. Workshop on Key Issues in Waste Isolation Research*, Barcelona.
- Custodio, E. & Llamas, M.R. (1983). Hidrología subterránea. Ediciones Omega, 2nd ed. Barcelona.
- Dangla, P. & Coussy, O. (1996). Drainage and drying of deformable porous materials: one dimensional case study. *IUTAM Symposium on Mechanics of Granular and Porous Materials*, Cambridge.
- Dangla, P., Malinsky, L. & Coussy, O. (1997). Plasticity and imbibition-drainage curves for unsaturated soils: A unified approach. *Proc. Numerical Models in Geomechanics*, Montreal. Pietruszczak and Pande (eds), Balkema, 141-146.
- Daniel, D.E. (1982). Measurement of hydraulic conductivity of unsaturated soils with thermocouple psychrometers. *Soil Sci. Soc. Am. J.*, 46: 1125-1129.
- Das, B.M. (1983a). Fundamentals of soil dynamics. Elsevier Science Publishing Co., Inc. New York.
- Das, B.M. (1983b). Advanced soil mechanics. Hemisphere Publishing Corporation, Washington.
- Davies, P. (1975). Creep characteristics of three undisturbed clays. *PhD Thesis*, University of London.
- Davis, S.N. & De Wiest, R.J.M. (1966). Hydrogeology. John Wiley & Sons, New York.
- De Bruyn, D. & Thimus, J.-F. (1993). The influence of temperature on mechanical characteristics of Boom clay: the results of a first laboratory programme. *Proc. 3rd Int. Workshop on Clay Barriers*, ISMES, Bergamo.

- De Bruyn, D. & Thimus, J.-F. (1995). The influence of anisotropy on clay strength at high temperature. *Proc. 11th European Conf. on Soil Mechanics and Foundation Engineering*, Copenhagen, 3: 37-42.
- De Bruyn, D. & Thimus, J.-F. (1996). The influence of temperature on mechanical characteristics of Boom clay: The results of an initial laboratory programme. *Engineering Geology*, 41: 117-126.
- De Diny, S., Masrouri, F. & Tisot, J.-P. (1993). Détermination de la conductivité hydraulique d'un limon non saturé. *Rev. Franç. Géotech.*, 62: 67-74.
- De las Cuevas, C. (1997). Pore structure characterization in rock salt. *Engineering Geology*, 47: 17-30.
- Delage, P., Tessier, D. & Audiguier, M.M. (1982). Use of the cryoscan apparatus for observation of freeze-fractured planes of a sensitive Quebec clay in scanning electron microscopy. *Can. Geotech. J.*, 19: 111-114.
- Delage, P. & Lefebvre, G. (1984). Study of the structure of a sensitive Champlain clay and of its evolution during consolidation. *Can. Geotech. J.*, 21: 21-35.
- Delage, P., Suraj de Silva, G.P.R. & De Laure, E. (1987). Un nouvel appareil triaxial pour les sols non saturés. *Proc. 9th European Conf. on Soil Mechanics and Foundation Engineering*, Dublin, 26-28.
- Delage, P., Vicol, T. & Suraj de Silva, G.P.R. (1992). Suction controlled testing of non-saturated soils with an osmotic consolidometer. *Proc. 7th Int. Conf. on Expansive Soils*, Dallas, 206-211.
- Delage, P., Audiguier, M., Cui, Y.-J. & Howat, D. (1996). Microstructure of a compacted silt. *Can. Geotech. J.*, 33: 150-158.
- Delage, P., Cui, Y.J., Yahia-Aïsa, M. & De Laure, E. (1998a). On the saturated hydraulic conductivity of a dense compacted bentonite. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 344-349.
- Delage, P., Howat, M.D. & Cui, Y.J. (1998b). The relationship between suction and swelling properties in a heavily compacted unsaturated clay. *Engineering Geology*, 50: 31-48.
- Demars, K.R. & Charles, R.D. (1982). Soil volume changes induced by temperature cycling. *Can. Geotech. J.*, 19: 188-194.
- Derjaguin, B.V., Karasev, V.V. & Khromova, E. N. (1986). Thermal expansion of water in fine pores. *J. Colloid and Interface Sci.*, 9(11): 586-587.
- Diamond, S. (1970). Pore size distributions in clays. *Clays and Clay Minerals*, 18: 7-23.
- Dimos, A. (1991). Measurement of soil suction using transistor psychrometer. Internal Report IR/91-3, Special Research Section, Materials Technology Department, Vic Roads.
- Dineen, K. (1997). The influence of soil suction on compressibility and swelling. *PhD Thesis*, University of London.
- Drumright, E. (1987). Shear strength for unsaturated soils. *PhD Thesis*, University of Colorado, Fort Collins.
- Dyvik, R., Lacasse, S. & Martin, R. (1985). Coefficient of lateral stress from oedometer cell. *Proc. 11th Int. Conf. on Soil Mechanics and Foundation Engineering*, San Francisco, 2: 1003-1006.
- Ed Diny, A., Masrouri, F. & Tisot, J.-P. (1993). Détermination de la conductivité hydraulique d'un limon non saturé. *Rev. Franç. Géotech.*, 62: 67-74.
- Edgar, T.V. (1993). One and three dimensional, three phase deformation in soil. *Unsaturated Soils Geotechnical Special Publications N° 39*, Dallas. S.L. Houston and W.K. Wray (eds.), ASCE, 139-150.
- Edil, T.B. & Alazany, A.S. (1992). Lateral swelling pressures. *Proc. 7th Int. Conf. on Expansive Soils*, Dallas, 227-232.
- El-Hosri, M.S., Biarez, J. & Hicher, P.Y. (1981). Dynamic triaxial and vibratory in-situ behaviour of cohesive soils. *Proc. Int. Conf. on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*, St. Louis, 2: 585-590.
- El-Sohby, M.A., Mazen, S.O. & Abou-Taha, M.M. (1989). Effect of apparatus deformability on swelling pressure. *Proc. 12th Int. Conf. on Soil Mechanics and Foundation Engineering*, Rio de Janeiro, 1: 589-592.

- Eriksson, L.G. (1989). Temperature effects on consolidation properties of sulphide clays. *Proc. 12th Int. Conf. on Soil Mechanics and Foundation Engineering*, Rio de Janeiro, 2087-2090.
- Erol, O. & Ergun, U. (1994). Lateral swell pressures in expansive soils. *Proc. 13th Int. Conf. on Soil Mechanics and Foundation Engineering*, New Delhi, 1511-1514.
- Esteban, F. (1990). Caracterización experimental de la expansividad de una roca evaporítica. Identificación de los mecanismos de hinchamiento. *PhD Thesis*, Universidad de Cantabria.
- Fam, M. & Santamarina, J.C. (1996). Coupled diffusion-fabric-flow phenomena: an effective stress analysis. *Can. Geotech. J.*, 33: 515-522.
- Feng, M., Gan, J.K-M. & Fredlund, D.G. (1998). A laboratory study of swelling pressure using various test methods *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 350-355.
- Fleureau, J.-M., Kheirbek-Saoud, S., Soemiro, R. & Taibi, S. (1993). Behaviour of clayey soils on drying-wetting paths. *Can. Geotech. J.*, 30: 287-296.
- Fleureau, J.-M. & Taibi, S. (1995). Water-air permeabilities of unsaturated soils. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 2: 479-484.
- Fredlund, D.G. (1975). A diffused air volume indicator for unsaturated soils. *Can. Geotech. J.*, 12: 533-539.
- Fredlund, D.G. & Morgenstern, N.R. (1977). Stress state variables for unsaturated soils. *J. Geotech. Engrg. Div.*, ASCE, 103(5): 447-466.
- Fredlund, D.G. & Rahardjo, H. (1993). Soil mechanics for unsaturated soils. John Wiley & Sons, Inc. New York.
- Fredlund, D.G. & Xing, A. (1994). Equations for the soil-water characteristic curve. *Can. Geotech. J.*, 31: 521-532.
- Fredlund, D.G., Xing, A., Fredlund, M.D. & Barbour, S.L. (1995). The relationship of the unsaturated soil shear strength to the soil-water characteristic curve. *Can. Geotech. J.*, 32: 440-448.
- Gan, J.K.M., Fredlund, D.G. & Rahardjo, H. (1988). Determination of the shear strength of unsaturated soils. *Can. Geotech. J.*, 25: 500-510.
- García, A. (1998). Coupled phenomena in unsaturated porous media with discontinuities. Theoretical and numerical modelling. *PhD Thesis*, Universidad Politécnica de Cataluña.
- García-Bengochea, I., Lovell, C.W. & Altschaeffl, A.G. (1979). Pore distribution and permeability of silty clays. *J. Geotech. Engrg.*, ASCE, 105(7): 839-856.
- Gardner, W.R. (1956). Calculation of capillary conductivity from pressure plate outflow data. *Soil Sci. Soc. Am. Proc.*, 20: 317-320.
- Geankoplis, C.J. (1983). Transport processes: momentum, heat and mass. Allyn and Bacon, Inc. Boston.
- Gens, A. & Alonso, E.E. (1992). A framework for the behaviour of unsaturated expansive clays. *Can. Geotech. J.*, 29: 1013-1032.
- Gens, A. (1993). Constitutive modelling of expansive soils. *Unsaturated soils: Recent developments and applications*. Civil Engineering European Courses, Barcelona.
- Gens, A. (1995). Constitutive laws. *Modern issues in non-saturated soils*. A. Gens, P. Jouanna and B.A. Schrefler (eds.), Springer Verlag, Wien, 129-158.
- Gens, A., Alonso, E.E., Suriol, J. & Lloret, A. (1995). Effect of structure on the volumetric behaviour of a compacted soil. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 83-88.
- Gens, A., García-Molina, A.J., Olivella, S., Alonso, E.E. & Huertas, F. (1998). Analysis of a full scale in situ test simulating repository conditions. *Int. J. Numer. Anal. Meth. Geomech.*, 22: 515-548.
- Gera, F., Hueckel, T. & Peano, A. (1996). Critical issues in modelling the long-term hydro-thermo-mechanical performance of natural clay barriers. *Engineering Geology*, 41: 17-33.
- Ghaboussi, J. & Kim, K.J. (1982). Analysis of saturated and partially saturated soils. *Proc. Int. Symp. on Numerical Models in Geomechanics*, A.A. Balkema, Zurich, 377-390.

