

## 2009 – Publications



### Edited Books

Provis, J. L., and van Deventer, J. S. J. eds. (2009). *Geopolymers: Structures, Processing, Properties and Industrial Applications*, Woodhead Publishing, Cambridge, UK.

### Book Sections

Caric, M., Milanovic, S., Akkerman, C., Kentish, S. E., and Tamime, A. Y. (2009). "Technology of evaporators, membrane processing and dryers." *Dairy Powders & Concentrated Products*, A. Tamime, ed., Wiley-Blackwell, Chichester, UK.

Duxson, P. (2009). "Geopolymer precursor design." *Geopolymers: Structures, Processing, Properties and Industrial Applications*, J. L. Provis and J. S. J. van Deventer, eds., Woodhead Publishing, Cambridge, UK, 37-49.

Duxson, P., and Provis, J. L. (2009). "Low CO<sub>2</sub> concrete: Are we making any progress?" *BEDP Environment Design Guide*, Australian Institute of Architects, Melbourne, Australia, Paper PR024.

Duxson, P., and van Deventer, J. S. J. (2009). "Commercialisation of geopolymers for construction – opportunities and obstacles." *Geopolymers: Structures, Processing, Properties and Industrial Applications*, J. L. Provis and J. S. J. van Deventer, eds., Woodhead Publishing, Cambridge, UK, 381-402.

Gras, S. L. (2009). "Surface - and solution-based assembly of amyloid fibrils for biomedical and nanotechnology applications." *Advances in Chemical Engineering – Engineering Aspects of Self-Organising Materials*, R. Koopmans, ed., Academic Press/Elsevier, Amsterdam, The Netherlands. (Invited paper)

Hughes, B. D. (2009). "Conduction and diffusion in percolating systems." *Encyclopedia of Complexity and Systems Science*, R. A. Meyers, ed., Springer, New York, Part 3, 1395-1424.

Keyte, L. M. (2009). "Fly ash glass chemistry and inorganic polymer cements." *Geopolymers: Structures, Processing, Properties and Industrial Applications*, J. L. Provis and J. S. J. van Deventer, eds., Woodhead Publishing, Cambridge, UK, 15-36.

Lloyd, R. R. (2009). "Accelerated ageing of geopolymers." *Geopolymers: Structures, Processing, Properties and Industrial Applications*, J. L. Provis and J. S. J. van Deventer, eds., Woodhead Publishing, Cambridge, UK, 139-166.

Provis, J. L. (2009). "Activating solution chemistry for geopolymers." *Geopolymers: Structures, Processing, Properties and Industrial Applications*, J. L. Provis and J. S. J. van Deventer, eds., Woodhead Publishing, Cambridge, UK, 50-71.

Provis, J. L. (2009). "Immobilisation of toxic wastes in geopolymers." *Geopolymers: Structures, Processing, Properties and Industrial Applications*, J. L. Provis and J. S. J. van Deventer, eds., Woodhead Publishing, Cambridge, UK, 423-442.

Provis, J. L., and Rees, C. A. (2009). "Geopolymer synthesis kinetics." *Geopolymers: Structures, Processing, Properties and Industrial Applications*, J. L. Provis and J. S. J. van Deventer, eds., Woodhead Publishing, Cambridge, UK, 118-136.

Provis, J. L., and van Deventer, J. S. J. (2009). "Introduction to geopolymers." *Geopolymers: Structures, Processing, Properties and Industrial Applications*, J. L. Provis and J. S. J. van Deventer, eds., Woodhead Publishing, Cambridge, UK, 1-11.

Provis, J. L., and van Deventer, J. S. J. (2009). "Reaction engineering in metallurgical processing," *Ullmann's Encyclopedia of Industrial Chemistry*, Wiley-VCH, DOI 10.1002/14356007.n22\_n01.

Provis, J. L., Yong, S. L., and Duxson, P. (2009). "Nanostructure/microstructure of metakaolin geopolymers." *Geopolymers: Structures, Processing, Properties and Industrial Applications*, J. L. Provis and J. S. J. van Deventer, eds., Woodhead Publishing, Cambridge, UK, 72-88.

Tordesillas, A., and Behringer, R. P. (2009). "Are we there yet? Following the energy trail in cohesionless granular solids." *Mechanics of Natural Solids*, D. Kolymbas and G. Viggiani, eds., Springer Berlin Heidelberg, 47-83.

## Journal Articles

Anandan, S., and Ashokkumar, M. (2009). "Sonochemical synthesis of Au-TiO<sub>2</sub> nanoparticles for the sonophotocatalytic degradation of organic pollutants in aqueous environment." *Ultrasonics Sonochemistry*, 16(3), 316-320.

Ashokkumar, M., Lee, J., Iida, Y., Yasui, K., Kozuka, T., Tuziuti, T., and Towata, A. (2009). "The detection and control of stable and transient acoustic cavitation bubbles." *Physical Chemistry Chemical Physics*, 11(43), 10118-10121.

Ashokkumar, M., Lee, J., Zisu, B., Bhaskarcharya, R., Palmer, M., and Kentish, S. (2009). "Hot topic: Sonication increases the heat stability of whey proteins." *Journal of Dairy Science*, 92(11), 5353-5356.

Auffret, Y., Roux, D. C. D., El Kissi, N., Caton, F., Pignot-Paintrand, I., Dunstan, D. E., and Rochas, C. (2009). "Aging and yielding in a sheared AOT/iso-octane/water lyotropic lamellar phase." *European Physical Journal E*, 29(1), 51-60.

Auffret, Y., Roux, D. C. D., El Kissi, N., Dunstan, D. E., and Pignot-Paintrand, I. (2009). "Stress and strain controlled rheometry on a concentrated lyotropic lamellar phase of AOT/Water/Iso-octane." *Rheologica Acta*, 48(4), 423-432.

Battle, A. R., Valenzuela, S. M., Mechler, A., Nichols, R. J., Praporski, S., di Maio, I. L., Islam, H., Cirard-Egrot, A. P., Cornell, B. A., Prashar, J., Caruso, F., Martin, L. L., and Martin, D. K. (2009). "Novel engineered ion channel provides controllable ion permeability for polyelectrolyte microcapsules coated with a lipid membrane." *Advanced Functional Materials*, 19(2), 201-208.

Becker, A. L., Zelikin, A. N., Johnston, A. P. R., and Caruso, F. (2009). "Tuning the formation and degradation of layer-by-layer assembled polymer hydrogel microcapsules." *Langmuir*, 25(24), 14079-14085.

Bekard, I. B., and Dunstan, D. E. (2009). "Shear-induced deformation of bovine insulin in couette flow." *Journal of Physical Chemistry B*, 113(25), 8453-8457.

Bekard, I. B., and Dunstan, D. E. (2009). "Tyrosine autofluorescence as a measure of bovine insulin fibrillation." *Biophysical Journal*, 97(9), 2521-2531.

