

## Julian Eastoe - 2009

### 1. Personal Information

Name Julian Grahame Eastoe  
Date of birth 12.1.65  
Family status married – 21 years - with four children - 20, 18, 16 and 14 years old

### 2. Present appointment

Personal Chair in Chemistry, School of Chemistry, University of Bristol since 1.8.04.  
Director of International Affairs in the School of Chemistry since 01.10.05.

### 3. Previous appointments

1.8.98–31.7.04 Reader in Physical Chemistry, School of Chemistry  
University of Bristol.  
1.4.93-31.7.98 Lectureship, School of Chemistry, University of Bristol.  
1.9.92-31.3.93 Lectureship, Department of Chemistry, University of Durham.  
1.6.91-30.9.92 Physicist, Institut Laue Langevin, Grenoble, France.  
1.4.90-1.6.91 Senior Research Associate, School of Chemical Sciences,  
University of East Anglia.

### 4. Academic qualifications

1990 PhD - UEA - Influence of Pressure on Microemulsions  
1986 BSc II(i) Chemistry, University of East Anglia.  
1983 A' Levels - Chemistry A - Physics A - Mathematics B.  
Solihull 6th Form College.

### 5. Special awards

In 2007 I was awarded the Rideal Medal, which is a prestigious UK national award from the Royal Society of Chemistry and Society for Chemical Industry for “distinction in colloid or interface science”. Previous recipients include Sir Sam Edwards, Professors Everett (1983), Ottewill (1985), Vincent (1997), Helmuth Mohwald and Dominic Tildesley.

In Oct 2002 I was made visiting professor at the China Research Institute for Daily Chemical Industry (RIDCI) Taiyuan China, and in Dec, 2003 in the College of Molecular and Chemical Sciences at the University of Wuhan, China. As a result of these Professorships I have published a unique dual language Colloid Science book in China. “Surfactant chemistry” Wuhan University Press, Wuhan China. ISBN 7-307-04552-4. 183 pages in Chinese and English, available in the Bristol University library.

I am visiting professor at University of Naples Frederico II, from October 2008.

I am Visiting Professor at Kuwait University, from November 2005.

In October 2003 held a visiting fellowship from the Japan Society for the Promotion of Science to visit groups in Tokyo, Kyoto and Nagoya.

In 1999 was awarded the Clifford Wharton Prize for Excellence in Teaching in the School of Chemistry in recognition of my efforts in Undergraduate and post-graduate teaching.

## 6. Research

I have a high international reputation in the fields of colloid and interface science and applications of neutron scattering. I am recognized as one of the pioneers in stabilizers (surfactants) for dispersions in low density and supercritical fluids like carbon dioxide, alkanes and fluoroalkanes many of which are unique to the Bristol group. Up to Jan 2009 I have published around 170 papers, given 115 invited talks, and I have been responsible for supervising 30 PhD students.

My research is in the general area surface and interface science, especially involving novel surfactants and polymers. Key advances have been made in green chemistry, nanotechnology, surface characterisation and functionalisation, as well as fundamental aspects of surfactant science.

The group develops new surfactants for various applications. Therefore, molecular design, synthesis, NMR and Mass Spectroscopy are important aspects. A wide variety of techniques are employed to probe interfacial and self-assembly properties. Tensiometric methods are key, and my group has available a wide range of equipment (drop shape analysis, drop volume, maximum bubble pressure, spinning-drop and duNouy-Wilhelmy equipment).

Neutron scattering methods are important, and regular use is made of national and international facilities ISIS and ILL. I am annually awarded 20-30 days of neutron beam time as a result of numerous peer-review grant applications. (Typically 10 proposals per year, bidding for 2-3 days each).

My group has developed the technique of high-pressure small-angle neutron scattering (HP-SANS) at ISIS Rutherford Appleton Laboratory, which is an invaluable tool for interrogating self-assembly systems in CO<sub>2</sub>.