- Giménez, D., Perfect, E., Rawls, W.J. & Pachepsky, Ya. (1997). Fractal models for predicting soil hydraulic properties: a review. *Engineering Geology*, 48: 161-183.
- Goto, S., Tatsuoka, F., Shibuya, S., Kim, Y.S. & Sato, T. (1991). A simple gauge for local small strain measurements in the laboratory. *Soils and Foundations*, 31(1): 169-180.
- Graham, J., Noonan, M.L. & Lew, K.V. (1983). Yield states and stress-strain relationships in a natural plastic clay. *Can. Geotech. J.*, 20: 502-516.
- Graham, J., Wiebe, B., Tang, X. & Onofrei, C. (1995). Strength and stiffness of unsaturated sand-bentonite 'buffer'. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 89-94
- Grant S.A. & Salehzadeh, (1996). Calculation of temperature effects on wetting coefficients of porous solids and their capillary pressure functions. *Water Resour. Res.*, 32(2): 261-270.
- Gray, W.G. & Hassanizadeh, S.M. (1991). Paradoxes and realities in unsaturated flow theory. *Water Resour. Res.*, 27(8): 1847-1854.
- Griffault, L., Merceron, T., Moosmann, J.R., Neerdael, B., De Cannière, P., Beaucaire, C., Daumas, S., Bianchi, A. & Christen, R. (1994). Project ARCHIMEDE-ARGILE. Acquisition et Régulation de la Chimie des Eaux en Milieu Argileux. Rapport Final, contract CEE N° F12W-CT92-0117.
- Griffiths, F.J. & Joshi, R.C. (1989). Change in pore size distribution due to consolidation of clays. *Géotechnique*, 39(1): 159-167.
- Guan, Y. & Fredlund, D.G. (1997). Use of the tensile strength of water for the direct measurement of high soil suction. *Can. Geotech. J.*, 34: 604-614.
- Guan, Y., Fredlund, D.G. & Gan, J.K-M. (1998). Behaviour of water subjected to high tensile stress. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 356-361.
- Guggenheim, M.A. (1967). Thermodynamics. An advanced treatment for chemists and physicists. North-Holland Publishing Company, Amsterdam.
- Gunnink, B.W. (1991). New method for measuring pore size distributions in concrete. *Journal of Materials in Civil Engineering*, 3(4): 307-319.
- Gunnink, B.W. & El-Jayyousi, J. (1993). Soil-fabric measurement using phase transition porosimetry. *J. Geotech. Engrg.*, ASCE, 119(6): 1019-1036.
- Habib, S.A., Kato, T. & Karube, D. (1992). One dimensional swell behaviour of unsaturated soil. *Proc. 7th Int. Conf. on Expansive Soils*, Dallas, 222-226.
- Habib, S.A. & Karube, D. (1993) Swelling pressure behaviour under controlled suction. *Geotechnical Testing Journal*, GTJODJ, 16(2): 271-275.
- Habib, S.A. (1995). Lateral pressure of unsaturated expansive clay in looped stress path. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 95-100.
- Habib, S.A., Kato, T. & Karube, D. (1995). Suction controlled one dimensional swelling and consolidation behaviour of expansive soil. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 101-107.
- Hardin, B.O. & Black, W.L. (1968). Vibration modulus of normally consolidated clays. *J. Soil Mech. Found. Div.*, ASCE, 94(2): 353-369.
- Haridasan, M. & Jensen, R.D. (1972). Effect of temperature on pressure head - water content relationship and conductivity of two soils. *Soil Sci. Soc. Am. Proc.*, 36: 703-708.
- Hassanizadeh, S.M. & Gray, W.G. (1993). Thermodynamic basis of capillary pressure in porous media. *Water Resour. Res.*, 29(10): 3389-3405.
- Hecht, E. (1987). Optics. Addison-Wesley Publishing Company. Reading, Massachusetts, 2nd ed.
- Hilf, J.W. (1956). An investigation of pore-water pressure in compacted cohesive soils. *PhD Thesis*. Technical Memo No.654, United States Bureau of Reclamation, Denver.
- Hird, C.C. & Yung, P.C.Y. (1987). Discussion. *Géotechnique*, 37(3): 413-414.
- Hird, C.C. & Yung, P.C.Y. (1989). The use of proximity transducers for local strain measurements in triaxial tests. *Geotechnical Testing Journal*, GTJODJ, 12(4): 292-296.
- Hopmans, J.W. & Dane, J.H. (1986). Temperature dependence of soil hydraulic properties. *Soil Sci. Soc. Am. J.*, 50: 4-9.

