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About

Dr Richard Greenwood is the Programme Manager for the Engineering Doctorate in Formulation Engineering and also Industrial Tutor.

Qualifications

- Fellow Royal Society of Chemistry
- PhD Chemical Engineering, Imperial College
- BSc Chemistry University of Bristol

Biography

Richard Greenwood graduated with a BSc in Chemistry from Bristol University and then went on to Imperial College, London to study for a PhD in Chemical Engineering. He then spent some time in Sweden and Italy as a visiting scientist as part of an EU project. On his return to the UK he worked at the Chemistry Department at Keele University before moving to the Chemical Engineering School at the University of Birmingham in 1999. He is the current chair of the IChemE Particle Technology Subject Group and secretary of the RSC Formulated Product Engineering Subject Group.

Teaching

- Colloids and Rheology
- Measurement Techniques
- Coniston Team building course

Postgraduate supervision

Supervision of PhD, MRes and EngD projects in Formulation Engineeering.

Research

Formulation and Formulation Engineering.

Other activities

- Chair IChemE Particle Technology Subject Group
- Secretary of the RSC Formulated Product Engineering Subject Group

Publications

1. The effect of particle size on the layer thickness of a stabilising polymer adsorbed onto two different classes of polymer latex as determined from rheological experiments. R. Greenwood, P.F. Luckham and T. Gregory, Colloids and Surfaces, 98, 117, 1995.

2. Rheological properties of bimodal polymer latices. R. Greenwood, P.F. Luckham and T. Gregory, Journal of Colloid and Interface Science, 191, 11 – 21 (1997)

3. Viscosity reduction in concentrated dispersions of bimodal mixtures and the prediction of the resulting viscosities. R. Greenwood, P.F. Luckham and T. Gregory, Colloids and Surfaces, 144 (1998) 139 -147.

4. Acoustophoretic and rheological characterisation of a ceria stabilised Zirconia powder. L. Bergstrom and R. Greenwood, Journal of the European Ceramic Society, 17 (2) 537 (1997.)

5.Preparation of concentrated aqueous alumina suspensions for tape casting. R. Greenwood, E. Roncari, C. Galassi, Journal of the European Ceramic Society, 17 (1997) 1393 -1401

6. An acoustophoretic investigation of aqueous suspensions of three different spinel powders. R. Greenwood and K. Kendall, British Ceramic Transactions 97 (4) 174 - 179,1998.

7.Experimental methods for measuring the optimum amount of dispersant for seven Sumitomo alumina powders. M. Burke, R. Greenwood and K. Kendall, Journal of Material Science. 33 (1998) 5149 - 5156

8. Selection of suitable dispersants for aqueous suspensions of zirconia and titania powders using acoustophoresis. R. Greenwood and K. Kendall, Journal of European Ceramic Society, 19, 1998, 479 - 488

9. A.L. Costa, C. Galassi, R. Greenwood. Alpha Al2O3 - H20 interface analysis by electroacoustic measurements Journal of Colloid and Interface Science 212 (1999) 350 - 356

10. R. Greenwood and K. Kendall, Acoustophoretic studies of aqueous suspensions of alumina and 8 mol % yttria stabilised zirconia powders. Journal of European Ceramic Society. 20 (2000) 77 - 84

11. D. Coimbra, R. Greenwood and K. Kendall, Tensile testing of ceramic fibres by video extensometry Journal of Material Science 35 (2000) 3341 - 3345

12. D. Coimbra, R. Greenwood and K. Kendall, Video controlled tensile testing of alumina fibres and rods manufactured by colloidal processing. Journal of Material Science. 35 (2000) 3347 – 3357

13. Effect of ionic strength on the adsorption of cationic polyelectrolytes onto alumina studied using electroacoustic measurements. R.Greenwood and K.Kendall Powder Technology 113 (2000) 148 -157

14. The use of poly (N isopropylacryamide) microgels as a multi functional processing aid for aqueous alumina suspensions. R. Greenwood, K.Kendall, S. Ritchie and M.J.Snowden, J.European Ceramic Society. 20,(2000) 1707 - 1716

15. A method for making alumina fibres by co extrusion of an alumina and starch paste. R.Greenwood, K.Kendall and O.Bellon, J. European Ceramic Society 21 (2001) 507 - 513.

