

Curriculum Vitae

1. Personal Details

Name : Peter Anthony (Tony) Wells

Address: 6 Northminster Way, Rathmines, NSW, 2283

Phone: (02) 49 21 5741 (work); (02) 49 75 2930 (home)

Email: Tony.Wells@newcastle.edu.au

Nationality: Australian (Australian Citizen)

Date & Place of Birth: 16/11/1962, Newcastle, Australia

2. Employment History

1999 - Ongoing **Research Fellow**
Department of Civil, Surveying and Environmental Engineering, The University of Newcastle.

1995-1999 **Senior Research Officer**
BHP Wire Products, Newcastle

1992 –1995. **Research Associate**
Department of Applied Science, University of New South Wales

1990 – 1992. **Postdoctoral Researcher**
Department of Applied Thermodynamics, Delft University of Technology, Netherlands.

1986 – 1990. **Doctoral Student**
Department of Applied Science, University of New South Wales

1981 – 1985. **Chemical Engineering Cadet**
BHP Steelworks, Newcastle

3. Career Highlights

Career publications : 23 peer reviewed journal papers, 23 conference papers and 1 major reports.
Citations: >300
Journal reviewer: Australian Journal of Structural Engineers, Deep Sea Research and Catena.
Session Chair: Int. Conf on FRP composites (CICE 2004 conference).
PhD supervision: Have supervised 7 Doctoral students through to completion.
Research grant income: \$25,000

4. Publications

Journal Papers

Wells, T., Willgoose, G.R., and Hancock, G.R. (2008). "Modeling weathering pathways and processes of the fragmentation of salt weathered quartz-chlorite schist, J. Geophys. Res., 113, (F1): Art. No F01014, Feb 29 2008.

Hancock, G.R., Crawter, D., Fityus, S.G., Chandler, J., **Wells, P.** (2008) "The measurement and modelling of rill erosion at angle of repose slopes in mine spoil" Earth Surface Processes and Landforms, 33(7), 1006-1020.

Martinez, C., Hancock, G.R., Kalma, J.D., **Wells, T.** (2008) "Spatio-temporal distribution of near-surface and root zone soil moisture at the catchment scale." Hydrological Processes, 22(14) 2699-2714.

Rüdiger C., Hemakumara H.M., Jacobs B., Kalma J.D., Walker J.P., Willgoose G.R., Martinez C., Hancock G. and Thyer M., **Wells T.** (2007) "Goulburn River experimental catchment data set" Water Resources Research, 43(10): Art. No. W10403, Oct 2 2007.

Wells, T., Hancock, G. and Fryer J. (2007) "Weathering rates of sandstone in a semi-arid environment (Hunter Valley, Australia)", Environmental Geology, 54(5), 1047-1057.

Wells, T., Fityus, S., and Smith, D. W. (2007). "Use of in situ air flow measurements to study permeability in cracked clay soils." Journal of Geotechnical and Geoenvironmental Engineering, 133(12), 1577-1586.

Wells, T., Binning, P., and Willgoose, G. (2007). "Laboratory simulation of the salt weathering of schist: II. Fragmentation of fine schist particles." Earth Surface Processes and Landforms, 32 (5), 687-697.

Wells, T., Fityus, S., Smith, D. W., and Moe, H. (2006). "The indirect estimation of hydraulic conductivity of soils, using measurements of gas permeability. I Laboratory testing with dry granular soils." Australian Journal of Soil Research, 44 (7), 719-725.

Wells, T., Binning, P., Willgoose, G., and Hancock, G. (2006). "Laboratory simulation of the salt weathering of schist: I. Weathering of schist blocks in a seasonally wet tropical environment." Earth Surface Processes and Landforms, 31(3), (339-354).

Melchers, R. E., and **Wells, T.** (2006). "Models for the anaerobic phases of marine immersion corrosion." Corrosion Science, 48(7), 1791-1811.

Wells, T., Binning, P., and Willgoose, G. (2005). "The role of moisture cycling in the weathering of a quartz chlorite schist in a tropical environment: findings of a laboratory simulation." Earth Surface Processes and Landforms, 30(4), 413-428.

Dehghani F., **Wells T.**, Cotton N.J., Foster N.R., "Extraction and Separation of Lanthanides using Dense gas CO₂ modified with Tributyl Phosphate and Di(2-Ethylhexyl)Phosphoric Acid." J. Supercritical Fluids. 9(4), p263-272, 1996.

Wells P.A., de Loos Th. W., Kleintjens L.A., "Experimental determination of the Spinodal P-T-x Surface for the system 2-Butoxyethanol+water using the PPICS Apparatus." Fluid Phase Equilibria, 106, p185-202, 1995.

Wells P.A., de Loos Th. W., Kleintjens L.A., "Pressure Pulsed Induced Critical Scattering: Spinodal and Binodal curves for the system Polystyrene + Methylcyclohexane." Fluid Phase Equilibria, 83, p383-390, 1993.