- Hoque, E., Sato, T. & Tatsuoka, F. (1997). Performance evaluation of LDTs for use in triaxial tests. *Geotechnical Testing Journal*, GTJODJ, 20(2): 149-167.
- Horseman, S.T. & McEwen, T.J. (1996). Thermal constraints on disposal of heat-emitting waste in argillaceous rocks. *Engineering Geology*, 41: 5-16.
- Horseman, S.T., Winter, M.G. & Entwistle, D.C. (1987). Geotechnical characterization of Boom clay in relation to the disposal of radioactive waste. *Publications of the European Communities*, EUR 10987 EN, Luxembourg.
- Horvath, A.L. (1985). Handbook of aqueous electrolyte solutions: physical properties, estimation and correlation methods. Ellis Horwood Limited, John Wiley & Sons, New York.
- Houlsby, G.T. (1997). The work input to an unsaturated granular material. *Géotechnique*, 47(1): 193-196.
- Houston, S.L. & Lin, H.D. (1987). Thermal consolidation model for pelagic clays. *Marine Geotechnology*, 7: 79-98.
- Houston, S.L., Houston, W.N. & Williams, N.D. (1985). Thermo-mechanical behaviour of seafloor sediments. *J. Soil Mech. Found. Div.*, ASCE, 111(11): 1249-1263.
- Huang, S.-Y., Fredlund, D.G. & Barbour, S.L. (1995). Measurements of the coefficient of permeability of an unsaturated soil. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 2: 505-511.
- Hueckel, T. & Pellegrini, R. (1989). Modeling of thermal failure of saturated clays. *Proc. Numerical Models in Geomechanics*. S. Pietruszczak and G.N. Pande (eds.), Elsevier, 81-90.
- Hueckel, T. & Borsetto, M. (1990). Thermoplasticity of saturated soils and shales: constitutive equations. *J. Geotech. Engrg.*, ASCE, 116(12): 1765-1777.
- Hueckel, T. & Baldi, G. (1990). Thermoplasticity of saturated clays: experimental constitutive study. *J. Geotech. Engng. Div.*, ASCE, 116 (12): 1778-1796.
- Hueckel, T. & Pellegrini, R. (1991). Thermo-plastic modelling of untrained failure of saturated clay due to heating. *Soils and Foundations*, 31: 1-16.
- Hueckel, T. & Pellegrini, R. (1992). Effective stress and water pressure in saturated clays during heating-cooling cycles. *Can. Geotech. J.*, 29: 1095-1102.
- Hueckel, T. (1992a). Water-mineral interaction in hydromechanics of clays exposed to environmental loads: a mixture-theory approach. *Can. Geotech. J.*, 29: 1071-1086.
- Hueckel, T. (1992b). On effective stress concepts and deformation in clays subjected to environmental loads: discussion. *Can. Geotech. J.*, 29: 1120-1125.
- Hueckel, T. & Tutumluer, E. (1994). Modeling of elastic anisotropy due to one-dimensional plastic consolidation of clays. *Computers and Geotechnics*, 16: 311-349.
- Hueckel, T. & Pellegrini, R. (1996). A note on thermomechanical anisotropy of clays. *Engineering Geology*, 41: 171-180.
- Hueckel, T., Pellegrini, R. & Del Olmo, C. (1998). A constitutive study of thermo-elasto-plasticity of deep carbonatic clays. *Int. J. Numer. Anal. Meth. Geomech.*, 22: 549-574.
- Israelachvili, J. (1991). Intermolecular and surface forces. Academic Press, London.
- Iwata, S., Tabuchi, T. & Warkentin, B.P. (1995). Soil-water interactions. Mechanisms and applications. Marcel Dekker, Inc., New York, 2nd ed.
- Iyer, B. (1990). Pore water extraction-comparison of saturation extract and high-pressure squeezing. *Physico-Chemical Aspects of Soil and Related Materials*, ASTM STP 1095, K.B. Hoddinot and R.O. Lamb (eds.), Philadelphia , 159-170.
- Janbu, N., Tokheim, O. & Senneset, K. (1981). Consolidation tests with continuous loading. *Proc. 10th Int. Conf. on Soil Mechanics and Foundation Engineering*, Stockholm, 1: 645-654.
- Jardine, R.J., Symes, M.J. & Burland, J.B. (1984). The measurement of soil stiffness in the triaxial apparatus. *Géotechnique*, 34(3): 323-340.
- Jayawickrama, P.W. & Lytton, R.L. (1992). Conductivity through macropores in compacted clay. *Proc. 7th Int. Conf. on Expansive Soils*, Dallas, 99-104.
- Jefferson, I. (1994). Temperature effects on clay soils. *PhD Thesis*, Loughborough University of Technology.

- Jommi, C. & Di Prisco, C. (1994). Un semplice approccio teorico per la modellazione del comportamento meccanico di terreni granulari parzialmente saturi. *Conf. Il Ruolo dei Fluidi nei Problemi di Ingegneria Geotecnica*, Mondovi, 167-188.
- Josa, A. (1988). Un modelo elastoplástico para suelos no saturados. *PhD Thesis*, Universidad Politécnica de Cataluña.
- Josa, A., Alonso, E.E., Lloret, A. & Gens, A. (1987). Stress-strain behaviour of partially saturated soils. *Proc. 9th European Conf. on Soil Mechanics and Foundation Engineering*, Dublin, 561-564.
- Josa, A., Balmaceda, A., Gens, A. & Alonso, E.E. (1992). An elasto-plastic model for partially saturated soils exhibiting a maximum of collapse. *Proc. 3rd Int. Conf. Computational Plasticity*, Barcelona, 1: 815-826.
- Juang, C.H. & Holtz, R.D. (1986a). Fabric, pore size distribution and permeability of sandy soils. *J. Geotech. Engrg.*, ASCE, 112(9): 855-868.
- Juang, C.H. & Holtz, R.D. (1986b). A probabilistic permeability model and the pore size density function. *Int. J. Numer. Anal. Meth. Geomech.*, 10: 543-553.
- Jucá, J.F.T (1993). Flow properties of unsaturated soils under controlled suction. *Unsaturated Soils Geotechnical Special Publications N° 39*, Dallas. S.L. Houston and W.K. Wray (eds.), ASCE, 151-162.
- Jucá, J.F.T. & Frydman, S. (1996). Experimental techniques. State of the art report. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 3: 1257-1292.
- Justo, J.L., Delgado, A. & Ruiz, J. (1984). The influence of stress path in the collapse-swelling of soils at the laboratory. *Proc. 5th Int. Conf. on Expansive Soils*, Adelaide, 67-71.
- Kaczmarek, M. & Hueckel, T. (1998). Use of porosity in models of consolidation. *J. Engrg. Mechanics*, ASCE, 124(2): 237-239.
- Karube, D. (1988). New concept of effective stress in unsaturated soil and its proving test. *Advanced Triaxial Testing of Soil and Rock*, ASTM STP 977, R.T. Donaghe, R.C. Chaney and M.L. Silver (eds.), Philadelphia, 539-552.
- Kayyal, M.K. & Mohamed, A.M.O. (1997). Determination of ionic strength and equilibrium concentrations of heavy metals by the electrical conductivity method. *Geotechnical Testing Journal*, GTJODJ, 20(1): 3-11.
- Khalili, N. & Khabbaz, M.H. (1998). A unique relationship for χ for the determination of the shear strength of unsaturated soils. *Géotechnique*, 48(5): 681-687.
- Khan, A.H. & Hoag, D.L. (1979). A non-contacting transducer for measurement of lateral strains. *Can. Geotech. J.*, 16: 409-411.
- Khemissa, M. (1998). Mesure de la perméabilité des argiles sous contrainte et température. *Rev. Franç. Géotech.*, 82: 11-22.
- Klute, A. (1965). Laboratory measurement of hydraulic conductivity of unsaturated soil. Methods of Soil Analysis, C.A. Black (ed.), Agronomy, 9: 253-272.
- Kolymbas, D. & Wu, W. (1989). A device for lateral strain measurement in triaxial tests with unsaturated specimens. *Geotechnical Testing Journal*, GTJODJ, 12(3): 227-229.
- Komite, H. & Ogata, N. (1994). Experimental study on swelling characteristics of compacted bentonite. *Can Geotech. J.*, 31: 478-490.
- Komite, H. & Ogata, N. (1996a). Prediction for swelling characteristics of compacted bentonite. *Can Geotech. J.*, 33: 11-22.
- Komite, H. & Ogata, N. (1996b). Observation of swelling behaviour of bentonite by new electron microscope. *Proc. 2nd Int. Conf. on Environmental Geotechnics*, 563-568.
- Komite, H. & Ogata, N. (1998). Thermal influence on compacted bentonite for nuclear waste disposal. *Proc. 3rd Int. Conf. on Environmental Geotechnics*, 39-44.
- Koorevaar, P., Menelik, G. & Dirksen, C. (1983). Elements of soil physics. Elsevier Science Publishers B.V. Amsterdam.
- Korvin, G. (1992). Fractal models in the earth sciences. Elsevier, Amsterdam.