16. Particle separation from gases using cross-flow filtration. V. Sibanda, R.W.Greenwood and J.P.K.Seville, Powder Tech. 118 (2001) 193 - 202

17. A new method for determining the optimum dispersant concentration in aqueous grinding. R.Greenwood, S.Kingman, N.Rowson and G.Brown Powder Tech. 123 (2002) 199 – 207

18. Review of the measurement of zeta potentials in concentrated aqueous suspensions using electroacoustics. R.Greenwood, Advances in Colloid and Interface Science, 106 (2003) 55 -81

19. Microwave assisted comminution of ores ar economically viable energy inputs. S.Bradshaw, T.V.Chow, T.Chan, S.W.Kingman, K.Jackson, N.Rowson, R.Greenwood, Microwave and radio Frequency Applications The American Ceramic Society USA (2003) 247-258

20. Recent developments in microwave assisted comminution S.W.Kingman, K.Jackson, A.Cumbane, S.M.Bradshaw, N.A.Rowson, R.Greenwood, Int. J. Miner.Process 74,1-4, 71-83, (2004)

21. An investigation into the influence of microwave treatment on mineral ore comminution. S.W.Kingman, K.Jackson, A.Cumbane, S.M.Bradshaw, N.A.Rowson, R.Greenwood, Powder Technology, 146, 3, 176 -185 (2004)

22. An electroacoustic investigation of concentrated aqueous suspensions of calcium pyrophosphate. R. Greenwood Part. Part Syst Charact. 21 (2004) 415 – 418

23. Roll compaction of a pharmaceutical excipient: Experimental validation of rolling theory for granular solids G.Bindhumadhavan, J.P.K.Seville, M.J.Adams, R.W.Greenwood, S.Fitzpatrick, Chem. Eng Sci. 60 (2005) 3891-3897

24. V. Horakova, P. Tomecek, L. Lapcik, Jr., R. Greenwood: The Effect of Surface Modification on the Zeta Potential and the Stability of Calcium Pyrophosphate Powders." J. Polym. Mater. 22(4) (2005) 385-390.

25. R.Mansa, R.H.Bridson, R.W.Greenwood, J.P.K.Seville and H.Barker, Using Intelligent Software to predict the Effects of Formulation and Processing Parameters on Roller Compaction, Powder Technology, 181, 2, 217-225, 2008

26.. R. Greenwood, B. Lapčíková, M. Surýnek, K. Waters, L. Lapčík (2007), The zeta potential of kaolin suspensions measured by electrophoresis and electroacoustics, Chemical Papers, 61 (2), 83-92

27. S.J. Mee, J.R. Hart, M. Singh, N.A. Rowson, R.W. Greenwood, G.C. Allen, P.J. Heard, D.R. Skuse. The use of focused ion beams for the characterization of industrial mineral microparticles. Accepted Journal of Applied Clay Science 39, 1-2, 72-7, 2008

28. K.Waters, N.A.Rowson, R.W.Greenwood, A.Williams Characterising the effect of microwave radiation on the magnetic properties of pyrite, 56, 9 -17, 2007, Separation and Purification Technology

29. K.Waters, N.A.Rowson, R.W.Greenwood, A.Williams The effect of heat treatment on the magnetic properties of pyrite, Minerals Engineering 21(9) 679 - 682, 2008

30 R.Tamblyn, N.A.Rowson, R.W.Greenwood Effect of talc filler content on mechanical properties of poly(propylene) composite Journal of Applied Polymer Science 110, 2742-2747, 2008

31. P. J. Wilson, S. Blackburn, R.W.Greenwood, B. Prajapti, K. Smalley. The effect of alumina contamination from the ball-milling of fused silica on the high temperature properties of injection moulded silica ceramic components. J European Ceramic Society 31, 977- 981 (2011)

32 V.Sibanda, R.W.Greenwood, J.P.K.Seville, Y.Ding, S.Iyuke Predicting particle segregation in cross flow gas filtration. Powder Technology 2010

33 A.D.Norton, R.W.Greenwood,I.Noble, P.W.Cox, Hot air expansion of potato starch pellets with different water contents and salt concentrations 2011

Conference papers

1. The rheology of binary mixtures of polymer latices. R. Greenwood, P.F. Luckham, I.T. Kim and T. Gregory, 1994 I. Chem. E. Research Event. Vol 2 p 1190.