Best, J. P., and Dunstan, D. E. (2009). "Nanotechnology for photolytic hydrogen production: Colloidal anodic oxidation." *International Journal of Hydrogen Energy*, 34(18), 7562-7578.

Bharti, R. P., Harvie, D. J. E., and Davidson, M. R. (2009). "Electroviscous effects in steady fully developed flow of a power-law liquid through a cylindrical microchannel." *International Journal of Heat and Fluid Flow*, 30(4), 804-811.

Bhaskaracharya, R., Kentish, S. E., and Ashokkumar, M. (2009). "Selected application of ultrasonics in food processing." *Food Engineering Reviews*, 1, 31-49.

Binder, B. J., and Landman, K. A., (2009). "Exclusion processes on a growing domain." *Journal of Theoretical Biology*, 259(3), 541-551.

Blencowe, A., Celli, A. M., Donati, D., Hayes, W. C., Martin, C., Ponticelli, F., and Melville-Richards, J. K. (2009). "Synthesis and photoreactivity of aryl substituted 4,5-dithienyl[1,3]dithiol-2-ones." *Tetrahedron*, 65, 3858-3862.

Blencowe, A., Tan, J. F., Goh, T. K., and Qiao, G. G. (2009). "Core cross-linked star polymers via controlled radical polymerisation." *Polymer*, 50(1), 5-32. (*Invited Feature/Review Article*)

- Boger, D. V. (2009). "Rheology and the resource industries." *Chemical Engineering Science*, 64(22), 4525-4536.
- Boskovic, S., Hill, A. J., Turney, T. W., Stevens, G. W., Gee, M. L., and O'Connor, A. J. (2009). "Micropore characterization of mesocellular foam and hybrid organic functional mesocellular foam materials." *The Journal of Physical Chemistry C*, 113(51), 21283-21292.
- Brotchie, A., Grieser, F., and Ashokkumar, M. (2009). "Effect of Power and Frequency on Bubble-Size Distributions in Acoustic Cavitation - art. no. 084302." *Physical Review Letters*, 102(8), 4302-4302.
- Brotchie, A., Mettin, R., Grieser, F., and Ashokkumar, M. (2009). "Cavitation activation by dual-frequency ultrasound and shock waves." *Physical Chemistry Chemical Physics*, 11(43), 10029-10034.
- Buso, D., Palmer, L., Bello, V., Mattei, G., Post, M., Mulvaney, P., and Martucci, A. (2009). "Self-assembled gold nanoparticle monolayers in sol-gel matrices: synthesis and gas sensing applications." *Journal of Materials Chemistry*, 19(14), 2051-2057.
- Cavalieri, F., Postma, A., Lee, L., and Caruso, F. (2009). "Assembly and Functionalization of DNA-Polymer Microcapsules." *ACS Nano*, 3(1), 234-240.
- Chan, D. Y. C., Klaseboer, E., and Manica, R. (2009). "Dynamic deformations and forces in soft matter." *Soft Matter*, 5(15), 2858-2861.
- Chan, D. Y. C., Uddin, M. H., Cho, K. L., Liaw, I. I., Lamb, R. N., Stevens, G. W., Grieser, F., and Dagastine, R. R. (2009). "Silica nano-particle super-hydrophobic surfaces: the effects of surface morphology and trapped air pockets on hydrodynamic drainage forces." *Faraday Discussions*, 143, 151-168.
- Chan, N. Y., Chen, M., and Dunstan, D. E. (2009). "Elasticity of polymer solutions in Couette flow measured by fluorescence resonance energy transfer (FRET)." *European Physical Journal E*, 30(1), 37-41.
- Chan, N. Y., Hao, X. T., Smith, T. A., and Dunstan, D. E. (2009). "Aggregation of water-soluble conjugated polymers in couette shear flow." *Journal of Physical Chemistry B*, 113(40), 13138-13141.
- Chandrawati, R., Städler, B., Postma, A., Connal, L. A., Chong, S. F., Zelikin, A. N., and Caruso, F. (2009). "Cholesterol-mediated anchoring of enzyme-loaded liposomes within disulfide-stabilized polymer carrier capsules." *Biomaterials*, 30(30), 5988-5998.
- Chen, D., Huang, F., Cheng, Y.-B., and Caruso, R. A. (2009). "Mesoporous anatase TiO<sub>2</sub> beads with high surface areas and controllable pore sizes: A superior candidate for high-performance dye-sensitized solar cells." *Advanced Materials*, 21, 2206-2210.
- Cho, J. M., Seo, J. M., Lee, J. K., Zhang, H., and Lamb, R. (2009). "Electronic properties of oxygen vacancies in titania nanotubes." *Physica B-Condensed Matter*, 404(1), 127-130.
- Chong, S. F., Chandrawati, R., Stadler, B., Park, J., Cho, J. H., Wang, Y. J., Jia, Z. F., Bulmus, V., Davis, T. P., Zelikin, A. N., and Caruso, F. (2009). "Stabilization of polymer-hydrogel capsules via thiol-disulfide exchange." *Small*, 5(22), 2601-2610.
- Chong, S. F., Sexton, A., De Rose, R., Kent, S. J., Zelikin, A. N., and Caruso, F. (2009). "A paradigm for peptide vaccine delivery using viral epitopes encapsulated in degradable polymer hydrogel capsules." *Biomaterials*, 30(28), 5178-5186.
- Coleman, B., Rickard, N. A., de Silva, M. G., and Shepherd, R. K. (2009). "A protocol for cryoembedding the adult guinea pig cochlea for fluorescence immunohistology." *Journal of Neuroscience Methods*, 176(2), 144-151.
- Connal, L. A., Kinnane, C. R., Zelikin, A. N., and Caruso, F. (2009). "Stabilization and functionalization of polymer multilayers and capsules via thiol-ene click chemistry." *Chemistry of Materials*, 21(4), 576-578.
- Cui, J. W., Wang, Y. J., Hao, J. C., and Caruso, F. (2009). "Mesoporous silica-templated assembly of luminescent polyester particles." *Chemistry of Materials*, 21(18), 4310-4315.