Liong K.K., **Wells P.A.**, Foster N.R., "Diffusion of Fatty Acid Esters in Supercritical Carbon Dioxide." Ind. Eng. Chem. Res., 31(1), p390-399, 1992.

Wells T., Foster N.R., Chaplin R.P., "Diffusion of Phenylacetic Acid and Vanillin in Supercritical Carbon Dioxide." Ind. Eng. Chem. Res., 31(3), p927-934, 1992.

Liong K.K., **Wells P.A.**, Foster N.R., "Diffusion Coefficients of Long-Chain Esters in Supercritical Carbon Dioxide." Ind. Eng. Chem. Res., 30(6), p1329-1335, 1991.

- Liong, K.K., **Wells, P.A.** and Foster, N.R., "*Diffusion in Supercritical Fluids*" J. Supercritical Fluids, 4 (2), p91-108, 1991.
- Wells P.A.**, Chaplin R.P., Foster N.R., "*Solubility of Phenylacetic Acid and Vanillin in Supercritical Carbon Dioxide.*" J. Supercritical Fluids 3(1), p8-14, 1990.
- Wells P.A.**, Foster N.R., Liong K.K., Chaplin R.P., "*Supercritical Fluid Extraction of Triglycerides.*" Sep. Sci. Tech., 25(1&2), P139-154, 1990.
- Foster N.R., Macnaughton S.J., Chaplin R.P., **Wells P.T.**, "*Critical Locus and Partial Molar Volume Studies of the Benzaldehyde-Carbon Dioxide System.*" Ind. Eng. Chem. Res., 28(12), p1903-1907, 1989.
- Gurdial G.S., Wells P.A., Foster N.R., Chaplin R.P., **Wells P.T.**, "*The Role of Polarity on Correlations of Solid-Supercritical Fluid Phase Behaviour.*" J. Supercritical Fluids 2(2&3), p85-96, 1989.
- Wells P.A.**, Foster N.R., "*Extraction Processes Using Supercritical Fluids*". Chemical Engineering Australia, ChE11 (2), p10-13, 1986.

Conference Papers

- Walker, J.P., Balling, J., Bell, M., Berg, A., Berger, M., Biazoni, D., Botha, E., Boulet, G., Chen, Y., Christen, E., Dejeu, R., Derosnay, P., Dever, C., Draper, C., Fenollar, J., Gomez, C., Grant, J. P., Hacker, J., Hafeez, M., Hancock, G. R., Hansen, D., Holz, L. M., Hornbuckle, J., Hurkmans, R., Jackson, T., Johnson, J., Jones P. A., Jones, S., Kalma, J. D., Kerr, Y., Kim, E., Kuzmin, V., Lakshmi, V., Lopez, E., Maggioni, V., Maisongrande, P., Martinez, C., McKee, L., Merlin, O., Mladenova, I., O'Neill, P., Panciera, R., Paruscio, V., Pipunic, R., Rawls, W., Rinaldi, M., Rudiger, C., Saco, P.M.I., Saleh, K., Savstrup-Kristensen, S., Shoemark, V., Skou, N., Soebjaerg, S., Summerell, G., Teuling, A.J., Thompson, H., Thyer, M.A., Toyra, J., Tsang, A., Wells, P.A., Wursteisen, P., Young, R., 'National Airborne Field Experiment data sets', MODSIM 2007 International Congress on Modelling and Simulation. Proceedings, Christchurch, New Zealand (2007).
- Hancock, G.R., Martinez, C., **Wells, P.A.**, "Modelling and assessment of soil carbon variability at the point and hillslope scale." MODSIM 2007 International Congress on Modelling and Simulation. Proceedings, Christchurch, New Zealand (2007).
- Martinez, C., Hancock, G.R., **Wells, P.A.**, Kalma J.D., "An assessment of the variability of soil temperature of the catchment scale." MODSIM 2007 International Congress on Modelling and Simulation. Proceedings, Christchurch, New Zealand (2007).
- Fityus S.G., Hancock G.R., **Wells P.A.**, Ford J., Simic E., 'The environmental geotechnics of coal mine spoil', Common Ground. 10th Australia New Zealand Conference on Geomechanics. Proceedings, Brisbane (2007).
- Wells T.**, Fityus S., (2007), "The influence of desiccation cracking on volumetric moisture contents measured by the neutron probe." Third Asian Conference on Unsaturated Soils, Nanjing, P.R. China, April 2007
- Willgoose, G., **Wells, T.**, Sharmeen, S., Binning, P., and Hancock, G. (2005). "Physical weathering limits on fluvial erosion and surface armouring rates for hillslopes on the 10-1000 year timescale." EGU General assembly 2005, Vienna, Austria, 24-29 April 2005.
- Wells, T.**, Melchers, R.E. (2005). "Determining hydrolysis behaviour and durability from short term water sorption data." Proc. FRP Composites in Civil Engineering- CICE 2004, 8-10 December, Adelaide, Australia., 923-930.
- Wells, T.**, and Melchers, R. (2005). "Modelling moisture induced degradation of E-glass reinforced polyester composites." Proc. Australian Structural Engineering Conference (ASEC 2005), Newcastle, New South Wales, Australia, 11-14 September 2005 [CD-ROM].
- Wells T.**, Binning P., Willgoose G., Mews A., "*Leaching Kinetics of a Quartz-Chlorite Schist and Consequent changes in the Rock Structure.*" Water-Rock Interaction, Proceedings of the 10th International Symposium on Water-Rock Interaction (WRI-10), Villasimius, Italy, June 10-15, 2001, 353-356.
- Foster, N.R., Yun, S.L.J., Dillow, A.K., **Wells, P.**, Lucien, F.P., "*A Fundamental Study of the GAS Anti-Solvent Process.*", Proc. of the 4th International Symposium on Supercritical Fluids, Sendai, Japan, p27-29, May 1997.
- Dehghani, F., **Wells, T.**, Cotton, N.J., Foster, N.R., "*The use of dense gases for the extraction of metal compounds.*" Value Adding through Solvent Extraction, [Papers presented at the International Solvent Extraction Conference, (ISEC '96)], Melbourne, Australia, March 19-23, 1996, 967-972.