- Krahn, J. & Fredlund, D.G. (1972). On total, matric and osmotic suction. *J. Soil Sci.*, 114(5): 339-348.
- Kuntiwattanakul, P., Towhata, I., Ohishi, K. & Seko, I. (1995). Temperature effects on undrained shear characteristics of clay. *Soils and Foundations*, 35(1): 147-162.
- Kunze, R.J. & Kirkham, D. (1962). Simplified accounting for membrane impedance in capillary conductivity determinations. *Soil Sci. Soc. Am. Proc.*, 26: 421-426.
- Lagny, C. (1996). Comportement mécanique des sols fins sous fortes contraintes et fortes pressions négatives. *PhD Thesis*, Ecole Centrale Paris.
- Lai, S., Tiedje, J.M. & Erickson, A.E. (1976). In situ measurement of gas diffusion coefficient in soils. *Soil Sci. Soc. Am. Proc.*, 40: 3-6.
- Laloui, L., Geiser, F., Vulliet, L., Li, X.L., Bolle, A. & Charlier, R. (1997). Characterisation of the mechanical behaviour of an unsaturated sandy silt. *Proc. 14th Int. Conf. on Soil Mechanics and Foundation Engineering*, Hamburg, 1: 347-350.
- Lambe, T.W. & Whitman, R.V. (1979). Soil mechanics, SI version. John Wiley & Sons, New York.
- Lang, A.R.G. (1967). Osmotic coefficients and water potentials of sodium chloride solutions from 0°C to 40°C. *Australian J. Chem.*, 20: 2017-2023.
- Langer, H. & Offermann, H. (1982). On the solubility of sodium chloride in water. *J. Crystal Growth*, 60: 389-392.
- Lapierre, C., Leroueil, S. & Locat, J. (1990). Mercury intrusion and permeability of Louiseville clay. *Can. Geotech. J.*, 27: 761-773.
- Lawrence, G.P. (1978). Stability of soil pores during mercury intrusion porosimetry. *J. Soil Science*, 29: 299-304.
- Lee, H.C. & Wray, W.K. (1995). Techniques to evaluate soil suction – A vital unsaturated soil variable. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 2: 615-622.
- Leong, E.C. & Rahardjo, H. (1997a). Review of soil-water characteristic curve equations. *J. Geotech. Engrg.*, ASCE, 123(12): 1106-1117.
- Leong, E.C. & Rahardjo, H., (1997b). Permeability functions for unsaturated soils. *J. Geotech. Engrg.*, ASCE, 123(12): 1118-1126.
- Leroueil, S., Tavenas, F., La Rochelle, P. & Tremblay, M. (1988). Influence of filter paper and leakage on triaxial testing. *Advanced Triaxial Testing of Soil and Rock*, ASTM STP 977, R.T. Donaghe, R.C. Chaney and M.L. Silver (eds.), Philadelphia, 189-201.
- Li, Z.M. (1995). Compressibility and collapsibility of compacted and saturated loessial soils. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 139-144.
- Lide, D.R. & Frederikse, H.P.R. (1997). CRC Handbook of chemistry and physics. A ready-reference book of chemical and physical data. CRC Press, New York.
- Lingnau, B.E. (1993). Consolidated undrained-triaxial behaviour of a sand-bentonite mixture. *PhD Thesis*, University of Manitoba. Winnipeg.
- Lingnau, B.E., Yarechewski, D., Graham, J., Tanaka, N. & Gray, M.N. (1993). Stress-strain properties of sand-bentonite buffer at elevated temperatures. *Proc. 3rd Int. Workshop on Clay Barriers*, ISMES, Bergamo.
- Lingnau, B.E., Graham, J. & Tanaka, N. (1995). Isothermal modelling of sand-bentonite mixtures at elevated temperatures. *Can. Geotech. J.*, 32: 78-88.
- Lingnau, B.E., Graham, J., Yarechewski, D., Tanaka, N. & Gray, M.N. (1996). Effects of temperature on strength and compressibility of sand-bentonite buffer. *Engineering Geology* 41: 103-115.
- Lloret, A. (1982). Comportamiento deformacional del suelo no saturado bajo condiciones drenadas y no drenadas. *PhD Thesis*, Universidad Politécnica de Cataluña.
- Lo Presti, D.C.F., Pallara, O. & Puci, I. (1995). A modified commercial triaxial testing system for small strain measurements: preliminary results on Pisa clay. *Geotechnical Testing Journal*, GTJODJ, 18 (1): 15-3.
- Low, P.F. (1980). The swelling of clay: II montmorillonites. *Soil Sci. Soc. Am. J.*, 44: 667-676.
- Ma, C. & Hueckel, T (1992). Stress and pore pressure in saturated clay subjected to heat from radioactive waste: a numerical simulation. *Can. Geotech. J.*, 29: 1087-1094.

- Ma, C. & Hueckel, T (1993). Thermomechanical effects on absorbed water in clays around a heat source. *Int. J. Numer. Anal. Meth. Geomech.*, 17: 175-196.
- Maâtouk, A., Leroueil, S. & La Rochelle, P. (1995). Yielding and critical state of a collapsible unsaturated silty soil. *Géotechnique*, 45(3): 465-477.
- Macari, E.J., Parker, J.K. & Costes, N.C. (1997). Measurement of volume changes in triaxial tests using digital imaging techniques. *Geotechnical Testing Journal*, GTJODJ, 20 (1): 103-109.
- Machado, S.L. & Vilar, O.M. (1997). Collapse strains and at rest lateral stresses under controlled suction on a lateritic soil. *Proc. 14th Int. Conf. on Soil Mechanics and Foundation Engineering*, Hamburg, 1: 151-152.
- Marinho, F.A.M. & Chandler, R.J. (1993). Aspects of the behaviour of clays on drying *Unsaturated Soils Geotechnical Special Publications N° 39*, Dallas. S.L. Houston and W.K. Wray (eds.), ASCE, 77-90.
- Marinho, F.A.M. & Chandler, R.J. (1995). Cavitation and the direct measurement of soil suction. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 2: 623-630.
- Maswoswe, J. (1985). Stress paths for a compacted soil during collapse due to wetting. *PhD Thesis*, University of London.
- Matyas, E.L. & Radhakrishna, H.S. (1968). Volume change characteristics of partially saturated soils. *Géotechnique*, 18(4): 432-448.
- Mayne, P.W. & Kulhawy, F.H. (1982). K₀-OCR relationships in soil. *J. Geotech. Engrg.*, ASCE, 108(6): 851-872.
- McGown, A. & Collins, K. (1975). The microfabrics of some expansive and collapsing soils. *Proc. 5th Panamerican Am. Conf. Soil Mechanics and Foundation Engineering*, Buenos Aires, 1: 323-332.
- McKinstry, H.A. (1965). Thermal expansion of clay minerals. *Am. Mineral.*, 50: 212-222.
- Mesri, G. & Hayat, T.M. (1993). The coefficient of earth pressure at rest. *Can. Geotech. J.*, 30: 647-666.
- Mesri, G. (1973). Coefficient of secondary compression. *J. Soil Mech. Found. Div.*, ASCE, 99(1): 123-237.
- Meyer, K., Lorenz, P., Böhl-Kuhn, B. & Klobes, P. (1994). Porous solids and their characterization. Methods of investigation and application. *Cryst. Res. Technol.*, 29 (7): 903-930.
- Miliziano, S. (1992). Influenza della temperatura sul comportamento meccanico delle terre coesive. *PhD Thesis*, University of Rome, La Sapienza.
- Miller, D.J. & Nelson, J.D. (1992). Osmotic suction as a valid stress state variable in unsaturated soils. *Proc. 7th Int. Conf. Expansive Soils*, Dallas, 179-184.
- Miller, D.J. & Nelson, J.D. (1993). Osmotic suction as a valid stress state variable in unsaturated soil mechanics. *Unsaturated Soils Geotechnical Special Publications N° 39*, Dallas. S.L. Houston and W.K. Wray (eds.), ASCE, 64-76.
- Miller, E.E. & Elrick, D.E. (1958). Dynamic determination of capillary conductivity extended for non-negligible membrane impedance. *Soil Sci. Soc. Am. Proc.*, 22: 483-486.
- Milly, P.C.D. (1982). Moisture and heat transport in hysteretic, inhomogeneous porous media: a matric head-based formulation and a numerical model. *Water Resour. Res.*, 18(3): 489-498.
- Milly, P.C.D. (1984) A simulation analysis of thermal effects on evaporation from soil. *Water Resour. Res.*, 20(8): 1087-1098.
- Mitchell, J.K. (1993). Fundamentals of soil behavior. John Wiley & Sons, Inc., New York, 2nd ed.
- Modaressi, A. & AbouBekr, N. (1994a). Constitutive model for unsaturated soils: validation on a silty material. *Proc. 3rd European Conf. on Numerical Methods in Geotech. Engrg.*, Manchester. I. Smith (ed.), Balkema, 91-96.
- Modaressi, A. & AbouBekr, N. (1994b). A unified approach to model the behaviour of saturated and unsaturated soils. *Proc. 8th Conf. Computer Meth. and Advances in Geomechanics*, Morgentown. Siriwardane and Zaman (eds.), Balkema, 1507-1513.
- Modaressi, A. & Modaressi, H. (1995). Thermoplastic constitutive model for unsaturated soils: a prospective approach. *Proc. Numerical Models in Geomechanics*, Davos. Pande and Pietruszczak (eds), Balkema, 45-50.