- Curvers, D., Saveyn, H., Scales, P. J., and Van der Meeren, P. (2009). "A centrifugation method for the assessment of low pressure compressibility of particulate suspensions." *Chemical Engineering Journal*, 148(2-3), 405-413.
- Curvers, D., Usher, S. P., Kilcullen, A. R., Scales, P. J., Saveyn, H., and Van der Meeren, P. (2009). "The influence of ionic strength and osmotic pressure on the dewatering behaviour of sewage sludge." *Chemical Engineering Science*, 64(10), 2448-2454.
- Doherty, C. M., Caruso, R. A., Smarsly, B. M., Adelhelm, P., and Drummond, C. J. (2009). "Hierarchically porous monolithic LiFePO<sub>4</sub>/carbon composite electrode materials for high power lithium ion batteries." *Chemistry of Materials*, 21(21), 5300-5306.
- Doherty, C. M., Caruso, R. A., Smarsly, B. M., and Drummond, C. J. (2009). "Colloidal crystal templating to produce hierarchically porous LiFePO<sub>4</sub> electrode materials for high power lithium ion batteries." *Chemistry of Materials*, 21(13), 2895-2903.
- Doran, M. R., Mills, R. J., Parker, A. J., Landman, K. A., and Cooper-White, J. J. (2009). "A cell migration device that maintains a defined surface with no cellular damage during wound edge generation." *Lab on a Chip*, 9(16), 2364-2369.
- Drisko, G. L., Cao, L., Kimling, M. C., Harrisson, S., Luca, V., and Caruso, R. A. (2009). "Pore size and volume effects on the incorporation of polymer into macro- and mesoporous zirconium titanium oxide membranes." *ACS Applied Materials & Interfaces*, 1(12), 2893-2901.
- Drisko, G. L., Luca, V., Sizgek, E., Scales, N., and Caruso, R. A. (2009). "Template synthesis and adsorption properties of hierarchically porous zirconium titanium oxides." *Langmuir*, 25(9), 5286-5293.
- Duan, X., Tran, N. H., Roberts, N. K., and Lamb, R. N. (2009). "Single-source chemical vapor deposition of clean oriented Al<sub>2</sub>O<sub>3</sub> thin films." *Thin Solid Films*, 517(24), 6726-6730.
- Edwards, S. A., Carnie, S. L., Manor, O., and Chan, D. Y. C. (2009). "Effects of internal flow and viscosity ratio on measurements of dynamic forces between deformable drops." *Langmuir*, 25(6), 3352-3355.
- Franco, J. A., deMontigny, D., Kentish, S. E., Perera, J. M., and Stevens, G. W. (2009). "Effect of amine degradation products on the membrane gas absorption process." *Chemical Engineering Science*, 64(18), 4016-4023.
- Franks, G. V., Li, H., O'Shea, J.-P., and Qiao, G. G. (2009). "Temperature responsive polymers as multiple function reagents in mineral processing." *Advanced Powder Technology*, 20(3), 273-279.
- Funston, A. M., Novo, C., Davis, T. J., and Mulvaney, P. (2009). "Plasmon coupling of gold nanorods at short distances and in different geometries." *Nano Letters*, 9(4), 1651-1658.
- Gan, Y., and Franks, G. V. (2009). "Cleaning AFM colloidal probes by mechanically scrubbing with supersharp "brushes"." *Ultramicroscopy*, 109(8), 1061-1065.
- Garvey, M., Gras, S. L., Meehan, S., Meade, S. J., Carver, J. A., and Gerrard, J. A. (2009). "Protein nanofibres of defined morphology prepared from mixtures of crude crystallins." *International Journal of Nanotechnology*, 6(3-4), 258-273.
- Gehman, J. D., and Provis, J. L. (2009). "Generalized biaxial shearing of MQMAS NMR spectra." *Journal of Magnetic Resonance*, 200(1), 167-172.
- Ghosh, U. K., Kentish, S. E., and Stevens, G. W. (2009). "Absorption of carbon dioxide into aqueous potassium carbonate promoted by boric acid." *Energy Procedia*, 1(1), 1075-1081.
- Goh, T. K., Blencowe, A., Tan, J. F., Coventry, K. D., Qian, F., Tachasirinugune, T., and Qiao, G. G. (2009). "PMMA star-like polymers via one-pot conventional free-radical copolymerization." *Australian Journal of Chemistry*, 62(8), 891-898.
- Goh, T. K., Tan, J. F., Guntari, S. N., Satoh, K., Blencowe, A., Kamigaito, M., and Qiao, G. G. (2009). "Nano-to-macroscale poly(methyl methacrylate) stereocomplex assemblies." *Angewandte Chemie-International Edition*, 48(46), 8707-8711.

- Gomez, D. E., van Embden, J., Mulvaney, P., Fernee, M. J., and Rubinsztein-Dunlop, H. (2009). "Exciton-trion transitions in single CdSe-CdS core-shell nanocrystals." *Acs Nano*, 3(8), 2281-2287.
- Gosling, A., Alftrén, J., Stevens, G. W., Barber, A. R., Kentish, S. E., and Gras, S. L. (2009). "Facile pretreatment of *Bacillus circulans*  $\beta$ -galactosidase increases the yield of galactosyl oligosaccharides in milk and lactose reaction systems." *Journal of Agricultural and Food Chemistry*, 57(24), 11570-11574.
- Gupta, J. K., Sivakumar, S., Caruso, F., and Abbott, N. L. (2009). "Size-dependent ordering of liquid crystals observed in polymeric capsules with micrometer and smaller diameter." *Angewandte Chemie-International Edition*, 48(9), 1652-1655.
- Gupta, J. K., Zimmerman, J. S., de Pablo, J. J., Caruso, F., and Abbott, N. L. (2009). "Characterization of adsorbate-induced ordering transitions of liquid crystals within monodisperse droplets." *Langmuir*, 25(16), 9016-9024.
- Haines, R. S., Wu, A. H. F., Zhang, H., Coffey, J., Huddle, T., Lafountaine, J. S., Lim, Z. J., White, E. A., Tuong, N. T., and Lamb, R. N. (2009). "Self-cleaning surfaces: a third-year undergraduate research project." *Journal of Chemical Education*, 86(3), 365-367.
- Han, H. W., Bach, U., Cheng, Y. B., Caruso, R. A., and MacRae, C. (2009). "A design for monolithic all-solid-state dye-sensitized solar cells with a platinized carbon counter-electrode." *Applied Physics Letters*, 94(10), 3102-3102.
- Han, Y., Gras, S., and Forde, G. A. (2009). "Binding properties of peptidic affinity ligands for plasmid DNA capture and detection." *AIChE Journal*, 55(2), 505-515.
- Hao, X. T., Chan, N. Y., Dunstan, D. E., and Smith, T. A. (2009). "Conformational Changes and photophysical behavior in poly[2-methoxy-5-(2'-ethyl-hexyloxy)-1,4-phenylene vinylene] thin films cast under an electric field." *Journal of Physical Chemistry C*, 113(27), 11657-11661.
- Hasan, R., Scholes, C. A., Stevens, G. W., and Kentish, S. E. (2009). "Effect of hydrocarbons on the separation of carbon dioxide from methane through a polyimide gas separation membrane." *Industrial & Engineering Chemistry Research*, 48(11), 5415-5419.
- Jahya, A. B., Stevens, G. W., and Pratt, H. R. C. (2009). "Pulsed disc-and-doughnut column performance." *Solvent Extraction and Ion Exchange*, 27(1), 63-82.
- Jasieniak, J., Smith, L., van Embden, J., and Mulvaney, P. (2009). "Re-examination of the size-dependent absorption properties of CdSe quantum dots." *Journal of Physical Chemistry C*, 113(45), 19468-19474.
- Johnston, A. P. R., Lee, L., Wang, Y., and Caruso, F. (2009). "Controlled degradation of DNA capsules with engineered restriction-enzyme cut sites." *Small*, 5(12), 1418-1421.
- Karasu, K., Yoshikawa, S., Kentish, S. E., and Stevens, G. W. (2009). "A model for cross-flow ultrafiltration of dairy whey based on the rheology of the compressible cake." *Journal of Membrane Science*, 341(1-2), 252-260.
- Katagiri, K., Koumoto, K., Iseya, S., Sakai, M., Matsuda, A., and Caruso, F. (2009). "Tunable UV-responsive organic-inorganic hybrid capsules." *Chemistry of Materials*, 21(2), 195-197.
- Kato, N., Lee, L., Chandrawati, R., Johnston, A. P. R., and Caruso, F. (2009). "Optically characterized DNA multilayered assemblies and phenomenological modeling of layer-by-layer hybridization." *The Journal of Physical Chemistry C*, 113(50), 21185-21195.
- Kinnane, C. R., Such, G. K., Antequera-Garcia, G., Yan, Y., Dodds, S. J., Liz-Marzan, L. M., and Caruso, F. (2009). "Low-fouling poly(N-vinyl pyrrolidone) capsules with engineered degradable properties." *Biomacromolecules*, 10(10), 2839-2846.
- Kinnane, C. R., Wark, K., Such, G. K., Johnston, A. P. R., and Caruso, F. (2009). "Peptide-functionalized, low-biofouling click multilayers for promoting cell adhesion and growth." *Small*, 5(4), 444-448.

