

2008 – Publications



Book Sections

Ashokkumar, M. (2008). "Sonochemical synthesis of inorganic nanoparticles." *Advanced Wet-Chemical Synthetic Approaches to Inorganic Nanostructures*, P.D. Cozzoli, ed., Transworld Research Network, Kerala, India, 107-131.

Franks, G. V. (2008). "Colloids and fine particles." *Introduction to Particle Technology, 2nd edition*, M. Rhodes, ed., John Wiley and Sons, Chichester, UK.

Jarvis, S. P., Sader J. E., and Fukuma T. (2008). "Frequency modulation atomic force microscopy in liquids." *Applied Scanning Probe Methods VIII: Scanning Probe Microscopy Techniques*, NanoScience and Technology Series, B. Bhushan, H. Fuchs and M. Tomitori, eds., Springer, Berlin Heidelberg, 315-350.

Perera, J. M., and Stevens, G. W. (2008) "The use of emulsion liquid membrane systems in chemical and biotechnological separations." *Handbook of Membrane Separations: Chemical, Pharmaceutical, Food, and Biotechnological Applications*, A. K. Pabby, S. H. S. Rizvi, and A. M. Sastre, eds., CRC Press, Taylor & Francis Group, USA, 709-740.

Journal Articles

Anandan, S., Grieser, F., and Ashokkumar, M. (2008). "Sonochemical synthesis of Au-Ag core-shell bimetallic nanoparticles." *Journal of Physical Chemistry C*, 112(39), 15102-15105.

Anderson, C. J., Pas, S. J., Arora, G., Kentish, S. E., Hill, A. J., Sandler, S. I., and Stevens, G. W. (2008). "Effect of pyrolysis temperature and operating temperature on the performance of nanoporous carbon membranes." *Journal of Membrane Science*, 322, 19-27.

Angelatos, A. S., Wang, Y. J., and Caruso, F. (2008). "Probing the conformation of polyelectrolytes in mesoporous silica spheres." *Langmuir*, 24(8), 4224-4230.

Ashokkumar, M., Sunartio, D., Kentish, S., Mawson, R., Simons, L., Vilku, K., and Versteeg, C. (2008). "Modification of food ingredients by ultrasound to improve functionality: A preliminary study on a model system." *Innovative Food Science & Emerging Technologies*, 9(2), 155-160.

Bell, J. L., Sarin, P., Provis, J. L., Haggerty, R. P., Driemeyer, P. E., Chupas, P. J., van Deventer, J. S. J., and Kriven, W. M. (2008). "Atomic structure of a cesium aluminosilicate geopolymer: A pair distribution function study." *Chemistry of Materials*, 20(14), 4768-4776.

Binder, B. J., Landman, K. A., Simpson, M. J., Mariani, M., and Newgreen, D. F. (2008). "Modeling proliferative tissue growth: A general approach and an avian case study." *Physical Review E*, 78(3), 1912-1912.

Boland, N., Hughes, B. D., Merlot, L. T. G., and Stuckey, P. J. (2008). "New integer linear programming approaches for course timetabling." *Computers & Operations Research*, 35(7), 2209-2233.

Brady, R., Woonton, B., Gee, M. L., and O'Connor, A. J. (2008). "Hierarchical mesoporous silica materials for separation of functional food ingredients - A review." *Innovative Food Science & Emerging Technologies*, 9(2), 243-248.

Brotchie, A., Ashokkumar, M., and Grieser, F. (2008). "Sonochemistry and sonoluminescence under simultaneous high- and low-frequency irradiation." *Journal of Physical Chemistry C*, 112(22), 8343-8348.

Brotchie, A., Grieser, F., and Ashokkumar, M. (2008). "Sonochemistry and sonoluminescence under dual-frequency ultrasound irradiation in the presence of water-soluble solutes." *Journal of Physical Chemistry C*, 112(27), 10247-10250.