- Modaressi, H. & Laloui, L. (1992). A cyclic thermoviscoplastic constitutive model for clays. *Proc. Numerical Models in Geomechanics*. Pande and Pietruszczak (eds), Balkema, 125-134.
- Modaressi, H. & Laloui, L. (1993). A thermoplastic model for clays. *Proc. 3rd Int. Workshop on Clay Barriers*, ISMES, Bergamo.
- Modaressi, H. & Laloui, L. (1997). A thermo-viscoplastic constitutive model for clays. *Int. J. Numer. Anal. Meth. Geomech.*, 21: 313-335.
- Mohamed, A.M., Yong, R.N. & Cheung, S.C.H. (1992). Temperature dependence of soil water potential. *Geotechnical Testing Journal*, GTJODJ, 15(4): 330-339.
- Mongiovi, L. & Tarantino, A. (1998). An apparatus to investigate on the two effective stresses in unsaturated soils. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 422-425.
- Morin, R. & Silva, A.J. (1984). The effects of high pressure and high temperature on some physical properties of ocean sediments. *J. Geophys. Res.*, 89(B1): 511-526.
- Moritz, L. (1995). Geotechnical properties of clay at elevated temperatures. *Proc. Int. Symp. on Compression and Consolidation of Clayey Soils*, Hiroshima. H. Yoshikuni and O. Kusakabe (eds.), A.A. Balkema, 1: 267-272.
- Mualem Y. (1976). A new model for predicting the hydraulic conductivity of unsaturated porous media. *Water Resour. Res.*, 12: 513-522.
- Murray, W.M. & Miller, W.R. (1992). The bonded electrical resistance strain gage. Oxford University Press Inc, New York.
- Naik, D. (1986). Effects of temperature and pore fluid on shear strength of clay. *Proc. Int. Symp. on Environmental Geotechnology*, India, 382-390.
- Nassar, I.N. & Horton, R. (1989). Water transport in unsaturated nonisothermal salty soil: theoretical development. *Soil Sci. Soc. Am. J.*, 53: 1330-1337.
- Navarro, V. (1997). Modelo del comportamiento mecánico e hidráulico de suelos no saturados en condiciones no isotermas. *PhD Thesis*, Universidad Politécnica de Cataluña.
- Negussey, D. (1998). Wetting induced lateral stress changes in loess. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 96-101.
- Nimmo, J.R. & Miller, E.E. (1986). The temperature dependence of isothermal moisture vs. potential characteristics of soils. *Soil Sci. Soc. Am. J.*, 50: 1105-1113.
- Öberg, A.-L. & Sällfors, G. (1997). Determination of shear strength parameters of unsaturated silts and sands based on the water retention curve. *Geotechnical Testing Journal*, GTJODJ, 20(1): 40-48.
- Ofer, Z. (1981). Laboratory instrument for measuring lateral soil pressure and swelling pressure. *Geotechnical Testing Journal*, GTJODJ, 4(4): 177-182.
- Ofer, Z. (1982). Laboratory K₀ testing of cohesionless soil. *The Civil Engineer in South Africa*. 25(10): 533-545.
- Ofer, Z. & Komornik, A. (1983). Lateral swelling pressure of compacted clay. *Proc. 7th Asian Reg. Conf. on Soil Mech. and Found. Engng.*, Haifa, 1: 56-63.
- Oka, F., Yashima, A. & Leroueil, S. (1997). An elasto-thermo-viscoplastic model for natural clay and its application. *Proc. Numerical Models in Geomechanics*, Montreal. Pietruszczak and Pande (eds), Balkema, 105-110.
- Okochi, Y. & Tatsuoka, F. (1984). Some factors affecting K₀ values of sand measured in triaxial cell. *Soils and Foundations*, 24(3): 52-68.
- Olivella, S., Carrera, J., Gens, A. & Alonso, E.E. (1994). Nonisothermal multiphase flow of brine and gas through saline media. *Transport in Porous Media*, 15: 271-293.
- Olivella, S. (1995). Nonisothermal multiphase flow of brine and gas through saline media. *PhD Thesis*, Universidad Politécnica de Cataluña.
- Olivella, S., Gens, A. & Carrera, J. (1998). Water phase change and vapour transport in low permeability unsaturated soils with capillary effects. *Proc. 5th Int. Workshop on Key Issues in Waste Isolation Research*, Barcelona.
- Oloo, S.Y. & Fredlund, D.G. (1996). A method for determination of ϕ^b for statically compacted soils. *Can. Geotech. J.*, 33: 272-280.

- Olson, R.E. & Langfelder, L.J. (1965). Pore-water pressures in unsaturated soils. *J. Soil Mech. Found. Div.*, ASCE, 91(4): 127-160.
- Olson, R.E. (1986). State of the art: consolidation testing. *Consolidation of Soils: Testing and Evaluation*. R.N. Yong and F.C. Townsend (eds.), ASTM STP 892, Philadelphia, 7-70.
- Paaswell, R.E. (1967). Temperature effects on clay consolidation. *J. Soil Mech. Found. Div.*, ASCE, 93(3): 9-21.
- Peck, A.J. (1960). Change of moisture tension with temperature and air pressure: theoretical. *Soil Science*, 89(6): 303-310.
- Pellegrini, R., Peano A., Baldi, G. (1989). Thermomechanical response of saturated low porosity clays to nuclear waste decay heat. Session technique 'La géomécanique des argiles en vue de l'évacuation des désests radioactifs', Bruxelles (1988). *Publications of the European Communities*, EUR 12027 EN, Luxembourg, 57-68.
- Pellegrini, R. & Trentesaux (1998). Modelling the CACTUS experience within a coupled approach and a thermoelastoplastic critical state model. *Proc. 5th Int. Workshop on Key Issues in Waste Isolation Research*, Barcelona.
- Perry, R.H. (1992). Manual del ingeniero químico. McGraw-Hill Interamericana, México.
- Philip, J.R. & DeVries, D.A. (1957). Moisture movement in porous materials under temperature gradients. *Eos. Trans. American Geophysical Union*, 38(2): 222-237.
- Picard, J.-M. (1994). Ecrouissage thermique des argiles saturées: application au stockage de déchets radioactifs. *PhD Thesis*, Ecole Nationale des Ponts et Chaussées, Paris.
- Picornell, M., El-Jurf, Q.S. & Abd Rahim, M.A. (1990). Effects of small concentrations of soluble salts on hydrometer analysis. *Physico-Chemical Aspects of Soil and Related Materials*. K.B. Hoddinot and R.O. Lamb (eds.), ASTM STP 1095, Philadelphia , 185-195.
- Picornell, M. & Nazarian, S. (1998). Effect of soil suction on the low-strain shear modulus of soils. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 102-107.
- Plum, R.L. & Esrig, M.I. (1969). Some temperature effects on soil compressibility and pore water pressure. *Highway Research Board*, special report 103: 231-242.
- Pollard, W.S., Sangrey, D.A. & Poulos, S.J. (1977). Air diffusion through membranes in triaxial tests. *J. Geotech. Engrg.*, ASCE, 103(10): 1169-1173.
- Pousada, E. (1984). Deformabilidad de las arcillas expansivas bajo succión controlada. *PhD Thesis*, Universidad Politécnica de Madrid. Centro de Estudios y Experimentación de Obras Públicas.
- Pradhan, T.B.S., Tatsuoka, F. & Molenkamp, F. (1986). Accuracy of automated volume change measurement by means of differential pressure transducers. *Soils and Foundations*, 26(4): 150-158.
- Prapaharan, S., Altschaeffl, A.G. & Dempsey, B.J. (1985). Moisture curve of a compacted clay: mercury intrusion method. *J. Geotech. Engrg.*, ASCE, 111(9): 1139-1143.
- Prapaharan, S., White, D.M. & Altschaeffl, A.G. (1991). Fabric of field- and laboratory-compactated clay. *J. Geotech. Engrg.*, ASCE, 117(12): 1934-1940.
- Pusch, R. (1982). Mineral-water interactions and their influence on the physical behaviour of highly compacted Na bentonite. *Can. Geotech. J.*, 19: 381-387.
- Pusch, R. & Hökmark, H. (1990). Basic model of water and gas flow through smectite clay buffers. *Engineering Geology*, 28: 379-389.
- Pusch, R., Karnland, O. & Hökmark, H. (1991). The nature of expanding clays as exemplified by the multifaced smectite mineral montmorillonite. *Proc. Workshop on Stress Partitioning in Engineering Clay Barriers*, Duke University.
- Pusch, R. & Karnland, O. (1996). Physico/chemical stability of smectite clays. *Engineering Geology*, 41: 73-85.
- Recordon, E. (1993). Déformabilité des sols non saturés à diverses températures. *Rev. Franç. Géotech.*, 65: 37-56.
- Recordon E. & Gueye, I. (1994). Influence de la température sur la succion et la déformabilité des sols non saturés. *Proc. 13th Int. Conf. on Soil Mechanics and Foundation Engineering*, New Delhi, 79-84.