- Kolev, S. D., Baba, Y., Cattrall, R. W., Tasaki, T., Pereira, N., Perera, J. M., and Stevens, G. W. (2009). "Solid phase extraction of zinc(II) using a PVC-based polymer inclusion membrane with di(2-ethylhexyl)phosphoric acid (D2EHPA) as the carrier." *Talanta*, 78(3), 795-799.
- Kumar, P. S. S., Raj, M. R., Anandan, S., Zhou, M. F., and Ashokkumar, M. (2009). "Visible light assisted photocatalytic degradation of acid red 88 using Au-ZnO nanophotocatalysts." *Water Science and Technology*, 60(6), 1589-1596.
- Kurniawan, L., Qiao, G. G., and Zhang, X. (2009). "Formation of Wheat-Protein-Based Biomaterials through Polymer Grafting and Crosslinking Reactions to Introduce New Functional Properties." *Macromolecular Bioscience*, 9(1), 93-101.
- Lees, E. E., Nguyen, T. L., Clayton, A. H. A., and Mulvaney, P. (2009). "The Preparation of Colloidally Stable, Water-Soluble, Biocompatible, Semiconductor Nanocrystals With a Small Hydrodynamic Diameter." *ACS Nano*, 3(5), 1121-1128.
- Leong, T. S. H., Wooster, T. J., Kentish, S. E., and Ashokkumar, M. (2009). "Minimising oil droplet size using ultrasonic emulsification." *Ultrasonics Sonochemistry*, 16(6), 721-727.  
*(Listed in the Top 25 Most Frequently Downloaded articles for this journal in Quarter 2 2009)*
- Li, H. H., O'Shea, J. P., and Franks, G. V. (2009). "Effect of molecular weight of poly(N-isopropyl acrylamide) temperature-sensitive flocculants on dewatering." *AIChE Journal*, 55(8), 2070-2080.
- Lim, J., de Kretser, R. G., and Scales, P. J. (2009). "Investigating the influence of total electrolyte concentration and sodium-calcium ion competition on controlled dispersion of swelling clays." *International Journal of Mineral Processing*, 93(2), 95-102.
- Lim, J. F., Sader, J. E., and Mulvaney, P. (2009). "Electrodynamic ratchet motor - art. no. 030105." *Physical Review E*, 79(3), 105-105.
- Littleton, B. N., Fernee, M. J., Gomez, D. E., Mulvaney, P., and Rubinsztein-Dunlop, H. (2009). "High-Resolution Line Width Measurement of Single CdSe Nanocrystals at Long Time Scales." *Journal of Physical Chemistry C*, 113(14), 5345-5348.
- Lloyd, R. R., Provis, J. L., Smeaton, K. J., and van Deventer, J. S. J. (2009). "Spatial distribution of pores in fly ash-based inorganic polymer gels visualised by Wood's metal intrusion." *Microporous and Mesoporous Materials*, 126(1-2), 32-39.
- Lloyd, R. R., Provis, J. L., and van Deventer, J. S. J. (2009). "Microscopy and microanalysis of inorganic polymer cements. 1: remnant fly ash particles." *Journal of Materials Science*, 44(2), 608-619.
- Lloyd, R. R., Provis, J. L., and van Deventer, J. S. J. (2009). "Microscopy and microanalysis of inorganic polymer cements. 2: the gel binder." *Journal of Materials Science*, 44(2), 620-631.
- Madhavan, J., Grieser, F., and Ashokkumar, M. (2009). "Kinetics of the sonophotocatalytic degradation of orange G in presence of Fe<sup>3+</sup>." *Water Science and Technology*, 60(8), 2195-2202.
- Madhavan, J., Maruthamuthu, P., Murugesan, S., and Ashokkumar, M. (2009). "Kinetics of degradation of acid red 88 in the presence of Co<sup>2+</sup>-ion/peroxomonosulphate reagent." *Applied Catalysis a-General*, 368(1-2), 35-39.
- Manor, O., and Chan, D. Y. C. (2009). "Terminal velocity and mobile surface species in rising microbubbles." *Langmuir*, 25(16), 8899-8902.
- Mao, Z. W., Guo, J. S., Bai, S. T., Nguyen, T. L., Xia, H. B., Huang, Y. B., Mulvaney, P., and Wang, D. Y. (2009). "Hydrogen-bond-selective phase transfer of nanoparticles across liquid/gel interfaces." *Angewandte Chemie-International Edition*, 48(27), 4953-4956.
- Mosse, W. K. J., Koppens, M. L., Gengenbach, T. R., Scanlon, D. B., Gras, S. L., and Ducker, W. A. (2009). "Peptides grafted from solids for the control of interfacial properties." *Langmuir*, 25(3), 1488-1494.
- Muir, B. W., Moffat, B. A., Harbour, P., Coia, G., Zhen, G. L., Waddington, L., Scoble, J., Krah, D., Thang, S. H., Chong, Y. K., Mulvaney, P., and Hartley, P. (2009). "Combinatorial discovery of novel