- Caruso, F. (2008). "Chemistry of materials - 20 years on and on the rise." *Chemistry of Materials*, 20(1), 1-2.
- Cavaleri, F., Ashokkumar, M., Grieser, F., and Caruso, F. (2008). "Ultrasonic synthesis of stable, functional lysozyme microbubbles." *Langmuir*, 24(18), 10078-10083.
- Chabert, F., Dunstan, D. E., and Franks, G. V. (2008). "Cross-linked polyvinyl alcohol as a binder for gelcasting and green machining." *Journal of the American Ceramic Society*, 91(10), 3138-3146.
- Chan, D. Y. C., Manor, O., Connor, J. N., and Horn, R. G. (2008). "Soft matter: From shapes to forces on the nanoscale." *Soft Matter*, 4(3), 471-474.
- Chau, T. T., Dagstine, R. R., Grieser, F., Chan, D. Y. C., and Stevens, G. W. (2008). "Direct force measurement at liquid-liquid interfaces." *Solvent Extraction Research and Development-Japan*, 15, 1-10.
- Chiovitti, A., Heraud, P., Dugdale, T. M., Hodson, O. M., Curtain, R. C. A., Dagstine, R. R., Wood, B. R., and Wetherbee, R. (2008). "Divalent cations stabilize the aggregation of sulfated glycoproteins in the adhesive nanofibers of the biofouling diatom *Toxarium undulatum*." *Soft Matter*, 4(4), 811-820.
- Connal, L. A., Li, Q., Quinn, J. F., Tjipto, E., Caruso, F., and Qiao, G. G. (2008). "pH-responsive poly(acrylic acid) core cross-linked star polymers: Morphology transitions in solution and multilayer thin films." *Macromolecules*, 41(7), 2620-2626.
- Dass, C. R., Friedhuber, A. M., Khachigian, L. M., Dunstan, D. E., and Choong, P. F. M. (2008). "Biocompatible chitosan-DNAzyme nanoparticle exhibits enhanced biological activity." *Journal of Microencapsulation*, 25(6), 421-425.
- de Kretser, R. G., and Scales, P. J. (2008). "The effect of temperature on the yield stress of mineral suspensions." *Journal of Colloid and Interface Science*, 328(1), 187-193.
- De Rose, R., Zelikin, A. N., Johnston, A. P. R., Sexton, A., Chong, S. F., Cortez, C., Mulholland, W., Caruso, F., and Kent, S. J. (2008). "Binding, internalization, and antigen presentation of vaccine-loaded nanoengineered capsules in blood." *Advanced Materials*, 20(24), 4698.
- Debrincat, D. P., Solnordal, C. B., and Van Deventer, J. S. J. (2008). "Characterisation of inter-particle forces within agglomerated metallurgical powders." *Powder Technology*, 182(3), 388-397.
- Debrincat, D. P., Solnordal, C. B., and Van Deventer, J. S. J. (2008). "Influence of particle properties on the size of agglomerated metallurgical powders." *International Journal of Mineral Processing*, 87 (1-2), 17-27.
- Dunstan, D. E. (2008). "Rubber bands as model polymers in Couette flow." *European Journal of Physics*, 29(5), 977-985.
- Duthie, X., Kentish, S., Pas, S. J., Hill, A. J., Powell, C., Nagai, K., Stevens, G., and Qiao, G. (2008). "Thermal treatment of dense polyimide membranes." *Journal of Polymer Science Part B: Polymer Physics*, 46(18), 1879-1890.
- Edwards, S. A., Ducker, W. A., and Sader, J. E. (2008). "Influence of atomic force microscope cantilever tilt and induced torque on force measurements." *Journal of Applied Physics*, 103(6), 64513-64513.
- Ferneer, M. J., Littleton, B. N., Cooper, S., Rubinsztein-Dunlop, H., Gomez, D. E., and Mulvaney, P. (2008). "Acoustic phonon contributions to the emission spectrum of single CdSe nanocrystals." *Journal of Physical Chemistry C*, 112(6), 1878-1884.
- Franco, J., Demontigny, D., Kentish, S., Perera, J., and Stevens, G. (2008). "A study of the mass transfer of CO₂ through different membrane materials in the membrane gas absorption process." *Separation Science and Technology*, 43(2), 225-244.
- Franco, J. A., Kentish, S. E., Perera, J. M., and Stevens, G. W. (2008). "Fabrication of a superhydrophobic polypropylene membrane by deposition of a porous crystalline polypropylene coating." *Journal of Membrane Science*, 318(1-2), 107-113.