- Reed, M.A., Lovell, C.W., Altschaeffl, A.G. & Wood, L.E. (1980). Replay: Frost-heaving rate predicted from pore size distribution. *Can. Geotech. J.*: 639-640.
- RESEAL Project Report (1997). Data requirement for modelling and hydromechanical properties of Boom clay. SCK.CEN, Mol.
- Rhattas, A. (1994). Transfert de masse dans les matériaux argileux à faible porosité. Analyse théorique et résultats experimentaux. *PhD Thesis*, Université D'Orléans.
- Ridley, A.M. & Burland, J.B. (1993). A new instrument for the measurement of soil moisture suction. *Géotechnique*, 43(2): 321-324.
- Ridley, A.M. & Burland, J.B. (1995). Measurement of suction in materials which swell. *Applied Mechanics Reviews*, 48(9).
- Ridley, A.M. & Wray, W.K. (1996). Suction measurement: A review of current theory and practices. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 3: 1293-1322.
- Robinet, J.C., Al-Mukhtar, M., Rhattas, M., Plas, F. & Lebon, P. (1992). Modèle de transfert de masse dans les argiles à faible porosité. Application à l'effet de la ventilation dans les galeries. *Rev. Franç. Géotech.*, 61: 31-43.
- Robinet, J.C., Rahbaoui, A., Plas, F. & Lebon, P. (1993). A thermo-elasto-plastic model with thermal hardening for saturated clays and clay barriers. *Proc. 3rd Int. Workshop on Clay Barriers*, ISMES, Bergamo.
- Robinet, J.C. & Rhattas, A. (1995). Détermination de la perméabilité non saturée des matériaux argileux à faible porosité. *Can. Geotech. J.*, 32: 1035-1043.
- Robinet, J.C., Rahbaoui, A. & Plas, F. (1996a). A thermo-elastoplastic model with thermal hardening for saturated clay barriers. *Proc. 2nd Int. Conf. on Environmental Geotechnics*, 901-908.
- Robinet, J.C., Rahbaoui, A., Plas, F. & Lebon, P. (1996b). A constitutive thermomechanical model for saturated clays. *Engineering Geology*, 41: 145-169.
- Robinet, J.C., Pasquiou, A., Jullien, A., Belanteur, N & Plas, F. (1997). Expériences de laboratoire sur le comportement thermo-hydro-mécanique de matériaux argileux remaniés gonflants et non gonflants. *Rev. Franç. Géotech.*, 81: 53-80.
- Rohlf, R.A., Barfield, B.J. & Felton, G.K. (1997). Ultimate strength matrix stress relationship. *J. Geotech. and Geoenviron. Engrg.*, ASCE, 123(10): 938-947.
- Romero, E., Facio, J.A. & Yang, D.Q. (1994). Boom clay: DIT-UPC Data File. Internal Report Universidad Politécnica de Cataluña.
- Romero, E., Lloret, A. & Gens, A. (1995). Development of a new suction and temperature controlled oedometer cell. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 2: 553-559.
- Romero, E., Facio, J.A., Lloret, A., Gens, A. & Alonso, E.E. (1997). A new suction and temperature controlled triaxial apparatus. *Proc. 14th Int. Conf. on Soil Mechanics and Foundation Engineering*, Hamburg, 1: 185-188.
- Romero, E., Gens, A. & Lloret, A. (1998a). Thermo-mechanical behaviour of a heavily overconsolidated unsaturated clay as observed in suction controlled oedometer tests. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 426-431.
- Romero, E., Gens, A. & Lloret, A. (1998b). Water permeability, water retention and microstructure of unsaturated compacted Boom clay. *Proc. Workshop on Microstructural Modelling of Natural and Artificially Prepared Clay Soils with Special Emphasis on the use of Clays for Waste Isolation*, Lund, Sweden: 111-118.
- Romero, E., Gens, A. & Lloret, A. (1998c). Thermo-mechanical behaviour of a nearly saturated clay as observed in suction controlled isotropic tests. *Proc. 5th Int. Workshop on Key Issues in Waste Isolation Research*, Barcelona.
- Romero, E., Gens, A. & Lloret, A. (1999a). Water permeability, water retention and microstructure of unsaturated Boom clay. Accepted for publication in *Engineering Geology*.
- Romero, E., Gens, A. & Lloret, A. (1999b). Experimental aspects and interpretation of suction controlled swelling pressure tests. Accepted for publication in the *Proc. 11th Panamerican Conf. on Soil Mechanics and Geotechnical Engineering*, Foz do Iguaçu.

- Saiyouri, N., Hicher, P.Y. & Tessier, D. (1998). Microstructural analysis of highly compacted clay swelling. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 119-124.
- Saix, C. & Jouanna, P. (1990). Appareil triaxial pour l'étude du comportement thermique de sols non saturés. *Can. Geotech. J.*, 27: 119-128.
- Saix, C. (1991). Consolidation thermique par chaleur d'un sol non saturé. *Can. Geotech. J.*, 28: 42-50.
- Saix, C. & Jouanna, P. (1995). Thermo-hydro-mechanical triaxial cell (THM triaxial cell). Experimental studies. *Modern issues in non-saturated soils*. A. Gens, P. Jouanna and B.A. Schrefler (eds.), Springer Verlag, Wien, 191-199.
- Santamarina, J.C. & Fam, M. (1995). Changes in dielectric permittivity and shear wave velocity during concentration diffusion. *Can. Geotech. J.*, 32: 647-659.
- Savvidou, C. & Britto, A.M. (1995). Numerical and experimental investigation of thermally induced effects in saturated clays. *Soils and Foundations*, 35(1): 37-44.
- Schmidt, B. (1966). Disc. of earth pressure at rest related to stress history: Discussion. *Can. Geotech. J.*, 3: 239-242.
- Schokking, F. & Nooy van der Kolff, A.H. (1995). History and geotechnical properties of the marine Boom clay. *Proc. 11th European Conf. on Soil Mechanics and Foundation Engineering*, Copenhagen, 7: 141-148.
- Scholey, G.K., Frost, J.D., Lo Presti, D.C.F., Jamiolkowski, M. (1995). A review of instrumentation for measuring small strains during triaxial testing of soil specimens. *Geotechnical Testing Journal*, GTJODJ, 18(2): 137-156.
- Schreiner, H.D. & Burland, J.B. (1987). Stress paths during swelling of compacted soils under controlled suction. *Proc. 6th Int. Conf. on Expansive Soils*, New Delhi, 1: 155-159.
- Schreiner, H.D. (1988). Volume change of compacted African clays. *PhD Thesis*, London University.
- Schreiner, H.D., Burland, J.B., Gourley, C.S. (1994). Swell and collapse of a partially saturated expansive clay. *Proc. 13th Int. Conf. on Soil Mechanics and Foundation Engineering*, New Delhi, 1501-1506.
- Seneviratne, H.N., Carter, J.P., Airey, D.W. & Booker, J.R. (1993). A review of models for predicting the thermomechanical behaviour of soft clays. *Int. J. Numer. Anal. Meth. Geomech.*, 17: 715-733.
- Senneset, K. & Janbu, N. (1994). Lateral stress and preconsolidation pressure measured by laboratory tests. *Proc. 13th Int. Conf. on Soil Mechanics and Foundation Engineering*, New Delhi, 309-312.
- Senneset, K. (1989). A new oedometer with splitted ring for the measurement of lateral stress. *Proc. 12th Int. Conf. on Soil Mechanics and Foundation Engineering*, Rio de Janeiro, 115-118.
- Senol, A. (1996). Determination of pre-consolidation pressure. *British Geotech. Society's Young Geotech. Engineers' Symposium*, Oxford University.
- Shang, J.Q., Lo, K.Y. & Quigley, R.M. (1994). Quantitative determination of potencial distribution in Stern-Gouy double-layer model. *Can Geotech. J.*, 31: 624-636.
- She, H.Y. & Sleep, B.E. (1998). The effect of temperature on capillary pressure-saturation relationships for air-water and perchloroethylene-water systems. *Water Resour. Res.*, 34(10): 2587-2597.
- Sherard, J.L., Decker, R.S., & Rycker, N.L. (1972). Piping in earth dams of dispersive clay. *Proc. ASCE Speciality Conference on the Performance on Earth and Earth Supported Structures*. Purdue University, West Lafayette, 589-626.
- Sherif, M.A., Ishibashi, I. & Medhin, B.W. (1982). Swell of Wyoming montmorillonite and sand mixtures. *J. Geotech. Engrg.*, ASCE, 108: 33-45.
- Shibuya, S., Park, C.S., Tatsuoka, F., Abe, F., Teachavorasinskun, S., Kohata, Y. & Sato, T. (1994). The significance of local lateral-strain measurement of soil specimens for a wide range of strain. *Soils and Foundations*, 34(2): 95-105.
- Sitharam, T.G., Sivapullaiah, P.V. & Subba Rao, K.S. (1995). Shrinkage behaviour of compacted unsaturated soils. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 195-200.