- amphiphilic polymers for the phase transfer of magnetic nanoparticles." *Journal of Physical Chemistry C*, 113(38), 16615-16624.
- Mulvaney, P., and Hartland, G. (2009). "Nanophotonics: Plasmonics and metal nanoparticles." *Physical Chemistry Chemical Physics*, 11(28), 5866-5866.
- Neppolian, B., Doronila, A., Grieser, F., and Ashokkumar, M. (2009). "Simple and efficient sonochemical method for the oxidation of arsenic(III) to arsenic(V)." *Environmental Science & Technology*, 43(17), 6793-6798.
- Ng, D., Coventry, K., Lim, P., Wiltshire, J., Qiao, G. G., Boulton, A., and Senior, G. (2009). "An improved technique for concentration measurement of galactomannan solutions by differential refractive index." *Carbohydrate Polymers*, 77(1), 150-153.
- Nguyen, T. L., Spizzirri, P., Wilson, G., and Mulvaney, P. (2009). "Tunable light emission using quantum dot-coated upconverters." *Chemical Communications*(2), 174-176.
- Northcott, K., Kentish, S. E., Best, J., and Stevens, G. (2009). "Development of membrane testing protocols for characterisation of RO and NF membranes." *Desalination*, 236(1-3), 194-201.
- Novo, C., Funston, A. M., Gooding, A. K., and Mulvaney, P. (2009). "Electrochemical charging of single gold nanorods." *Journal of the American Chemical Society*, 131(41), 14664- 14666.
- Pereira, N., St John A., Catrall, R. W., Perera, J. M., and Kolev, S. D. (2009). "Influence of the composition of polymer inclusion membranes on their homogeneity and flexibility." *Desalination*, 236, 327-333.
- Perera, J. M., and Stevens, G. W. (2009). "Spectroscopic studies of molecular interaction at the liquid-liquid interface." *Analytical and Bioanalytical Chemistry*, 395(4), 1019-1032.
- Pham, C. L. L., Leong, S. L., Ali, F. E., Kenche, V. B., Hill, A. F., Gras, S. L., Barnham, K. J., and Cappai, R. (2009). "Dopamine and the dopamine oxidation product 5,6-dihydroxyindole promote distinct on-pathway and off-pathway aggregation of  $\alpha$ -synuclein in a pH-dependent manner." *Journal of Molecular Biology*, 387(3), 771-785.
- Postma, A., Yan, Y., Wang, Y. J., Zelikin, A. N., Tjipto, E., and Caruso, F. (2009). "Self-polymerization of dopamine as a versatile and robust technique to prepare polymer capsules." *Chemistry of Materials*, 21(14), 3042-3044.
- Price, A. D., Zelikin, A. N., Wang, Y. J., and Caruso, F. (2009). "Triggered enzymatic degradation of DNA within selectively permeable polymer capsule microreactors." *Angewandte Chemie-International Edition*, 48(2), 329-332.
- Provis, J. L., Duxson, P., Harrex, R. M., Yong, C. Z., and van Deventer, J. S. J. (2009). "Valorisation of fly ashes by geopolymers," *Global NEST Journal*, 11(2), 147-154.
- Provis, J. L., Rose, V., Bernal, S. A., and van Deventer, J. S. J. (2009). "High-resolution nanoprobe X-ray fluorescence characterization of heterogeneous calcium and heavy metal distributions in alkali-activated fly ash." *Langmuir*, 25(19), 11897-11904.
- Provis, J. L., and van Deventer, J. S. J. (2009). "Synthesis and Microstructural Characterization of Fully-Reacted Potassium-Poly(sialate-Siloxo) Geopolymeric Cement Matrix. Discussion." *ACI Materials Journal*, 106(1), 95-96.
- Provis, J. L., Yong, C. Z., Duxson, P., and van Deventer, J. S. J. (2009). "Correlating mechanical and thermal properties of sodium silicate-fly ash geopolymers." *Colloids and Surfaces A-Physicochemical and Engineering Aspects*, 336(1-3), 57-63.
- Pugazhenthiran, N., Anandan, S., Kathiravan, G., Prakash, N. K. U., Crawford, S., and Ashokkumar, M. (2009). "Microbial synthesis of silver nanoparticles by *Bacillus* sp." *Journal of Nanoparticle Research*, 11(7), 1811-1815.

- Rice, G. S., Kentish, S. E., O'Connor, A. J., Barber, A. R., Pihlajamaki, A., Nystrom, M., and Stevens, G. W. (2009). "Analysis of separation and fouling behaviour during nanofiltration of dairy ultrafiltration permeates." *Desalination*, 236(1-3), 23-29.
- Rice, G., Barber, A., O'Connor, A., Stevens, G., and Kentish, S. (2009). "Fouling of NF membranes by dairy ultrafiltration permeates." *Journal of Membrane Science*, 330(1-2), 117-126. Erratum in *Journal of Membrane Science* (2009) 335 (1-2) page 145.
- Rodriguez-Fernandez, J., Funston, A. M., Perez-Juste, J., Alvarez-Puebla, R. A., Liz-Marzan, L. M., and Mulvaney, P. (2009). "The effect of surface roughness on the plasmonic response of individual sub-micron gold spheres." *Physical Chemistry Chemical Physics*, 11(28), 5909-5914.
- Rodriguez-Fernandez, J., Novo, C., Myroshnychenko, V., Funston, A. M., Sanchez-Iglesias, A., Pastoriza-Santos, I., Perez-Juste, J., de Abajo, F. J. G., Liz-Marzan, L. M., and Mulvaney, P. (2009). "Spectroscopy, imaging, and modeling of individual gold decahedra." *Journal of Physical Chemistry C*, 113(43), 18623-18631.
- Scholes, C., Kentish, S., and Stevens, G. (2009). "Effects of minor components in carbon dioxide capture using polymeric gas separation membranes." *Separation and Purification Reviews*, 38(1), 1-44.
- Scholes, C. A., Kentish, S. E., and Stevens, G. W. (2009). "The effect of condensable minor components on the gas separation performance of polymeric membranes for carbon dioxide capture." *Energy Procedia*, 1(1), 311-317.
- Sexton, A., Whitney, P. G., Chong, S. F., Zelikin, A. N., Johnston, A. P. R., De Rose, R., Brooks, A. G., Caruso, F., and Kent, S. J. (2009). "A protective vaccine delivery system for in vivo T cell stimulation using nanoengineered polymer hydrogel capsules." *ACS Nano*, 3(11), 3391-3400.
- Shen, S. F., Smith, K. H., Cook, S., Kentish, S. E., Perera, J. M., Bowser, T., and Stevens, G. W. (2009). "Phenol recovery with tributyl phosphate in a hollow fiber membrane contactor: Experimental and model analysis." *Separation and Purification Technology*, 69(1), 48-56.
- Simpson, M. J., Hughes, B. D., and Landman, K. A. (2009). "Diffusing populations: ghosts or folks?" *Australasian Journal of Engineering Education*, 15 (2), 59-67.
- Simpson, M. J., Landman, K. A., and Hughes, B. D. (2009). "Distinguishing between Directed and Undirected Cell Motility within an Invading Cell Population." *Bulletin of Mathematical Biology*, 71(4), 781-799.
- Simpson, M. J., Landman, K. A., and Hughes, B. D. (2009). "Pathlines in exclusion processes - art. no. 031920." *Physical Review E*, 79(3), 1920-1920.
- Simpson, M. J., Landman, K. A., and Hughes, B. D. (2009). "Multi-species simple exclusion processes." *Physica A-Statistical Mechanics and Its Applications*, 388(4), 399-406.
- Singla, R., Grieser, F., and Ashokkumar, M. (2009). "Kinetics and mechanism for the sonochemical degradation of a nonionic surfactant." *Journal of Physical Chemistry A*, 113(12), 2865-2872.
- Singla, R., Grieser, F., and Ashokkumar, M. (2009). "Sonochemical degradation of martius yellow dye in aqueous solution." *Ultrasonics Sonochemistry*, 16, 28-34.
- Sivakumar, S., Bansal, V., Cortez, C., Chong, S. F., Zelikin, A. N., and Caruso, F. (2009). "Degradable, surfactant-free, monodisperse polymer-encapsulated emulsions as anticancer drug carriers." *Advanced Materials*, 21(18), 1820-1824.
- Sivakumar, S., Wark, K. L., Gupta, J. K., Abbott, N. L., and Caruso, F. (2009). "Liquid crystal emulsions as the basis of biological sensors for the optical detection of bacteria and viruses." *Advanced Functional Materials*, 19(14), 2260-2265.
- Slater, J. L., Landman, K. A., Hughes, B. D., Shen, Q., and Temple, S. (2009). "Cell lineage tree models of neurogenesis." *Journal of Theoretical Biology*, 256(2), 164-179.