- Gaboriaud, F., Gee, M. L., Strugnell, R., and Duval, J. F. L. (2008). "Coupled electrostatic, hydrodynamic, and mechanical properties of bacterial interfaces in aqueous media." *Langmuir*, 24(19), 10988-10995.
- Gaboriaud, F., Parcha, B. S., Gee, M. L., Holden, J. A., and Strugnell, R. A. (2008). "Spatially resolved force spectroscopy of bacterial surfaces using force-volume imaging." *Colloids and Surfaces B-Biointerfaces*, 62(2), 206-213.
- George, B. J., Pereira, N., Al Massum, M., Kolev, S. D., and Ashokkumar, M. (2008). "Sensitivity enhancement in membrane separation flow injection analysis by ultrasound." *Ultrasonics Sonochemistry*, 15(2), 151-156.
- Goh, S. W., Buckley, A. N., Gong, B., Woods, R., Lamb, R. N., Fan, L. J., and Yang, Y. W. (2008). "Thiolate layers on metal sulfides characterised by XPS, ToF-SIMS and NEXAFS spectroscopy." *Minerals Engineering*, 21(12-14), 1026-1037.
- Gooding, A. K., Gomez, D. E., and Mulvaney, P. (2008). "The effects of electron and hole injection on the photoluminescence of CdSe/CdS/ZnS nanocrystal monolayers." *ACS Nano*, 2(4), 669-676.
- Gras, S. L., Tickler, A. K., Squires, A. M., Devlin, G. L., Horton, M. A., Dobson, C. M., and MacPhee, C. E. (2008). "Functionalised amyloid fibrils for roles in cell adhesion." *Biomaterials*, 29(11), 1553-1562.
- Grassia, P., Usher, S. P., and Scales, P. J. (2008). "A simplified parameter extraction technique using batch settling data to estimate suspension material properties in dewatering applications." *Chemical Engineering Science*, 63(7), 1971-1986.
- Guo, W. L., He, Y. H., Ashokkumar, M., and Grieser, F. (2008). "Sonochemical synthesis of single crystal Pd nanoparticles in aqueous solution." *Materials Research Innovations*, 12(1), 52-54.
- Gupta, J. K., Tjijto, E., Zelikin, A. N., Caruso, F., and Abbott, N. L. (2008). "Characterization of the growth of polyelectrolyte multilayers formed at interfaces between aqueous phases and thermotropic liquid crystals." *Langmuir*, 24(10), 5534-5542.
- Hajimohammadi, A., Provis, J. L., and Van Deventer, J. S. J. (2008) "One-part geopolymer mixes from geothermal silica and sodium aluminate." *Industrial & Engineering Chemistry Research*, 47(23), 9396-9405.
- Hamilton-Brown, P., Bekard, I., Ducker, W. A., and Dunstan, D. E. (2008). "How does shear affect A β fibrillogenesis?" *Journal of Physical Chemistry B*, 112(51), 16249-16252.
- Harris, N., Ford, M. J., Mulvaney, P., and Cortie, M. B. (2008). "Tunable infrared absorption by meta nanoparticles: The case for gold rods and shells." *Gold Bulletin*, 41(1), 5-14.
- Haywood, P. F., Hill, M. R., Roberts, N. K., Craig, D. C., Russell, J. J., and Lamb, R. N. (2008). "Synthesis and isomerisation reactions of tetranuclear and octanuclear (carbamato)zinc complexes." *European Journal of Inorganic Chemistry*, 2008(12), 2024-2032.
- Hildebrand, M. S., Newton, S. S., Gubbels, S. P., Sheffield, A. M., Kochhar, A., de Silva, M. G., Dahl, H. H. M., Rose, S. D., Behlke, M. A., and Smith, R. J. H. (2008). "Advances in molecular and cellular therapies for hearing loss." *Molecular Therapy*, 16(2), 224-236.
- Hill, M. R., Jensen, P., Russell, J. J., and Lamb, R. N. (2008). "Synthesis and properties of Zn-Mg heterobimetallic carbamates. Crystal structures of the first reported single source precursors for Zn_xMg_{1-x}O thin films." *Dalton Transactions*, (20), 2751-2758.
- Hill, M. R., Russell, J. J., and Lamb, R. N. (2008). "High-quality Zn_xMg_{1-x}O thin films deposited from a single molecular source. Intimate mixing as a means to improved film properties." *Chemistry of Materials*, 20(7), 2461-2467.
- Honig, C. D. F., and Ducker, W. A. (2008). "Squeeze film lubrication in silicone oil: experimental test of the no-slip boundary condition at solid-liquid interfaces." *Journal of Physical Chemistry C*, 112(44), 17324-17330.

- Hornig, G., Northcott, K., Snape, I., and Stevens, G. (2008). "Assessment of sorbent materials for treatment of hydrocarbon contaminated ground water in cold regions." *Cold Regions Science and Technology*, 53(1), 83-91.
- Hu, M., Novo, C., Funston, A., Wang, H. N., Staleva, H., Zou, S. L., Mulvaney, P., Xia, Y. N., and Hartland, G. V. (2008). "Dark-field microscopy studies of single metal nanoparticles: Understanding the factors that influence the linewidth of the localized surface plasmon resonance." *Journal of Materials Chemistry*, 18(17), 1949-1960.
- Hunter, T. N., Pugh, R. J., Franks, G. V., and Jameson, G. J. (2008). "The role of particles in stabilising foams and emulsions." *Advances in Colloid and Interface Science*, 137, 57-81.
- Jailani, S., Franks, G. V., and Healy, T. W. (2008). "zeta potential of nanoparticle suspensions: Effect of electrolyte concentration, particle size, and volume fraction." *Journal of the American Ceramic Society*, 91(4), 1141-1147.
- Jarvis, P., Jefferson, B., Dixon, D. R., and Parsons, S. A. (2008). "Treatment options and their effect on NOM-coagulant floc structures." *Journal AWWA*, 100(1), 64-73.
- Jasieniak, J. J., Fortunati, F., Gardin, S., Signorini, R., Bozio, R., Martucci, A., and Mulvaney, P. (2008). "Highly efficient amplified stimulated emission from CdSe-CdS-ZnS quantum dot doped waveguides with two-photon infrared optical pumping." *Advanced Materials*, 20(1), 69-73.
- Jimmy, B., Kentish, S., Grieser, F., and Ashokkumar, M. (2008). "Ultrasonic nebulization in aqueous solutions and the role of interfacial adsorption dynamics in surfactant enrichment." *Langmuir*, 24(18), 10133-10137.
- Johnston, A. P. R., and Caruso, F. (2008). "Stabilization of DNA multilayer films through oligonucleotide crosslinking." *Small*, 4(5), 612-618.
- Kaggwa, G. B., Kilpatrick, J. I., Sader, J. E., and Jarvis, S. P. (2008). "Artifact-free dynamic atomic force microscopy reveals monotonic dissipation for a simple confined liquid - art. no. 011909." *Applied Physics Letters*, 93(1), 11909-11909.
- Kanthale, P., Ashokkumar, M., and Grieser, F. (2008). "Sonoluminescence, sonochemistry (H₂O₂ yield) and bubble dynamics: Frequency and power effects." *Ultrasonics Sonochemistry*, 15(2), 143-150.
- Kanthale, P. M., Brothie, A., Ashokkumar, M., and Grieser, F. (2008). "Experimental and theoretical investigations on sonoluminescence under dual frequency conditions." *Ultrasonics Sonochemistry*, 15(4), 629-635.
- Kentish, S., Wooster, T. J., Ashokkumar, M., Balachandran, S., Mawson, R., and Simons, L. (2008). "The use of ultrasonics for nanoemulsion preparation." *Innovative Food Science & Emerging Technologies*, 9(2), 170-175.
- Kumar, P. S. S., Sivakumar, R., Anandan, S., Madhavan, J., Maruthamuthu, P., and Ashokkumar, M. (2008). "Photocatalytic degradation of acid red 88 using Ag-TiO₂ nanoparticles in aqueous solutions." *Water Research*, 42, 4878-4884.
- Landman, K. A., Simpson, M. J., and Pettet, G. J. (2008). "Tactically-driven nonmonotone travelling waves." *Physica D-Nonlinear Phenomena*, 237(5), 678-691.
- Lawrence, N. D., Kentish, S. E., O'Connor, A. J., Barber, A. R., and Stevens, G. W. (2008). "Microfiltration of skim milk using polymeric membranes for casein concentrate manufacture." *Separation & Purification Technology*, 60, 237-244.
- Lee, J. K., Cho, J. M., Shin, W. S., Moon, S. J., Kemp, N. T., Zhang, H., and Lamb, R. (2008). "The stability of PEDOT: PSS films monitored by electron spin resonance." *Journal of the Korean Physical Society*, 52(3), 621-626.
- Lee, L., Johnston, A. P. R., and Caruso, F. (2008). "Manipulating the salt and thermal stability of DNA multilayer films via oligonucleotide length." *Biomacromolecules*, 9(11), 3070-3078.