2. Charcterization of alumina suspensions by electroacoustics. C. Galassi, E. Roncari, R. Greenwood and A. Piancastelli, 5 th EuroCeramic Conference, Key Engineering Materials, Vol. 132 - 136, p 329 – 332

3. Electroacoustic studies of aqueous Ce - ZrO2 and Si3N4 suspensions. L. Bergstrom. E. Laarz and R. Greenwood. Proc of Ultrasonic and Dielectric Charcaterization Techniques for Suspended Particles. NIST. August 1997

4. The use of acoustophoresis to select dispersants for the stabilisation of ceramic suspensions. R. Greenwood and K. Kendall. Paper Number 5. World Congress on Particle Technology, Brighton 1998. CD Rom I. Chem. E.

5. Preparation of alumina pastes for extrusion. R. Greenwood, K. Kendall and P. Windibank. CIMTEC '98 Conference, Florence, June 1998.

6. Measurement of the strength of alumina fibres using a video extensiometer D.Coimbra, K.Kendall and R. Greenwood, 6 th EuroCeramics Conference, Brighton, June 1999.

7. R.Greenwood, Measurement of zeta potentials in concentrated aqueous suspensions of ceramic powders using electroacoustics. Chisa 2000, 14 th International Congress of Chemical and Process Engineering, Prague, Czech Republic, 27 –31 August 2000.

8. R. Greenwood, Measurement of zeta potentials in concentrated aqueous suspensions of ceramic powders using electroacoustics. Studies in Surface Science and Catalysis Vol 132, The International Conference on Colloid and Surface Science, Tokyo, Japan November 2000 Edited by Y.Iwasawa, N.Oyama and H.Kunieda. Elsevier Science (Netherlands)

9. Particle separation from gases using cross flow filtration. V.Sibanda, R.W. Greenwood and J.P.K. Seville. World Filtration Congress 8, Proceedings Volume 1, Brighton U.K. April 2000. European Federation of Chemical Engineering Event No 607

10. Defluidisation of polymer particles due to sintering. M.A.Mohd Sahheh, J.P.K.Seville, P.C.Knight and R.W.Greenwood. Third European Conference on Fluidisation Toulouse, France, May 2000 Recent Progress in Process Engineering. University of Basque Country Press Service.

11. Granulation of a mineral powder in high shear mixers. M.Bardin, J.P.K.Seville, P.C.Knight, R.W.Greenwood, F.Nicol and P.Ferlin. Partec March 2001, International Congress for Particle Technology, Nuremberg, Germany

12. Investigation of segregation mechanisms during the discharge of hoppers using positron emission particle tracking. J.Shepperson, J.P.K.Seville, R.W Greenwood and P.C.Knight. Partec, March 2001 International Congress for Particle Technology, Nuremberg, Germany

13. Roll compaction of pharmaceutical excipients. L.N. Perera, J.P.K. Seville, A.S. Burbidge, R.W. Greenwood and A.C. Bentham. Partec March 2001 International Congress for Particle Technology, Nuremberg, Germany

14. Measurement of zeta potentials in concentrated aqueous suspensions of ceramic powders using electroacoustics. R.Greenwood. Partec March 2001 International Congress for Particle Technology, Nuremberg, Germany

15.The effect of binder viscosity, solidification rate and distributor plate design in fluidised bed granulation. A.McCormack, R.W.Greenwood and J.P.K.Seville, 7 th International Symposium on Agglomeration, 29 –31 May 2001, Albi, France.

16. An electroacoustic investigation of calcium carbonate suspensions for ultra fine grinding R. Greenwood, N. A. Rowson, S.W. Kingman and G. Brown. The first Hungarian Conference in the Practical Handling of Particles (Hun Pra – Partec), Budapest, August 2001

17. Studying the interparticle forces in aqueous suspensions of inorganic materials using electroacoutics. R.Greenwood, The first Hungarian Conference in the Practical Handling of Particles (Hun - Pra – Partec), Budapest, August 2001.

18 Investigation of coal segregation during discharge of hoppers using Positron Emission Particle Tracking, J. Shepperson, J.P.K. Seville R.W. Greenwood and P.C.Knight, Sixth World Congress of Chemical Engineering, Melbourne, Australia September 2001

19. Investigation of the effect of particle size and shape on segregation in hoppers using Positron Emission Particle Tracking. J.Shepperson, J.P.K. Seville R.W. Greenwood and P.C.Knight Seventh Bulk Materials Storage, Handling and Transportation Conference, October 2001, Newcastle, New South Wales, Australia. Vol 1 page 151 -161

20. Roll Granulation: Principles and Applications J.P.K.Seville, L.Perera, R.W.Greenwood and C.Bentham, Proceedings of the First World Feed Congress, Editors A.F.B.van der Poel, J.L.Vahl and R.P.Kwakkel, p 71 – 81, November 2001, Utrecht, The Netherlands

21. Positron Emission Particle Tracking – A novel technique to investigate the flow of granular solids. G.Bindhumadhavan, R.W. Greenwood, X. Fan, D.J. Parker and J.P.K. Seville, CHEMCON 2001 – Indian Chemical Engineering Congress and 54 th Annual Session of the Indian Institute of Chemical Engineers.