- Sivakumar, V. (1993). A critical state framework for unsaturated soil. *PhD Thesis*, University of Sheffield.
- Sivakumar, V. & Ng, P. (1998). Yielding of unsaturated soils. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 131-136.
- Skopek, P. & Cyre, G.P. (1995). A resistance wire transducer for circumferential strain measurement in triaxial tests. *Geotechnical Testing Journal*, GTJODJ, 18(1): 106-111.
- Sposito, G. (1984). The surface chemistry of soils. Oxford University Press, Oxford.
- Sridharan, A. & Venkatappa Rao, G. (1973). Mechanisms controlling volume change of saturated clays and the role of the effective stress concept. *Géotechnique*, 23(3): 359-382.
- Sridharan, A. & Jayadeva, M.S. (1982). Double layer theory and compressibility of clays. *Géotechnique*, 32(2): 133-144.
- Sridharan, A., Rao, A.S. & Sivapullaiah, P.V. (1986). Swelling pressure of clays. *Geotechnical Testing Journal*, GTJODJ, 9(1): 24-33.
- Srithar, T. & Byrne, P.M. (1990). Consolidation analysis of soil sand masses under applied temperature changes. *Can. Geotech. J.*, 27: 752-760.
- Stepkowska, E.T. (1990). Aspects of the clay/electrolyte/water system with special reference to the geotechnical properties of clays. *Engineering Geology*, 28: 249-267.
- Sultan, N. Delage, P. & Cui, Y.J. (1998). Temperature effects on the volume change behaviour of boom clay. *Proc. 5th Int. Workshop on Key Issues in Waste Isolation Research*, Barcelona.
- Suriol, J. (1993). Medida de la deformabilidad de suelos mediante el equipo de columna resonante. *Revista de Obras Públicas*, 3319: 57-66.
- Symes, M. & Burland, J.B. (1984). Determination of local displacements on soil samples. *Geotechnical Testing Journal*, GTJODJ, 7(2): 49-59.
- Tanaka, N., Graham, J. & Crilly, T. (1995). Behaviour of reconstituted illite at different temperatures. *Proc. 4th Int. Workshop on Hydro-thermo-mechanics of Engineered Clay Barriers and Geological Barriers*, Montreal.
- Tanaka, N., Graham, J. & Crilly, T. (1997). Stress-strain behaviour of reconstituted illitic clay at different temperatures. *Engineering Geology*, 47 : 339-350.
- Tavenas, F., Des Rosiers, J.-P., Leroueil, S., La Rochelle, P. & Roy, M. (1979). The use of strain energy as a yield and creep criterion for lightly overconsolidated clays. *Géotechnique*, 29(3): 285-303.
- Thomas, H.R. & He, Y. (1998). Modelling the behaviour of unsaturated soil using an elastoplastic constitutive model. *Géotechnique*, 48(5): 589-603.
- Thomas, H.R., He, Y. & Onofrei, C. (1998). An examination of the validation of a model of the hydro/thermo/mechanical behaviour of engineered clay barriers. *Int. J. Numer. Anal. Meth. Geomech.*, 22: 49-71.
- Tidfors, M. & Sälfors, G. (1989). Temperature effect on preconsolidation pressure. *Geotechnical Testing Journal*, GTJODJ, 12(1): 93-97.
- Ting, C.M.R., Sills, G.C., Wijeyesekera, D.C. (1994). Development of K_0 in soft soils. *Géotechnique*, 44(1): 101-109.
- Toll, D. G. (1990). A framework for unsaturated soil behaviour. *Géotechnique*, 40 (1): 31-44.
- Toll, D. G. (1995). A conceptual model for the drying and wetting of soil. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 2: 805-810.
- Towhata, I., Kuntiwattanakul, P., Seko, I. & Ohishi, K. (1993). Volume change of clays induced by heating as observed in consolidation tests. *Soils and Foundations*, 33(4): 170-183.
- Towhata, I. & Kuntiwattanakul, P. (1994). Behaviour of clays undergoing elevated temperature. *Proc. 13th Int. Conf. on Soil Mechanics and Foundation Engineering*, New Delhi, 85-88.
- Towhata, I., Kuntiwattanakul, P., Seko, I. & Ohishi, K. (1995). Closure of discussion. *Soils and Foundations*, 35(3): 124-127.
- Trentesaux, C. (1997). Modelling of thermo-hydro-mechanical behaviour of the Boom clay 'Cactus test'. *Publications of the European Communities*, EUR 17558 EN, Luxembourg.