- Lees, E. E., Gunzburg, M. J., Nguyen, T. -L., Howlett, G. J., Rothacker, J., Nice, E. C., Clayton, A. H. A., and Mulvaney, P. (2008). "Experimental determination of quantum dot size distributions, ligand packing densities, and bioconjugation using analytical ultracentrifugation." *Nano Letters*, 8(9), 2883-2890.
- Lilley, C. R., and Sader, J. E. (2008). "Velocity profile in the Knudsen layer according to the Boltzmann equation." *Proceedings of the Royal Society a-Mathematical Physical and Engineering Sciences*, 464(2096), 2015-2035.
- Lokar, W. J., and Ducker, W. A. (2008). "Approximate prediction of adhesion between two solids immersed in surfactant solution based on adsorption to an isolated solid." *Colloids and Surfaces a-Physicochemical and Engineering Aspects*, 322(1-3), 256-260.
- Looker J. R., and Sader J. E. (2008) "Flexural resonant frequencies of rectangular cantilever plates." *ASME Journal of Applied Mechanics*, 75(1), 011007.
- Manera, M. G., Spadavecchia, J., Buso, D., Fernandez, C. D., Mattei, G., Martucci, A., Mulvaney, P., Perez-Juste, J., Rella, R., Vasanelli, L., and Mazzoldi, P. (2008). "Optical gas sensing of TiO₂ and TiO₂/Au nanocomposite thin films." *Sensors and Actuators B-Chemical*, 132(1), 107-115.
- Manica, R., Connor, J. N., Clasohm, L. Y., Carnie, S. L., Horn, R. G., and Chan, D. Y. C. (2008). "Transient responses of a wetting film to mechanical and electrical perturbations." *Langmuir*, 24(4), 1381-1390.
- Manica, R., Connor, J. N., Dagastine, R. R., Carnie, S. L., Horn, R. G., and Chan, D. Y. C. (2008). "Hydrodynamic forces involving deformable interfaces at nanometer separations." *Physics of Fluids*, 20(3), 32101-32101.
- Manica, R., Klaseboer, E., and Chan, D. Y. C. (2008). "Dynamic interactions between drops-A critical assessment." *Soft Matter*, 4(8), 1613-1616.
- Manor, O., Vakarelski, I. U., Stevens, G. W., Grieser, F., Dagastine, R. R., and Chan, D. Y. C. (2008). "Dynamic forces between bubbles and surfaces and hydrodynamic boundary conditions." *Langmuir*, 24(20), 11533-11543.
- Manor, O., Vakarelski, I. U., Tang, X. S., O'Shea, S. J., Stevens, G. W., Grieser, F., Dagastine, R. R., and Chan, D. Y. C. (2008). "Hydrodynamic boundary conditions and dynamic forces between bubbles and surfaces." *Physical Review Letters*, 101(2), 4501-4501.
- Martin, G. J. O., Williams, R. P. W., Choong, C., Lee, B., and Dunstan, D. E. (2008). "Comparison of rennet gelation using raw and reconstituted skim milk." *International Dairy Journal*, 18(10-11), 1077-1080.
- Mitchell, D. R. G., Wang, X. D., and Caruso, R. A. (2008). "Plasmon imaging: An efficient TEM-based method for locating noble metal particles dispersed on oxide catalysts at very low densities." *Micron*, 39(3), 344-347.
- Mulvaney, P., Perez-Juste, J., Giersig, M., Liz-Marzan, L. M., and Pecharroman, C. (2006). "Drastic surface plasmon mode shifts in gold nanorods due to electron charging." *Plasmonics*, 1(1), 61-66.
- Mumford, K. A., Northcott, K. A., Shallcross, D. C., Snape, I., and Stevens, G. W. (2008). "Comparison of amberlite IRC-748 resin and zeolite for copper and ammonium ion exchange." *Journal of Chemical and Engineering Data*, 53(9), 2012-2017.
- Mumford, K. A., Shallcross, D. C., Snape, I., and Stevens, G. W. (2008). "Application of a temperature-dependent semiempirical thermodynamic ion-exchange model to a multicomponent natural zeolite system." *Industrial & Engineering Chemistry Research*, 47(21), 8347-8354.
- Myroshnychenko, V., Rodriguez-Fernandez, J., Pastoriza-Santos, I., Funston, A. M., Novo, C., Mulvaney, P., Liz-Marzan, L. M., and de Abajo, F. J. G. (2008). "Modelling the optical response of gold nanoparticles." *Chemical Society Reviews*, 37(9), 1792-1805.
- Novo, C., Funston, A. M., and Mulvaney, P. (2008). "Direct observation of chemical reactions on single gold nanocrystals using surface plasmon spectroscopy." *Nature Nanotechnology*, 3(10), 598-602.