22. G.Bindhumadhavan, R.W. Greenwood, X. Fan, D.J. Parker and J.P.K. Seville Flow patterns in silos with inserts using Positron Emission Particle Tracking, 4 th World Congress on Particle Technology, Sydney, Australia, July 2002.

23 R.Mansa, R.Bridson, R.Greenwood, J.Seville and H.Barker, Using Intelligent Software to predict the Effects of Formulation and Processing Parameters on Roller Compaction. Partec, March 2004, Nuremberg, Germany

24 G.Bindhumadhavan, J.P.K.Seville, R.W.Greenwood and S.Fitzpatrick Roll compaction of pharmaceutical blends. Partec, March 2004, Nuremberg, Germany

25 B.Lemoigne, J.P.K.Seville, R.Bridson, R.W.Greenwood, F.Nicol Influence of the primary particle size distribution on the high shear granulation of silica: Growth Mechanisms and granule properties. Partec, March 2004, Nuremberg, Germany

26 K.Walters, R.Greenwood, L.Lapcik Effect of surface chemistry of the kaolinites treated by glow discharge radio frequency plasma and conventional furnace heating. World Congress of Particle Technology 5, Orlando, Florida, April 2006

27 K.Walters, R.Greenwood, L.Lapcik Comparison of the wet ability induced changes of calcium pyrophosphate by glow discharge radio frequency plasma and conventional furnace heating. World Congress of Particle Technology 5, Orlando, Florida, April 2006

28. M.Winterbotton, J.Wood, N.A.Rowson, E. Campos Reales, R.Greenwood Comparative study of the performance of modified zeolites and TiO2 in photocatalytic oxidation of 2,4,6, trichlorophenol using a cocurrent downflow reactor CHISA 2006 Prague, Czech Republic

29. D.Bird, R.W.Greenwood, K.Kendall Morphology of acrylic and silica based coatings applied inter-draw to PET films, Macro 2006 41 st International Symposium on Macromolecules Proceedings Rio de Janeiro, Brazil July 2006

30.Y. Kanga, N.A.Rowson, R.W.Greenwood, D.Skuse Smart Minerals: Controlled release of biocides from minerals' surfaces Partec March2007.

31. S.J. Mee, J.R. Hart, M. Singh, N.A. Rowson, R.W. Greenwood, G.C. Allen, P.J. Heard, D.R. Skuse The use of focused ion beams for the characterization of industrial mineral microparticles Partec, Germany, March 2007

32 Use of DVS to Characterise Mineral Functionality. R. Tamblyn, J. Hart, D. Gittins, D. Skuse, R. Bridson, R. Greenwood, N.Rowson Partec, Germany, March 2007

33 R.Tamblyn, J.Hart, D.Gittins, D.Skuse, R.Greenwood, N.Rowson Formation and characterisation of high surface area phyllosilicate minerals. 11 th Conference on Environment and Mineral Processing. Ostrava Czech Republic May 2007 part 1 p 11

34 K.E.Waters, N.A.Rowson, R.W.Greenwood, The effect of microwave radiation on the processing of pyrite. 11 th Conference on Environment and Mineral Processing. Ostrava Czech Republic May 2007 part 1 p 299

35. S.J. Mee, J.R. Hart, C. Agra-Gutiérrez, N.A. Rowson, R.W. Greenwood, ¬ G.C. Allen¬¬¬, P.J. Heard¬¬¬¬, D.R. Skuse The use of Focused Ion Beams for the charcterisation of industrial mineral microparticles EuroFillers 2007 Zalakaros, Hungary, August 26-30, 2007

36. D.Shobanjo, O.Draper, S. Blackburn, R.W.Greenwood Influence of Mechanically Blended Investment Casting Wax Formulations on Quality of Injection Moulded Parts.

Society of Plastics Engineers Annual Technical Conference 2009

37. R.Tamblyn, N.Rowson, R.Greenwood, X.Fan, K.Waters, J.Hart, D.Gittins,D.Skuse The use of Positron Emission Particle Tracking for investigatiuon of the media flow patterens in vertical stirred media mills. SME Annual Meeting, Feb 2009, Denver Colarado.

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