The research is truly international, and links have been established resulting in publications, with groups in Wuhan China, Austin, Göttingen, Nagoya, Nice, Strasbourg, Graz and Avignon, Rome, Cork and Köln. Visitors have come to work in the group from Mexico, Kuwait, Iran, USA, India, China, Sweden, Japan, Germany, and France. Nationally, collaborations have been fostered in the School of Chemistry (Dr. Wyatt – Organic, Prof. Cosgrove – Physical, Prof. Richardson - Physics), and elsewhere in the UK (Prof Bob Enick – Pittsburgh, Dr. David Steytler - UEA Norwich, Prof. Colin Bain – Durham , Dr. Andrew Beeby – Durham, Prof Graham Hutchings – Cardiff, Dr. Peter Griffiths – Cardiff, Dr. Richard Heenan – ISIS, Prof. Steve Armes - Sussex).

The research has attracted interest from Industrial companies and I have current, or recent, contracts with Kodak, Unilever, Disperse Technologies, Infineum, Omnova, Eli Lilly, Syngenta and Huntsman Surface Science. In addition I have been invited to act as a consultant for Unilever, Odeco Nalco, Huntsman Surface Science, Eli Lilly, Infineum, Astra Zeneca, Aveica, Glaxo, AEE Technologies and Enterprise Ireland.

### Research in external laboratories

I believe that it is essential to foster links with external groups, especially overseas. This means that one must be prepared to travel, and I particularly want my Ph.D. students to appreciate this. A good example is in carrying out experiments in external laboratories, such as the Institute-Langevin in France, where there is an important need to get it right, first time. This requires meticulous preparation, also foresight and a perception of any difficulties that may be encountered.

## A - Publications

A search on Scopus ([www.scopus.com](http://www.scopus.com) covering publications since 1996 up to Jan 2009) for “Julian Eastoe, Bristol” shows: 147 papers, with 2670 citations, making 18 citations per paper and an H-index of 30.

### Authored book

“Surfactant Science” – Wuhan University Press, December 2005. ISBN 7-307-04552-4. 183 pages in Chinese and English.

This book is based on lectures I gave in October 2002 in Taiyuan China. The book includes Chinese translations of the English chapters. Chinese colleagues carried out the translation.

### Official reports

1. Report on Irish Centre for Colloid Science and Biomaterials - Academic and Scientific Aspects Dr. Julian Eastoe and Prof. Brian H. Robinson October 2000.

More detail about this activity is given below under section 7 *iv Indications of external recognition - External evaluations editorial boards and international committees.*

2. In July 2005 I was commissioned by CCLRC, with two other Professors (Manchester and UCL) to prepare a report on “The potential of neutron scattering to enhance research training in the UK”. This was completed in November 2005, and contributed towards a bid for a new generation neutron scattering centre in UK, to be assessed by the UK Minister for Science and Innovation Lord Sainsbury.

3. In December 2005 wrote a 6-page report to the Science Faculty of Kuwait University the quality of activities, and international standing, of the Chemistry Department in Kuwait.

### Academic journal papers (refereed), conference contributions (refereed) and review articles

The majority of these publications are refereed academic journal papers; conference contributions (refereed) and review articles are identified in the sub-heading. The starred author, as appears in the journal, is indicated.

For publications since 1998 a format code, defined above the section for 1998, identifies the level of my contribution.

### 1988

1. *Microemulsions in Near-Critical and Supercritical Fluids* – conference contribution

D.C.Steytler\*, J.Eastoe, B.H.Robinson, D.C.Lovell, P.Moulson and P.Richmond, Int.Symp.Supercritical Fluids, Soc.Fr.Chem, 1988, 67-69.

### 1990

2. *Influence of Pressure and Temperature on Microemulsion Stability*

J.Eastoe, B.H.Robinson\* and D.C.Steytler, J.Chem.Soc. Faraday Trans., 1990, 86, 511-17.

3. *Scattering Studies of Microemulsions in Low Density Alkanes*

J.Eastoe, B.H.Robinson\*, D.C.Steytler and W.K.Young, J.Chem.Soc.Faraday Trans., 1990, 86, 2883-89.