- Novo, C., Funston, A. M., Pastoriza-Santos, I., Liz-Marzan, L. M., and Mulvaney, P. (2008). "Influence of the medium refractive index on the optical properties of single gold triangular prisms on a substrate." *Journal of Physical Chemistry C*, 112(1), 3-7.
- Ochs, C. J., Such, G. K., Städler, B., and Caruso, F. (2008). "Low-fouling, biofunctionalized, and biodegradable click capsules." *Biomacromolecules*, 9(12), 3389-3396.
- Olsen, A., Franks, G., Biggs, S., and Jameson, G. J. (2008). "Collision efficiency factor for heteroaggregation: Extension to soft interactions." *The Journal of Chemical Physics*, 128(4), 044913.
- Park, J., Kim, I., Shin, H., Lee, M. J., Kim, Y. S., Bang, J., Caruso, F., and Cho, J. (2008). "Integrated catalytic activity of patterned multilayer films based on pH-induced electrostatic properties of enzymes." *Advanced Materials*, 20(10), 1843-1848.
- Pecharroman, C., Perez-Juste, J., Mata-Osoro, G., Liz-Marzan, L. M., and Mulvaney, P. (2008). "Redshift of surface plasmon modes of small gold rods due to their atomic roughness and end-cap geometry." *Physical Review B*, 77(3), 5418-5418.
- Prescott, S. W., and Mulvaney, P. (2008). "Gold nanorod extinction spectra." *Journal of Applied Physics*, 103(11), 19901-19901.
- Priest, C., Quinn, A., Postma, A., Zelikin, A. N., Ralston, J., and Caruso, F. (2008). "Microfluidic polymer multilayer adsorption on liquid crystal droplets for microcapsule synthesis." *Lab on a Chip*, 8(12), 2182-2187.
- Provis, J. L., Walls, P. A., and van Deventer, J. S. J. (2008). "Geopolymerisation kinetics. 3. Effects of Cs and Sr salts." *Chemical Engineering Science*, 63(18), 4480-4489.
- Provis, J. L., White, C. E., Gehman, J. D., and Vlachos, D. G. (2008) "Modeling silica nanoparticle dissolution in TPAOH-TEOS-H₂O solutions." *Journal of Physical Chemistry C*, 112(38), 14769-14775.
- Quinn, A., Such, G. K., Quinn, J. F., and Caruso, F. (2008). "Polyelectrolyte blend multilayers: A versatile route to engineering interfaces and films." *Advanced Functional Materials*, 18(1), 17-26.
- Rees, C. A., Provis, J. L., Lukey, G. C. and Van Deventer, J. S. J. (2008). "The mechanism of geopolymer gel formation investigated through seeded nucleation." *Colloids and Surfaces A*, 318(1-3), 97-105.
- Sader, J. E., Pepperell, C. J., and Dunstan, D. E. (2008). "Measurement of the optical properties and shape of nanoparticles in solution using Couette flow." *ACS Nano*, 2(2), 334-340.
- Scholes, C. A., Kentish, S. E., and Stevens, G. (2008). "Carbon dioxide separation through polymeric membrane systems for flue gas applications." *Recent Patents on Chemical Engineering*, 1(1), 52-66.
- Shen G. X., Zhang X. H., Ming Y, Zhang, L., Zhang, Y., and Hu, J. (2008). "Photocatalytic induction of nanobubbles on TiO₂ surfaces." *Journal of Physical Chemistry C*, 112(11), 4029-4032.
- Simpson, M. J., and Landman, K. A. (2008). "Theoretical analysis and physical interpretation of temporal truncation errors in operator split algorithms." *Mathematics and Computers in Simulation*, 77(1), 9-21.
- Sindhunata, Provis, J. L., Lukey, G. C., Xu, H., and Van Deventer, J. S. J. (2008). "Structural evolution of fly ash based geopolymers in alkaline environments." *Industrial & Engineering Chemistry Research*, 47(9), 2991-2999.
- Sivakumar, S., Gupta, J. K., Abbott, N. L., and Caruso, F. (2008). "Monodisperse emulsions through templating polyelectrolyte multilayer capsules." *Chemistry of Materials*, 20(6), 2063-2065.
- Smith, K. H., Bowser, T., and Stevens, G. W. (2008). "Performance and Scale-up of Karr Reciprocating Plate Extraction Columns." *Industrial & Engineering Chemistry Research*, 47(21), 8368-8375.
- Stella, A., Mensforth, K. H., Bowser, T., Stevens, G. W., and Pratt, H. R. C. (2008). "Mass transfer performance in Karr reciprocating plate extraction columns." *Industrial & Engineering Chemistry Research*, 47(11), 3996-4007.