- Smith, K., Ghosh, U., Khan, A., Simioni, M., Endo, K., Zhao, X., Kentish, S., Qader, A., Hooper, B., and Stevens, G. (2009). "Recent developments in solvent absorption technologies at the CO2CRC in Australia." *Energy Procedia*, 1(1), 1549-1555.
- Städler, B., Chandrawati, R., Goldie, K., and Caruso, F. (2009). "Capsosomes: Subcompartmentalizing polyelectrolyte capsules using liposomes." *Langmuir*, 25(12), 6725-6732.
- Städler, B., Chandrawati, R., Price, A. D., Chong, S. F., Breheny, K., Postma, A., Connal, L. A., Zelikin, A. N., and Caruso, F. (2009). "A Microreactor with thousands of subcompartments: Enzyme-loaded liposomes within polymer capsules." *Angewandte Chemie-International Edition*, 48(24), 4359-4362.
- Städler, B., Price, A. D., Chandrawati, R., Hosta-Rigau, L., Zelikin, A. N., and Caruso, F. (2009). "Polymer hydrogel capsules: En route toward synthetic cellular systems." *Nanoscale*, 1(1), 68-73.
- Stickland, A. D., and Buscall, R. (2009). "Whither compressional rheology?" *Journal of Non-Newtonian Fluid Mechanics*, 157(3), 151-157.
- Sunartio, D., Grieser, F., and Ashokkumar, M. (2009). "Sonoluminescence quenching in aqueous solutions of aliphatic diols and glycerol." *Ultrasonics Sonochemistry*, 16, 23-27.
- Ta, H. T., Dass, C. R., Larson, I., Choong, P. F. M., and Dunstan, D. E. (2009). "A chitosan hydrogel delivery system for osteosarcoma gene therapy with pigment epithelium-derived factor combined with chemotherapy." *Biomaterials*, 30(27), 4815-4823.
- Ta, H. T., Dass, C. R., Larson, I., Choong, P. F. M., and Dunstan, D. E. (2009). "A chitosan-dipotassium orthophosphate hydrogel for the delivery of Doxorubicin in the treatment of osteosarcoma." *Biomaterials*, 30(21), 3605-3613.
- Ta, H. T., Han, H., Larson, I., Dass, C. R., and Dunstan, D. E. (2009). "Chitosan-dibasic orthophosphate hydrogel: A potential drug delivery system." *International Journal of Pharmaceutics*, 371(1-2), 134-141.
- Tan, J. F., Blencowe, A., Goh, T. K., Dela Cruz, I. T. M., and Qiao, G. G. (2009). "A General Method for the Synthesis and Isolation of Well-Defined Core Cross-Linked Multistar Assemblies: A Route toward Enhanced pH-Responsive Polymers." *Macromolecules*, 42(13), 4622-4631.
- Teo, B. M., Chen, F., Hatton, T. A., Grieser, F., and Ashokkumar, M. (2009). "Novel one-pot synthesis of magnetite latex nanoparticles by ultrasound irradiation." *Langmuir*, 25(5), 2593-2595.
- Teo, B., Grieser, F., and Ashokkumar, M. (2009). "High intensity ultrasound initiated polymerisation of butyl methacrylate in mini- and microemulsions." *Macromolecules*, 42, 4479-4483.
- Tordesillas, A., Kirszenblat, D., and Mangelsdorf, C. (2009). "Taming the complexity of granular materials via Vector Calculus" *Australasian Journal of Engineering Education*, 15 (2), 85-94.
- Tordesillas, A., and Muthuswamy, M. (2009). "On the modeling of confined buckling of force chains." *Journal of the Mechanics and Physics of Solids*, 57(4), 706-727.
- Tordesillas, A., and Shi, J. Y. (2009). "Micromechanical analysis of failure propagation in frictional granular materials." *International Journal for Numerical and Analytical Methods in Geomechanics*, 33(15), 1737-1768.
- Tordesillas, A., Shi, J., and Muhlhaus, H. B. "Noncoaxiality and force chain evolution." *International Journal of Engineering Science*, 47(11-12), 1386-1404.
- Tordesillas, A., Zhang, J., and Behringer, R. (2009). "Buckling force chains in dense granular assemblies: physical and numerical experiments." *Geomechanics and Geoengineering: An International Journal*, 4(1), 3-16.
- Tran, N. H., Wilson, M. A., Milev, A. S., Bartlett, J. R., Lamb, R. N., Martin, D., and Kannangara, G. S. K. (2009). "Photoemission and absorption spectroscopy of carbon nanotube interfacial interaction." *Advances in Colloid and Interface Science*, 145(1-2), 23-41.