4. *A Study of Microemulsion Stability* – conference contribution

J.Eastoe, B.H.Robinson\* and D.C.Steytler, in “The Structure, Dynamics and Equilibrium

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\* leading author

Properties of Colloidal Systems”, eds. D.M.Bloor, E.Wyn-Jones, NATO ASI Series C Vol.324, 1990, 295-28.

5. *Structure and Interactions of Microemulsions in a Plastic-Crystalline Phase*

J.Eastoe, B.H.Robinson\*, D.C.Steytler and J.C.Dore, Chem.Phys.Letts., 1990, 166, 153-58.

**1991**

6. *Rotational Dynamics of AOT Reversed Micelles in Near-Critical and Supercritical Alkanes*

J.Eastoe, B.H.Robinson\*, A.J.W.G.Visser and D.C.Steytler, J.Chem.Soc. Faraday Trans., 1991, 87, 1899-1903.

7. *Steric Interactions Between Microemulsion Droplets in a Plastic-Crystalline Phase*

J.Eastoe, B.H.Robinson, D.C.Steytler\* and J.C.Dore, in Food Polymers, Gels and Colloids, ed. E.Dickinson, RSC Special Publication No. 82, 1991, 469-76.

8. *Structural Studies of Aerosol-OT Microemulsions* – review article

J.Eastoe, B.H.Robinson\* and D.Thorn-Leeson, Adv.Col.Int.Sci,1991, 36, 1-31.

**1992**

9. *Variation of Surfactant Counterion and Effect on the Structure and Properties of Aerosol-OT Based Water-in-Oil Microemulsions*

J.Eastoe, B.H.Robinson\*, G.Fragneto, T.F.Towey, R.K.Heenan and F.J.Leng, J.Chem.Soc. Faraday Trans., 1992, 3, 461-73.

10. *SANS From Novel AOT Microemulsions* – conference contribution

J.Eastoe\*, R.K.Heenan, B.H.Robinson, G.Fragneto and D.C.Steytler, Physica B, 1992, 180/181, 555-57.

11. *SANS From Dilute Didodecyldimethylammonium Bromide Water-in-Oil Microemulsions - Evidence for Polymer-like Aggregates*

J.Eastoe\*, Langmuir, 1992, 8(6), 1503-06.

**1993**

12. *Structures of Metal bis,2-ethylhexylsulphosuccinate Aggregates in Cyclohexane*

J.Eastoe\*, B.H.Robinson, T.F.Towey, J.Williams and R.K.Heenan, J.Phys.Chem., 1993, 97, 1459-63.

13. *Effects of Solidification of the Oil Phase on the Structure of Colloidal Dispersions*

J.Eastoe, B.H.Robinson, D.C.Steytler\*, I.P.Macdonald, K.Ibel and J.C.Dore, Langmuir 1993, 9, 903-11.

14. *Water-in-Oil Microemulsions Formed by Ammonium and Tetrapropylammonium Salts of Aerosol-OT*

J.Eastoe\*, B.H.Robinson and R.K.Heenan, Langmuir,1993, 9, 2820-24.

**1994**

15. *Pressure-induced Structural Changes in Water-in-Propane Microemulsions*

J.Eastoe\*, D.C.Steytler, B.H.Robinson and R.K.Heenan, J.Chem.Soc.Faraday Trans., 1994, 90, 3121-7.

16. *Water-induced Structural Changes Within the L<sub>2</sub> Phase of DDAB/Cyclohexane/Water Systems*, J.Eastoe\* and R.K.Heenan, J.Chem.Soc. Faraday. Trans 1994, 90, 487-92.

17. *Lamellar Aggregates in the L<sub>2</sub> Phase of a Non-ionic Silicone Surfactant (L77-OH)*

D.C.Steytler\*, D.L.Sargent, B.H.Robinson, J.Eastoe and R.K.Heenan, Langmuir, 1994, 10, 2213-2318.