- Stickland, A. D., Burgess, C., Dixon, D. R., Harbour, P. J., Scales, P. J., Studer, L. J., and Usher, S. P. (2008). "Fundamental dewatering properties of wastewater treatment sludges from filtration and sedimentation testing." *Chemical Engineering Science*, 63(21), 5283-5290.
- Stickland, A. D., de Kretser, R. G., Kilcullen, A. R., Scales, P. J., Hillis, P., and Tillotson, M. R. (2008). "Numerical Modeling of flexible-membrane plate-and-frame filtration." *AIChE Journal*, 54(2), 464-474.
- Ta, H. T., Dass, C. R., and Dunstan, D. E. (2008). "Injectable chitosan hydrogels for localised cancer therapy." *Journal of Controlled Release*, 126(3), 205-216.
- Teo, B. M., Ashokkumar M., and Grieser F. (2008). "Microemulsion polymerisation via high frequency ultrasound irradiation." *Journal of Physical Chemistry C*, 112(17), 5265-5267.
- Teo, B. M., Prescott, S. W., Ashokkumar M., and Grieser F. (2008). "Ultrasound initiated miniemulsion polymerization of methacrylate monomers." *Ultrasonics Sonochemistry*, 15(1), 89-94.
- Tordesillas, A., Muthuswamy, M., and Walsh, S. D. C. (2008). "Mesoscale measures of nonaffine deformation in dense granular assemblies." *Journal of Engineering Mechanics-Asce*, 134(12), 1095-1113.
- Vakarelski, I. U., Lee, J., Dagastine, R. R., Chan, D. Y. C., Stevens, G. W., and Grieser, F. (2008). "Bubble colloidal AFM probes formed from ultrasonically generated bubbles." *Langmuir*, 24(3), 603-605.
- Vashi, A. V., Keramidaris, E., Abberton, K. M., Morrison, W. A., Wilson, J. L., O'Connor, A. J., Cooper-White, J. J., and Thompson, E. W. (2008). "Adipose differentiation of bone marrow-derived mesenchymal stem cells using Pluronic F-127 hydrogel *in vitro*." *Biomaterials*, 29(5), 573-579.
- Walewijk, A., Cooper-White, J.J, and Dunstan, D.E. (2008). "Adhesion measurements between alginate gel surfaces via texture analysis." *Food Hydrocolloids*, 22(1), 91-96.
- Wang, Y., Angelatos, A. S., and Caruso, F. (2008). "Template synthesis of nanostructured materials via layer-by-layer assembly." *Chemistry of Materials*, 20(3), 848-858.
- Wang, Y. J., Bansal, V., Zelikin, A. N., and Caruso, F. (2008). "Templated synthesis of single-component polymer capsules and their application in drug delivery." *Nano Letters*, 8(6), 1741-1745.
- Wang, X., Mitchell, D. R. G., Prince, K., Atanacio, A. J., and Caruso, R. A. (2008). "Gold nanoparticle incorporation into porous titania networks using an agarose gel templating technique for photocatalytic applications." *Chemistry of Materials*, 20, 3917-3926.
- Webber, G. B., Manica, R., Edwards, S. A., Carnie, S. L., Stevens, G. W., Grieser, F., Dagastine, R. R., and Chan, D. Y. C. (2008). "Dynamic forces between a moving particle and a deformable drop." *Journal of Physical Chemistry C*, 112(2), 567-574.
- Webber, G. B., Edwards, S. A., Stevens, G. W., Grieser, F., Dagastine, R. R., and Chan, D. Y. C. (2008). "Measurements of dynamic forces between drops with the AFM: novel considerations in comparisons between experiment and theory." *Soft Matter*, 4(6), 1270-1278.
- Webber, G. B., Stevens, G., Grieser, F., Dagastine, R. R., and Chan, D. Y. C. (2008). "Variations in properties of atomic force microscope cantilevers fashioned from the same wafer - art. no. 105709." *Nanotechnology*, 19(10), 5709-5709.
- Wen, B. M., Sader, J. E., and Boland, J. J. (2008). "Mechanical Properties of ZnO Nanowires - art. no. 175502." *Physical Review Letters*, 101(17), 5502-5502.
- Xu, H., Provis, J. L., Van Deventer, J. S. J. and Krivenko, P. V. (2008). "Characterization of aged slag concretes." *ACI Materials Journal*, 105 (2), 131-139.
- Yang, J., Stevens, G. W., and O' Connor, A. J. (2008). "Adsorption of lysozyme and trypsin by modified MCM-41 with post-synthesis hydrothermal treatment and hydrophobic functionalisation." *Journal of the Australian Ceramic Society*, 44(1), 1-6.
- Yap, H. P., Hao, X. J., Tjipto, E., Gudipati, C., Quinn, J. F., Davis, T. P., Barner-Kowollik, C., Stenzel, M. H., and Caruso, F. (2008). "Synthesis, multilayer film assembly, and capsule formation of

macromolecularly engineered acrylic acid and styrene sulfonate block copolymers." *Langmuir*, 24(16), 8981-8990.