- Tremel, A., Cai, A., Tirtaatmadja, N., Hughes, B. D., Stevens, G. W., Landman, K. A., and O'Connor, A. J. (2009). "Cell migration and proliferation during monolayer formation and wound healing." *Chemical Engineering Science*, 64(2), 247-253.
- Trewenack, A. J., and Landman, K. A. (2009). "A Traveling Wave Model for Invasion by Precursor and Differentiated Cells." *Bulletin of Mathematical Biology*, 71(2), 291-317.
- Trewenack, A. J., Please, C. P., and Landman, K. A. (2009). "A continuum model for the development of tissue-engineered cartilage around a chondrocyte." *Mathematical Medicine and Biology-a Journal of the Ima*, 26(3), 241-262.
- Usher, S. P., and Scales, P. J. (2009). "Predicting settler/clarifier behaviour: The role of shear effects." *Filtration*, 9(4), 308-314.
- Usher, S. P., Spehar, R., and Scales, P. J. (2009). "Theoretical analysis of aggregate densification: Impact on thickener performance." *Chemical Engineering Journal*, 151(1-3), 202-208.
- Vakarelski, I. U., Chan, D. Y. C., Nonoguchi, T., Shinto, H., and Higashitani, K. (2009). "Assembly of gold nanoparticles into microwire networks induced by drying liquid bridges." *Physical Review Letters*, 102(5), 8303-8303.
- Vakarelski, I. U., Kwek, J. W., Tang, X. S., O'Shea, S. J., and Chan, D. Y. C. (2009). "Particulate templates and ordered liquid bridge networks in evaporative lithography." *Langmuir*, 25(23), 13311-13314.
- van Embden, J., Jasieniak, J., and Mulvaney, P. (2009). "Mapping the optical properties of CdSe/CdS heterostructure nanocrystals: The effects of core size and shell thickness." *Journal of the American Chemical Society*, 131(40), 14299-14309.
- van Embden, J., Sader, J. E., Davidson, M., and Mulvaney, P. (2009). "Evolution of colloidal nanocrystals: Theory and modeling of their nucleation and growth." *Journal of Physical Chemistry C*, 113(37), 16342-16355.
- Verrelli, D. I., Dixon, D. R., and Scales, P. J. (2009). "Effect of coagulation conditions on the dewatering properties of sludges produced in drinking water treatment." *Colloids and Surfaces A-Physicochemical and Engineering Aspects*, 348(1-3), 14-23.
- Wang, Y. J., Price, A. D., and Caruso, F. (2009). "Nanoporous colloids: building blocks for a new generation of structured materials." *Journal of Materials Chemistry*, 19(36), 6451-6464.  
*(Invited Review Article)*
- Wappel, D., Khan, A., Shallcross, D., Joswig, S., Kentish, S., and Stevens, G. (2009). "The Effect of SO<sub>2</sub> on CO<sub>2</sub> Absorption in an Aqueous Potassium Carbonate Solvent." *Energy Procedia*, 1(1), 125-131.
- Watanabe, Y., Ikoma, T., Yamada, H., Suetsugu, Y., Komatsu, Y., Stevens, G. W., Moriyoshi, Y., and Tanaka, J. (2009). "Novel long-term immobilization method for radioactive iodine-129 using a zeolite/apatite composite sintered body." *ACS Applied Materials & Interfaces*, 1(7), 1579-1584.
- White, C. E., Provis, J. L., Riley, D. P., Kearley, G. J., and van Deventer, J. S. J. (2009). "What is the structure of kaolinite? Reconciling theory and experiment." *Journal of Physical Chemistry B*, 113(19), 6756-6765.
- Wiltshire, J. T., and Qiao, G. G. (2009). "Degradable star polymers with high 'click' functionality." *Journal of Polymer Science Part A-Polymer Chemistry*, 47(6), 1485-1498.
- Wong, C. J., Ackerly, T., He, C., Patterson, W., Powell, C. E., Qiao, G., Solomon, D. H., Meder, R., and Geso, M. (2009). "Small field size dose-profile measurements using gel dosimeters, gafchromic films and micro-thermoluminescent dosimeters." *Radiation Measurements*, 44(3), 249-256.
- Wu, S., Leong, T., Kentish, S., and Ashokkumar, M. (2009). "Frequency effects during acoustic cavitation in surfactant solutions." *The Journal of Physical Chemistry B*, 113(52), 16568-16573.

- Yap, H. P., Johnston, A. P. R., Such, G. K., Yan, Y., and Caruso, F. (2009). "Click-engineered, bioresponsive, drug-loaded PEG spheres." *Advanced Materials*, 21(43), 4348-4352.
- Zahirovic, S., Lubansky, A. S., Yeow, Y. L., and Boger, D. V. (2009). "Obtaining the steady shear rheological properties and apparent wall slip velocity data of a water-in-oil emulsion from gap-dependent parallel plate viscometry data." *Rheologica Acta*, 48(2), 221-229.
- Zhang, H., and Lamb, R. N. (2009). "Superhydrophobic treatment for textiles via engineering nanotextured silica/polysiloxane hybrid material onto fibres." *Surface Engineering*, 25(1), 21-24.
- Zhang, L., Zhang, X., Fan, C., Zhang, Y., and Hu, J. (2009). "Nanoscale multiple gaseous layers on a hydrophobic surface." *Langmuir*, 25(16), 8860-8864.
- Zhao, X. L., Simioni, M. A., Smith, K. H., Kentish, S. E., Fei, W. Y., and Stevens, G. W. (2009). "Study on the interaction between NO<sub>x</sub> and K<sub>2</sub>CO<sub>3</sub> during CO<sub>2</sub> absorption." *Energy & Fuels*, 23, 4768-4773.
- Zhou, Y., Yu, H., Wanless, E. J., Jameson, G. J., and Franks, G. V. (2009). "Influence of polymer charge on the shear yield stress of silica aggregated with adsorbed cationic polymers." *Journal of Colloid and Interface Science*, 336(2), 533-543.
- Zuo, J. Y., Knoerzer, K., Mawson, R., Kentish, S., and Ashokkumar, M. (2009). "The pasting properties of sonicated waxy rice starch suspensions." *Ultrasonics Sonochemistry*, 16(4), 462-468.

### **Refereed Conference Papers**

- Alonso-Marroquin, F., Galindo-Torres, S.-A., Tordesillas, A., and Wang, Y. "New perspectives for Discrete Element Modeling: Merging Computational Geometry and Molecular Dynamics." *Powders and Grains 2009: Proceedings of the 6th International Conference on Micromechanics of Granular Media*, Golden (Colorado), 825-828.
- Ashokkumar, M., and Kentish, S. (2009). "Ultrasound in food processing applications – An overview." *GPE-EPIC; 2nd International Congress on Green Process Engineering*, Venice, Italy, CD-ROM proceedings.
- Biscombe, C. J. C., Davidson, M. R., and Harvie, D. J. E. (2009). "Electro-osmotic effects in low Reynolds number flow through a planar microfluidic contraction-expansion." *Proceedings of the Seventh International Conference on Computational Fluid Dynamics in the Minerals and Process Industries*, P. J. Witt and M. P. Schwarz, eds., CSIRO, Melbourne, VIC, Australia, CD-ROM proceedings.
- Boger, D. V. (2009). "Paste and thickened tailings disposal – recovering water and reducing environmental impact." *Proceedings of Water in Mining 2009*, C. Moran, ed., Perth, Australia, 181-182, ISBN 978 1 921522 09 3.
- de Kretser, R. G., Powell, M., Scales, P. J., and Lim, J. (2009). "The water efficient plant of the future: towards a holistic process chain approach." *Proceedings of Water in Mining 2009*, C. Moran, ed., Perth, Australia, 65-70, ISBN 978 1 921522 09 3.
- de Kretser, R. G., Saha, H., Biscombe C., and Scales, P. J. (2009). "Plate and frame pressure filter optimisation using plant load cell data: Advantages, challenges and outcomes." *Proceedings of Filtech 2009*, Wiesbaden, Germany, volume 1, 300-307, ISBN 978-3-941655-00-3.
- Fawell, P. D., Farrow, J. B., Heath, A. R., Nguyen, T. V., Owen, A. T., Paterson, D., Rudman, M., Scales, P. J., Simic, K., Stephens, D. W., Swift, J. D. and Usher, S. P. (2009). "20 years of AMIRA P266 'Improving Thickener Technology' - how has it changed the understanding of thickener performance?" *Paste 2009, Proceedings of the 12th International Seminar on Paste and Thickened Tailings*, Vina del Mar, Chile, R. Jewel, A. Fourie, S. Barrera and J. Wiertz, eds., 59-68.
- Franks, D., Boger, D., Côte, C., and Mulligan, D. (2009). "Stable, inert and contained: Mine waste disposal and the sustainable development agenda." *ENVIROMINE 2009: Proceedings of the First International Seminar on Environmental Issues in the Mining Industry*, J. Wiertz and C. J. Moran, eds., Santiago, Chile.