18. *Structure of Cobalt Aerosol-OT Reversed Micelles Studied by Small-angle Scattering Methods*  
J.Eastoe\*, D.C.Steytler, B.H.Robinson, R.K.Heenan, A.N.North and J.C.Dore, *J.Chem.Soc.Faraday Trans.*, 1994, 90, 2497-504.

19. *Effect of Counterion Radius on Surfactant Properties in Winsor II Microemulsion Systems*  
J.Eastoe\*, S.Chatfield and R.Heenan, *Langmuir*, 1994, 10, 1650-1653.

20. *Solubilisation of C<sub>60</sub> in Aqueous Micellar Solution*

A.Beeby, J.Eastoe\* and R.K.Heenan, *J.Chem.Soc.Chem.Comm.*, 1994, 10, 173-175.

21. *Properties of a Di-Chain Sugar Surfactant*

J.Eastoe\*, P.Rogueda, Bill J.Harrison, A.M.Howe and A.R.Pitt., *Langmuir*, 1994, 10, 4429-43.

## 1995

22. *Formation of PbS Nanoclusters Using Reversed Micelles of Lead- and Sodium Aerosol-OT*  
J.Eastoe\* and A.Cox, *Coll. Surf*, 1995, 101, 63-76.

23. *Structure and Photophysics in C<sub>60</sub>-Micellar Solutions*

J.Eastoe\*, E.Crooks, A.Beeby and R.K.Heenan, *Chem.Phys. Lett.*, 1995, 245, 571-77.

24. *Small-angle Neutron Scattering and Neutron Reflection – review article*

J.Eastoe\*, Chapter 12 in *New Physico-Chemical Techniques for the Characterisation of Complex Food Systems*. ed. E.Dickinson, Blackie, Glasgow 1995 .

25. *Surface light scattering from mixed surfactant-oil monolayers*

J.Eastoe\* and D.Sharpe, *Langmuir*, 1995, 11, 4636-4638.

## 1996

26. *Structure in Microemulsions of Di-chain Surfactants*

J.Eastoe\*, J.Dong, K.Hetherington, D.C.Steytler and, R.K.Heenan, *J.Chem. Soc Faraday Trans.* 1996, 92, 65-72.

27. *Droplet Structure in a Water-in-CO<sub>2</sub> Microemulsion*

J.Eastoe\*, D.C.Steytler, Z.Bayazit, S.Martell, R.K.Heenan, *Langmuir*, 1996, 12, 1423-25.

28. *Structure of Reversed Micelles Formed by Metal Salts of Bis(ethylhexyl) Phosphoric Acid*

D.C.Steytler\*, T.R.Jenta, B.H.Robinson, J.Eastoe, R.K.Heenan, *Langmuir*, 1996, 12, 1483-89.

29. *Mixing of Alkanes with Surfactant Monolayers in Microemulsions*

J.Eastoe\*, J.Dong, K.J.Hetherington, D.Sharpe, D.Steytler, R.K.Heenan, *Langmuir*, 1996, 12, 3876-880.

30. *Properties of New Glucamide Surfactants*

J.Eastoe\*, P.Rogueda, A.M.Howe, A.R.Pitt., R.K.Heenan, *Langmuir*, 1996, 12, 2701-705.

31. *Properties of Surfactant Monolayers Studied by Surface Light Scattering*

D.Sharpe and J.Eastoe\*, *Langmuir*, 1996, 12, 2303-307.

32. *Interfacial Properties of a Catanionic Surfactant*

J.Eastoe\*, P.Rogueda, J.Dalton, J.Dong, D.Sharpe, J.R.P.Webster, *Langmuir*, 1996, 12, 2706-711.

33. *Micelles of Assymetric Chain Catanionic Surfactants*

J.Eastoe\*, P.Rogueda, D.Shariatmadari, R.K.Heenan, *Coll. Surf. A* 1996, 117, 215-225.

34. *Nanoparticle Synthesis in Microemulsions – review article*

J.Eastoe\* and B.Warne, *Curr.Op.Coll.Sci*, 1996, 800-805.