Yates, P. D., Franks, G. V., and Jameson, G. J. (2008). "Orthokinetic heteroaggregation with nanoparticles: effect of particle size ratio on aggregate properties." *Colloids and Surfaces A*, 326, 83-91.

Yeow, Y. L., Leong, Y.-K., and Khan, A. (2008). "Slow steady viscous flow of Newtonian fluids in parallel-disk viscometer with wall slip." *Journal of Applied Mechanics*, 75(4), 041001-7.

Yip, C. K., Lukey, G. C., Provis, J. L., and van Deventer, J. S. J. (2008). "Effect of calcium silicate sources on geopolymerisation." *Cement and Concrete Research*, 38(4), 554-564.

Yip, C. K., Provis, J. L., Lukey, G. C., and Van Deventer, J. S. J. (2008). "Carbonate mineral addition to metakaolin-based geopolymers." *Cement and Concrete Composites*, 30(10), 979-985.

Yu, H., Covey, G. H., and O'Connor, A. J. (2008). "Innovative use of silvichemical biomass and its derivatives for heavy metal sorption from wastewater." *International Journal of Environment and Pollution*, 34(1-4), 427-450.

Zelikin, A. N., Li, Q., and Caruso, F. (2008). "Disulfide-stabilized poly(methacrylic acid) capsules: Formation, cross-linking, and degradation behavior." *Chemistry of Materials*, 20(8), 2655-2661.

Zhang, H., Leung, Y., Loudon, D., De Nys, R., and Lamb, R. (2008). "The potential intrinsic and extrinsic toxicity of silica nanoparticles and its impact on marine organisms." *Nano*, 3(4), 271-278.

Zhang, H. G., Provis, J. L., Feng, D., and van Deventer, J. S. J. (2008). "Geopolymers for immobilization of Cr⁶⁺, Cd²⁺, and Pb²⁺." *Journal of Hazardous Materials*, 157(2-3), 587-598.

Zhang, H. G., Provis, J. L., Feng, D. W., and van Deventer, J. S. J. (2008). "The role of sulfide in the immobilization of Cr(VI) in fly ash geopolymers." *Cement and Concrete Research*, 38(5), 681-688.

Zhang, X. H. (2008). "Quartz crystal microbalance study of the interfacial nanobubbles." *Physical Chemistry Chemical Physics*, 10, 6842-6848.

Zhang, X. H., and Ducker, W. (2008). "Interfacial oil droplets." *Langmuir*, 24(1), 110-115.

Zhang, X. H., Maeda, N., and Hu, J. (2008). "Thermodynamic stability of interfacial gaseous states." *Journal of Physical Chemistry B*, 112(44), 13671-13675.

Zhang, X. H., Quinn, A., and Ducker, W. (2008). "Nanobubbles at the interface between water and a hydrophobic solid." *Langmuir*, 24(9), 4756-4764.

Zhao, X. L., Fei, W. Y., and Stevens, G. W. (2008). "Study on absorption performance at high liquid loads using a novel random packing: Super Mini Ring." *Separation Science and Technology*, 43(11-12), 3020-3035.

Zhou, Y., Gan, Y., Wanless, E. J., Jameson, G. J., and Franks, G. V. (2008). "Interaction forces between silica surfaces in aqueous solutions of cationic polymeric flocculants: Effect of polymer charge." *Langmuir*, 24(19), 10920-10928.

Zhou, Y., Jameson, G. J., and Franks, G. V. (2008). "Influence of polymer charge on the compressive yield stress of silica aggregated with adsorbed cationic polymers." *Colloids and Surfaces A*, 331, 183-194.

Refereed Conference Papers

Boger, D. V., and Hart, B. C. (2008). "Making an unsustainable industry more sustainable." *PASTE 2008: Proceedings of the Eleventh International Seminar on Paste and Thickened Tailings*, A. Fourier, R. Jewell, P. Slatter and A. Paterson, eds., Kasane, Botswana, Africa, 3-15.

Boger, D. V., Scales, P. J., and Sofra, F. (2008). "Paste and thickened tailings and the impact on the development of new rheological techniques." *PASTE 2008: Proceedings of the Eleventh International*

Seminar on Paste and Thickened Tailings, A. Fourier, R. Jewell, P. Slatter and A. Paterson, eds., Kasane, Botswana, Africa, 225-236.

Duxson, P., Van Deventer, J. S. J., and Provis, J. L. (2008). "Commercialisation of geopolymer technology in Australia: From market push to market pull." International Workshop on Geopolymers, J. Davidovits, ed., *2nd International Congress on Ceramics*, European Ceramic Society.