Yun, S.L.J., **Wells, P.A.**, Lucien, F.P., Foster, N.R., "*Purification of Pharmaceuticals via the Gas Anti-Solvent Process.*" Proc. of the International Biotechnology Symposium, Sydney, Australia, 1996.

Dehghani F., Lucien F.P., Cotton N.J., **Wells T.**, Foster N.R., "*Novel Techniques for Processing Metals with Supercritical Fluids.*" Proceedings of 3rd International Symposium on Supercritical Fluids, Vol. 2, pp35-40, Strasbourg, France, 1994.

Dehghani F., Cotton N.J., **Wells P.A.**, Lucien F.P., Foster N.R., "*Vapour Liquid Equilibria for the System: Modified Dense CO₂ + Aqueous rare Earth Solutions.*" (Oral presentation), Iranian International Chemical Engineering Conference, 1993.

Wells P.A., de Loos Th. W., Kleintjens L.A., "*Pressure Pulsed Induced Critical Scattering: Spinodal and Binodal curves for the system Polystyrene + Methylcyclohexane.*" 6th International Conference on Fluid Properties and Phase Equilibria for Chemical Process Design. Cortina D'Ampezzo, Italy, July 1992.

Wells T., de Loos Th. W., Kleintjens L.A., "*Using Pressure-Pulsed-Induced Critical Scattering to determine Spinodal and Binodal Surfaces of Polymer-Solvent Systems.*" AIChE Annual General Meeting, Los Angeles, November, 1991.

Wells, P.A., Foster, N.R., Liong, K.K., Chaplin, R.P. and Tilly, K., "*Supercritical Fluid Extraction of Triglycerides*", Proceedings of 17th Australasian Chemical Engineering Conference, CHEMECA 89, Broadbeach, Qld, Australia 1989, pp544-551.

Wells P.A., Chaplin R.P., Foster N.R., "*Mass Transfer in Supercritical Fluids.*" Soc. Fr. De Chimie, International Symposium on Supercritical Fluids, Nice, France, October 1988.

Wells P.A., Foster N.R., Liong K.K., Chaplin R.P., "*Supercritical Fluid Extraction of Marine Triglycerides.*" International Conference on Fats (Fats for the Future II), Auckland, New Zealand, 1989.

Foster, N.R., **Wells, P.A.** and Tilly, K., "*Recent Advances in Extraction Technology for Essential Oils and Natural Aromatic Chemicals*", Cosmetics, Aerosols and Toiletries in Australia, 2, (4), 1988.

Wells P.A., Foster N.R., Chaplin R.P., "*Diffusion in Supercritical Fluids.*" Proceedings of 16th Australasian Chemical Engineering Conference, CHEMECA 88, Sydney, Australia, 1988.

Tilly K.D., **Wells P.A.**, Foster N.R., "*Supercritical Fluids in Extraction Processes.*" Proceedings of 15th Australasian Chemical Engineering Conference, CHEMECA 87, Melbourne, Australia, 1987, pp.59.1-59.8.

Wells P.A., Foster N.R., "*The Application of Supercritical Fluids to the Disposal of Chemical Wastes.*" Proceedings of 15th Australasian Chemical Engineering Conference, CHEMECA 87, Melbourne, Australia, 1987, pp.23.1-23.8.

Reports.

1. **Wells T.**, Melchers R.M. "Water Sorption by E-Glass Reinforced Polyester Composites – A review." Submitted to CRC-ACS for publication February 2003.