35. *Preparation of Colloidal Cobalt using Reversed Micelles*

J.Eastoe\*, S. Stebbing, J.Dalton and R.K.Heenan, *Coll.Surf A*, 1996, 119, 123-31.

36. *Measurement of Interparticle Forces from the Osmotic Pressure of Partially-Frozen Dispersions – conference contribution*

J.Eastoe, B.H.Robinson, D.C.Steytler\*, I.P.Macdonald, K.Ibel and J.C.Dore, *J.Phys.Cond.Matt* 1996, 8, 953-56.

37. *Remarkable Stability of C<sub>60</sub><sup>-</sup> In Micelles*

A.Beeby\*, J.Eastoe, E.Crooks, J.Chem.Soc. Chem.Comm, 1996, 901-02.

**1997**

38. *Bending Energies of Di-chained Surfactant Films in Microemulsions* – conference contribution  
J.Eastoe\*, D.Sharpe and R.K. Heenan, Prog. Coll.and Polym Sci., 1997, 105, 340-45.

39. *Dynamic Surface Tensions of Non-ionic Surfactant Solutions*

J.Eastoe\*, J.S.Dalton, P.G.A.Rogueda, E.R.Crooks, A.R.Pitt and E.A.Simister, J.Coll.Int.Sci., 1997, 188, 423-30.

40. *Microemulsions with Didodecyldimethylammonium Bromide Studied by Neutron Contrast Variation*

J.Eastoe\*, K.J.Hetherington, J.S.Dalton, D.Sharpe, J.R.Lu and R.K.Heenan, J.Coll.Int.Sci, 1997, 190, 449-55.

41. *Droplet Structure in Phosphocholine Microemulsions*

J.Eastoe\*, K.J.Hetherington, D.Sharpe, D.C.Steytler, S.Egelhaaf and R.K.Heenan, Langmuir, 1997, 13, 2490-93.

42. *Rigidities of Cationic Surfactant Films in Microemulsions*

J.Eastoe\*, D.Sharpe, S.Egelhaaf and R.K.Heenan, J.Phys.Chem., 1997, 101, 944-48.

43. *Properties of Phosphocholine Microemulsions and the Film Rigidity Model*

J.Eastoe\* and D.Sharpe, Langmuir, 1997, 13, 3289-94.

44. *Films of Di-chained Surfactants in Microemulsions* – conference contribution

J.Eastoe\*, K.J.Hetherington, D.Sharpe, J.Dong, D.C.Steytler, and R.K.Heenan, Coll. Surf. A. 1997, 128, 209-15.

45. *Photoexcited Fullerene Species in Triton-X100 Micelles*

J.Eastoe\*, E.R.Crooks and A.Beeby, J.Chem.Soc. Faraday Trans. 1997, 93, 4131 - 4136.

46. *Lanthanide-containing Reversed Micelles: A Structural and Luminescence Study*

J.Eastoe, A.Beeby\*, B.Warne, I.M.Clarkson and S.Faulkner, Langmuir, 1997, 13, 5816 - 5819.

47. *Interparticle Forces from Osmotic Pressure Measurements in Frozen Dispersions* – conference contribution

J.Eastoe, B.H.Robinson, D.C.Steytler\*, I.P.Macdonald, K.Ibel and J.C.Dore, contribution to Surfactant Science Series ed. D.O.Shah, Marcel Dekker 1997, p 363 - 386.

48. *Invasive and Non-invasive Measurements of Dynamic Surface Tensions*

S.Manning-Benson, C.D.Bain\*, R.Darton, J.Eastoe, D.Sharpe and P.Reynolds, Langmuir, 1997, 13, 5808 - 5810.

49. *Water-in-CO<sub>2</sub> Microemulsions Studied by Small-angle Neutron Scattering.*

J.Eastoe\*, B.M.H.Cazelles, D.C.Steytler, J.D.Holmes, A.R.Pitt, T.J.Wear and R.K.Heenan, Langmuir, 1997, 13, 6980 - 6984.