Feng, D., and Van Deventer, J. S. J. (2008). "Effect of cations on anodic oxidation of gold in thiosulfate solution." *Proceedings of XXIV International Mineral Processing Congress*, D. D. Wang, C. Y. Sun, F. L. Wang, L. C. Zhang and L. Han, eds., Beijing, China, Volume 2, 2585-2590, ISBN 978-7-03-022711-9.

Feng, D., and Van Deventer, J. S. J. (2008). "Thiosulphate leaching of gold in the presence of thiourea." *Proceedings of XXIV International Mineral Processing Congress*, D. D. Wang, C. Y. Sun, F. L. Wang, L. C. Zhang and L. Han, eds., Beijing, China, Volume 2, 2731-2736 ISBN 978-7-03-022711-9.

Foong, J., and Scales, P. J. (2008) "Yielding of concentrated coagulated particulate suspensions." *Proceedings of the 2nd Southern African Conference on Rheology*, V. Fester, ed., Cape Town, South Africa, 36-38.

Franks, G. V., Li, H., O'Shea, J. -P., and Qiao G. G. (2008). "Temperature responsive polymers as multiple function reagents in mineral processing." *Chemeca 2008: Proceedings of the 36th Australasian Chemical Engineering Conference*, Newcastle, Australia.

Franks, G. V., Li, H., O'Shea, J. -P., and Qiao G. G. (2008). "Application of poly(N-isopropyl acrylamide) PNIPAM as a multiple function process aid in mineral flotation and solid/liquid separation." *Proceedings of XXIV International Mineral Processing Congress*, D. D. Wang, C. Y. Sun, F. L. Wang, L. C. Zhang and L. Han, eds., Beijing, China, Volume 2, 2097-2106, ISBN 978-7-03-022711-9.

Glasson, S., Stevens, G. W., and Perera, J. M. "The kinetics of Cu(II) extraction by 5-Nonyl-2-Hydroxybenzaldoxime (P50) in a micelle system." In *Solvent Extraction: Fundamentals to Industrial Applications*. Proceedings of ISEC 2008 International Solvent Extraction Conference, Moyer, B. A., ed., Tucson, AZ, The Canadian Institute of Mining, Metallurgy and Petroleum, Montreal, 2008, Volume 2, 1201-1206, ISBN 1-894475-80-1.

Li, H., and Franks, G. V. (2008). "Role of temperature-sensitive polymers in hydrophobic aggregation/flotation of silicate minerals." *Proceedings of XXIV International Mineral Processing Congress*, D. D. Wang, C. Y. Sun, F. L. Wang, L. C. Zhang and L. Han, eds., Beijing, China, Volume 1, 1261-1269, ISBN 978-7-03-022711-9.

O'Shea, J. -P., Franks, G. V., Li, H., and Qiao G. G. (2008). "The influence of addition method on the flocculation of model suspensions by poly(N-isopropyl acrylamide) and derivatives." *Chemeca 2008: Proceedings of the 36th Australasian Chemical Engineering Conference*, Newcastle, Australia.

Provis, J. L., Yong, S. L., Duxson, P., and Van Deventer, J. S. J. (2008). "Geopolymer structures and kinetics: What have we learnt lately?" *Proceedings of the 3rd International Symposium on Non-Traditional Cement and Concrete*, V. Bílek and Z. Keršner, eds., Brno University of Technology and ŽPSV, a.s., Uherský Ostroh, 589-597.

Provis, J. L., and Shallcross, D. C. (2008). "The Hala constraint in the Wilson model - Is it valid and/or useful for ion exchange equilibria." in *IEX 2008*, Cambridge, UK, CD-ROM Proceedings.

Shallcross, D. C., Kentish, S. E., and Scales, P. J. (2008). "Chemical engineering and the Melbourne Model." *Chemeca 2008: Proceedings of the 36th Australasian Chemical Engineering Conference*, Newcastle, Australia.

Van Deventer, J. S. J., Duxson, P., Provis, J. L., and Lukey, G. C. (2008). "Geopolymerization of solid waste: Technical and commercial progress." *Proceedings of XXIV International Mineral Processing Congress*, D. D. Wang, C. Y. Sun, F. L. Wang, L. C. Zhang and L. Han, eds., Beijing, China, Volume 3, 3592-3597, ISBN 978-7-03-022711-9.

Van Deventer, J. S. J., Provis, J. L., and Duxson, P. (2008). "Update on progress in the commercialisation of geopolymer technology in Australia." *Proceedings of the 3rd International*

Symposium on Non-Traditional Cement and Concrete, V. Bílek and Z. Keršner, eds., Brno University of Technology and ŽPSV, a.s., Uherský Ostroh, 173-181.

Patents

Abdul Hamid, Z. A., Blencowe, A., Qiao, G. G., and Stevens, G. "Crosslinked hydrogel." Australian Provisional Patent 2008903301, 27/06/2008.

Meiser, F., Cammarano, R., Caruso, F., and Postma, A. "Methods for the preparation of biologically active compounds in nanoparticulate form." Publication No: WO/2008/000042, Publication Date: 03/01/2008

Franks, G. V., and Li, H. "Flotation aids and process for using the same." PCT patent application lodged 19/09/2008.

Other

Kentish, S., and Gray, S. (2008). "Reducing the energy demand of desalination." *Energy News*.