- Truong, H.V.P. & Holden, J.C. (1995). Soil suction measurement with transistor psychrometer. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 2: 659-665.
- Vaunat, J., Alonso, E.E. & Gens, A. (1998). Modelling the mechanical behaviour of expansive clays. *Proc. Workshop on Microstructural Modelling of Natural and Artificially Prepared Clay Soils with Special Emphasis on the use of Clays for Waste Isolation*, Lund, Sweden.
- van Dam, J.C., Wösten, J.H.M. & Nemes, A. (1996). Unsaturated soil water movement in hysteretic and water repellent field soils. *Journal of Hydrology*, 184: 153-173.
- van Genuchten, M.Th. (1978). Calculating the unsaturated hydraulic conductivity with a new, closed-form analytical model. *Research Report 78-WR-08*. Water Resources Program, Dep. of Civil Engineering, Princeton University, Princeton.
- van Genuchten, M.Th. (1980). A closed-form equation for predicting the hydraulic conductivity of unsaturated soils. *Soil Sci. Soc. Am. J.* 44: 892-898.
- van Genuchten, M.Th. & Wagenet, R.J. (1989). Two-site/two-region models for pesticide transport and degradation: Theoretical development and analytical solutions. *Soil Sci. Soc. Am. J.*, 53: 1303-1310.
- Vanapalli, S.K., Fredlund, D.G., Pufahl, D.E. & Clifton, A.W. (1996). Model for the prediction of shear strength with respect to soil suction. *Can. Geotech. J.*, 33: 379-392.
- Vaziri, H.H. (1988). Formulations and a methodology for computing the response of unsaturated soils to changes in temperature. *Proc. Numerical Methods in Geomechanics*, Innsbruck. Swoboda (ed.), Balkema, 221-230.
- Vaziri, H.H. & Byrne, P.M. (1990). Numerical analysis of soil sand under nonisothermal conditions. *Can. Geotech. J.*, 27: 802-812.
- Vaziri, H.H. & Christian, H.A. (1994). Application of Terzaghi's consolidation theory to nearly saturated soils. *Can. Geotech. J.*, 31: 311-317.
- Venkatarama Reddy, B.V. & Jagadish, K.S. (1993). The static compaction of soils. Technical note. *Géotechnique*, 43(2): 337-341.
- Vicol, T. (1990). Comportement hydraulique et mécanique d'un sol fin non saturé. Application à la modélisation. *PhD Thesis*, Ecole Nationale des Ponts et Chaussées, Paris.
- Vilar, O.M., Machado, S.L. & de Sousa Bueno, B. (1998). Collapse behaviour of a compacted lateritic soil. *Proc. 2nd Int. Conf. on Unsaturated Soils*, Beijing, International Academic Publishers, 1: 173-178.
- Villar, M.V., Lloret, A., Cuevas, J., Yllera, A., Fernández, A.M. & Jiménez de Cisneros, C. (1997). FEBEX Project: laboratory experiments. *Proc. In situ testing in underground research laboratories for radioactive waste disposal*, Alden Biesen. B. Haijtink and C. Davies (eds.), 247-261.
- Virdi, S.P.S. & Keedwell, M.J. (1989). Some observed effects of temperature variation on soil behaviour. *Int. Conf. on Rheology and Soil Mechanics*. Coventry. M.J. Keedwell (ed.), Elsevier Applied Science Publishers, London, 336-354.
- Vitton, S.J. & Sadler, L.Y. (1997). Particle-size analysis of soils using laser light scattering and x-ray absorption technology. *Geotechnical Testing Journal*, GTJODJ, 20(1): 63-73.
- Volckaert, G., Bernier, F., Alonso, E., Gens, A., Samper, J., Villar, M., Martin-Martin, P.L., Cuevas, J., Campos, R., Thomas, H., Imbert, C. & Zingarelli, V. (1996a). Thermal-hydraulic-mechanical and geochemical behaviour of the clay barrier in radioactive waste repositories (model development and validation). *Publications of the European Communities*, EUR 16744 EN, Luxembourg.
- Volckaert, G., Bernier, F. and Dardaine, M. (1996b). Demonstration of the in situ application of an industrial clay-based backfill material (Bacchus 2). *Publications of the European Communities*, EUR 16860 EN, Luxembourg.
- Volckaert, G., Ortiz, L., De Cannière, P., Put, M., Horseman, S.T., Harrington, J.F., Fioravante, V. & Impey, M. (1994). MEGAS: Modelling and experiments on gas migration in repository host rocks. *Final Report-Phase 1*, Contract F12W-CT91-0076.

- Wall, G.C. & Brown, R.J.C. (1981). The determination of pore size distribution from sorption isotherms and mercury penetration in interconnected pores: the application of percolation theory. *J. of Colloid and Interface Science*, 82(1).
- Wan, A.W.L., Gray, M.N. & Graham, J. (1995). On the relations of suction, moisture content and soil structure in compacted clays. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 1: 215-222.
- Wan, A.W.L. (1996). The use of thermocouple psychrometers to measure in situ suctions and water contents in compacted clays. *PhD Thesis*, University of Manitoba.
- Wang, M.C., Benway, J.M. & Arayssi, A.M. (1990). The effect of heating on engineering properties of clays. *Physico-Chemical Aspects of Soil and Related Materials*, ASTM STP 1095, K.B. Hoddinot and R.O. Lamb (eds.), Philadelphia , 139-158.
- Watts, K.S. (1980). A device for automatic logging of volume change in large scale triaxial tests. *Geotechnical Testing Journal*, GTJODJ, 3(1): 41-44.
- Wheeler, S.J. (1986). The stress-strain behaviour of soils containing gas bubbles. *PhD Thesis*, University of Oxford.
- Wheeler, S.J. & Sivakumar, V. (1993). Triaxial testing of unsaturated soils. *Unsaturated soils: Recent developments and applications*. Civil Engineering European Courses, Barcelona.
- Wheeler, S.J. & Sivakumar, V. (1995). An elasto-plastic critical state framework for unsaturated soil. *Géotechnique*, 45(1): 35-53.
- Wheeler, S.J. & Karube, D. (1996). Constitutive modelling. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 3: 1323-1356.
- Wheeler, S.J. (1996). Inclusion of specific water volume within an elasto-plastic model for unsaturated soil. *Can. Geotech. J.*, 33: 42-57.
- Wheeler, S.J. (1997a). Modelling elastic volume changes of unsaturated soil. *Proc. 14th Int. Conf. on Soil Mechanics and Foundation Engineering*, Hamburg, 1: 427-430.
- Wheeler, S.J. (1997b). A rotational hardening elasto-plastic model for clays. *Proc. 14th Int. Conf. on Soil Mechanics and Foundation Engineering*, Hamburg, 1: 431-434.
- Wiebe, B., Graham, J., Tang, G. X. & Dixon, D. (1998). Influence of pressure, saturation and temperature on the behaviour of unsaturated sand-bentonite. *Can. Geotech. J.*, 35: 194-205.
- Wilkinson, G.E. & Klute, A. (1962). The temperature effect on the equilibrium energy status of water held by porous media. *Soil Sci. Soc. Am. Proc.*, 26: 326-329.
- Willard, H.H., Merritt, L.L. & Dean, J.A. (1974). Instrumental methods for analysis. D. Van Nostrand Company, New York, 5th ed.
- Wilson, G.W., Fredlund, D.G. & Barbour, S.L. (1994). Coupled soil-atmosphere modelling for soil evaporation. *Can. Geotech. J.*, 31: 151-161.
- Wilson, G.W., Fredlund, D.G. & Barbour, S.L. (1997). The effect of soil suction on evaporative fluxes from soil surfaces. *Can. Geotech. J.*, 34: 145-155.
- Window, A.L. & Holister, G.S. (1982). Strain gauge technology. Applied Science Publishers Ltd, London.
- Wood, D.M. (1990). Soil behaviour and critical state soil mechanics. Cambridge University Press, Cambridge.
- Woodburn, J.A., Holden, J. & Peter, P. (1993). The transistor psychrometer: a new instrument for measuring soil suction. *Unsaturated Soils Geotechnical Special Publications N° 39*, Dallas. S.L. Houston and W.K. Wray (eds.), ASCE, 91-102.
- Woodburn, J.A. & Lucas, B. (1995). New approaches to the laboratory and field measurement of soil suction. *Proc. 1st Int. Conf. on Unsaturated Soils*, Paris. E.E. Alonso and P. Delage (eds.), Balkema / Presses des Ponts et Chaussées, 2: 667-671.
- Wu, S., Gray, D.H. & Richart, F.E. (1984). Capillary effects on dynamic modulus of sands and silts. *J. Geotech. Engrg.*, ASCE, 110(9): 1188-1203.
- Wu, S., Gray, D.H. & Richart, F.E. (1985). Capillary effects on shear modulus at high strains. *Proc. 11th Int. Conf. on Soil Mechanics and Foundation Engineering*, San Francisco, 1091-1094.
- Yeung, A.T. (1992). Diffuse double-layer equations in SI units. *J. Geotech. Engrg.*, ASCE, 118(12): 2000-2005.

- Yong, R.N. & Warkentin, B.P. (1975). Soil properties and behaviour. Elsevier Scientific Publishing Company, Amsterdam.
- Yuk Gehling, W.Y. (1994). Suelos expansivos: estudio experimental y aplicación de un modelo teórico. *PhD Thesis*, Universidad Politécnica de Cataluña.
- Zakaria, I. (1995). Yielding of unsaturated soil. *PhD Thesis*, University of Sheffield.
- Zeuch, D.H. (1983). The mechanical behaviour of Anvil Points oil shale at elevated temperatures and confining pressures. *Can. Geotech. J.*, 20: 344-352.
- Zhang, F., Zhang, Z.Z., Low, P.F. & Roth, C.B. (1993). The effect of temperature on the swelling of montmorillonite. *Clay Minerals*, 28: 25-31.