- Franks, G. V., and Zhou, Y. (2009). "Relationship between aggregate and sediment bed properties." *Proceedings of Chemeca 2009*, Perth, Australia.
- Hajimohammadi, A., Provis, J. L., and van Deventer, J. S. J. (2009). "Using synchrotron radiation Fourier transform infrared microscopy to investigate the effect of timed release of aluminate during geopolymers gel formation." *GPE-EPIC, 2nd International Congress on Green Process Engineering*, Venice, Italy, CD-ROM proceedings.
- Hoang, T., Kentish, S., and Stevens, G. (2009) "The effect of inorganic electrolytes on the zeta potential of reverse osmosis membranes." *Proceedings of Chemeca 2009*, Perth, Australia.
- Khan, A., Shallcross, D. C., and Stevens, G. (2009). "Finite element modeling of absorption and reaction of carbon dioxide in aqueous alkaline films." *8th World Congress of Chemical Engineering (WCCE8) Program Book*, Montreal, Canada, ISBN 0-920804-44-6.
- O'Shea, J. -P., Qiao G. G., and Franks, G. V. (2009). "Solid-liquid separations mediated by a binary surfactant system." *Proceedings of Chemeca 2009*, Perth, Australia.
- Provis, J. L., Hajimohammadi, A., Rees, C. A., and van Deventer, J. S. J. (2009). "Analysing and manipulating the nanostructure of geopolymers." *3rd International Conference on Nanotechnology in Construction Materials (NICON3)*, Z. Bitnar, P.J.M. Bartos, J. Němecěk, V. Šmilauer, J. Zeman, eds., Prague, Czech Republic, 113-118.
- Provis, J. L., Lloyd, R. R., and van Deventer, J. S. J. (2009). "Mechanism and implications of acid attack on fly ash and ash/slag inorganic polymers." *RILEM TC 211-PAE Final Conference, Concrete in Aggressive Aqueous Environments*, Toulouse, France, 88-95.
- Scholes, C., Stevens, G., and Kentish, S. (2009). "Minor component effects on membrane gas separation for carbon capture." *8th World Congress of Chemical Engineering (WCCE8) Program Book*, Montreal, Canada, ISBN 0-920804-44-6.
- Tordesillas, A. "Thermomicromechanics of dense granular materials." *Powders and Grains 2009: Proceedings of the 6th International Conference on Micromechanics of Granular Media*, Golden (Colorado), 51-55.
- Tordesillas, A., Lam, E., and Metzger, P. T. "Hyperstaticity and loops in frictional granular packings." *Powders and Grains 2009: Proceedings of the 6th International Conference on Micromechanics of Granular Media*, Golden (Colorado), 325-328.
- Tordesillas, A., and Muthuswamy, M. "Stick-slip and force chain buckling." *Powders and Grains 2009: Proceedings of the 6th International Conference on Micromechanics of Granular Media*, Golden (Colorado), 313-316.
- van der Meeren, P., Curvers, D., Saveyn, H., and Scales, P. J. (2009). "The use of analytical centrifugation for the assessment of particulate matter compressibility," *Proceedings of Filtech 2009*, Wiesbaden, Germany, volume 1, 123-130, ISBN 978-3-941655-00-3.
- Zhang, J., Ren, J., Farhadi, S., Behringer, R. P., Majmudar, T. S., and Tordesillas, A. "A Dense 2D Granular Material Subject to Cyclic Pure Shear." *Powders and Grains 2009: Proceedings of the 6th International Conference on Micromechanics of Granular Media*, Golden (Colorado), 553-556.

## Patents

- Ashokkumar, M., Kentish, S. Lee, J. Y., Zisu, B., Palmer, M., and Augustin, M. A. (2009). "Processing of dairy ingredients by ultra-sonication." Publication No: WO/2009/079691, Publication Date: 02/07/2009.
- Franco, J., Stevens, G., Perera, J., and Kentish, S. (2009). "Gas absorption membranes and the manufacture thereof." International Patent Application No.12/483822.
- Franks, G. V., and Li, H. (2009). "Flotation aids and process for using the same." Publication No: WO/2009/089570, Publication Date: 23/07/2009.

Powell, C. E., Qiao, G. G. H., and Kentish, S. E. (2009) "Gas separation membranes and processes for the manufacture thereof." Publication No: WO/2009/059360, Publication Date: 14/05/2009.

Prime, E. L., Sunartio, D., Solomon, D. H., Dagley, I., and Qiao, G. G. (2009). "Evaporation control." Australian Patent Application No. 2009905395.

Prime, E. L., Sunartio, D., Solomon, D. H., Dagley, I., and Qiao, G. G. (2009). "Method and system for controlling evaporation." Australian Patent Application No. 2009905396

Solomon, D. H., Prime, E. L., Sunartio, D., Qiao, G. G., Dagley, I., and Blencowe, A. (2009) "Method for controlling water evaporation." PCT Patent Application.

### ***Other***

Franks, G. V. (2009). "Preface to Chemeca 2008 Special Issue", Advanced Powder Technology, 20, 219. (G. V. Franks editor of the special issue)

Gan, Y., and Franks, G. V. (2009). 颗粒间作用力影响颗粒体系流变性能的研究进展, (Inter-particle forces and strength of particle networks), 科學通報 (Ke xue tong bao), 54(1), 1. (Perspective article written in Chinese). ISSN 0023-074X

Qader, A., Hooper, B., Stevens, G., Kentish, S., and Webley, P. (2009). "Demonstrating carbon capture." *The Chemical Engineer*, (821), 30-31.

Scales, P. J. (2009) "In commemoration of the retirement of Prof. David Boger." *Korea-Australia Rheology Journal*, 21, 1.