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## Publications since 1998

The majority of publications have been in high quality international journals like *Langmuir*, *Journal of the American Chemical Society*, *Chemistry of Materials and Macromolecules*, *Journal of Colloid and Interface Science* and *Soft Matter*, *Physical Chemistry Chemical Physics* or *Faraday Transactions*. For each publication the following code identifies my level of contribution.

**principal investigator** – I instigated the research, raised the necessary funds, and/or was awarded the neutron beam time, designed the experiments, was involved in some experimental work carried out and/or advised on data analysis. I managed the project including instruction of Post-Docs and Ph.D. students. I was responsible for writing the paper, submitting it to the journal and responding to Referees' comments.

equal contributor – The research was a collaboration between different groups, financial inputs, research tasks, and author responsibilities were shared. The level of contribution varies on a case-by-case basis, and so it is reasonable to apportion the effort equally between all authors.

normal type face – other authors were the major contributors

### 1998 – seven refereed publications

50. *Characterisation of water-in-oil microemulsions formed in silicone oils.*

D.C.Steytler\*, P.Dowding, B.H.Robinson, J.D.Hague, J.H.S.Rennie, C.A.Leng, J.Eastoe, R.K.Heenan, *Langmuir*, 1998, 14, 3517 - 3523.

51. *Evidence for activated-diffusion controlled dynamic surface tension with a non-ionic surfactant*

**J.Eastoe\***, J.S.Dalton, P.G.A.Rogueda and P.C.Griffiths, *Langmuir*, 1998, 14, 979-981.

52. *Mixing in cationic surfactant films studied by small-angle neutron scattering*

**J.Eastoe\***, A.Bumajdad, R.K.Heenan, J.R.Lu, D.C.Steytler and S.Egelhaaf, *J. Chem. Soc. Faraday Transactions*, 1998, 94, 2143-2150.

53. *Percolation in non-ionic microemulsion systems*

G.Ilgenfritz\*, S.Lipgens, D.Schubel, L.Schlicht, J.Eastoe and R.K.Heenan, *Langmuir*, 1998, 14, 1041 - 1049.

54. *Dynamic surface tensions and micelle structures of di-chained phosphatidylcholine surfactant solutions*

**J.Eastoe\***, J.S.Dalton and R.K. Heenan, *Langmuir*, 1998, 14, 5719 - 5724.

55. *Breakdown kinetics of fluorocarbon micelles studied by stopped-flow small-angle X-ray scattering*

**J. Eastoe\***, J.S.Dalton, A.Downer, G.Jones and D. Clarke, *Langmuir*, 1998, 14, 1937 - 1939.

56. *Surface Light Scattering from Cationic Surfactant Films* – refereed conference contribution

**J.Eastoe\*** and D.Sharpe, *Coll.Surf. A.*, 1998, 143, 261-271.

### 1999 – seven refereed publications

57. *Raman scattering spectra of Aerosol-OT homologous sodium dialkylsulfosuccinates and the environment of their hydrophobic chains*

Y, Nagasoe, N. Ichiyangi, H. Okabayashi\*, S. Nave, J. Eastoe, C.J. O'Connor, *Colloid and Polymer Science*, 1999, 277, 947-956.

58. *Infrared absorption spectra of Aerosol-OT homologous sodium dialkylsulfosuccinates and the effect of crystal polymorphism on the environment of the succinate segment.*  
Y. Nagasoe, N. Ichiyanagi, H. Okabayashi\*, S. Nave, J. Eastoe, C.J. O' Connor, *Colloid and Polymer Science*, 1999, 277, 1051-1057.
59. *Effects of hydrophobic chain structure on adsorption of fluorocarbon surfactants with either CF<sub>3</sub>- or H-CF<sub>2</sub>-terminal groups*  
A. Downer, **J. Eastoe\***, A.R. Pitt, E.A. Simister, J. Penfold, *Langmuir*, 1999, 15, 7591-7599.
60. *Raman and IR spectroscopic studies of the interaction between counterion and polar group in self-assembled systems of AOT-homologous "sodium dialkyl sulfosuccinates"*  
Y. Nagasoe, N. Ichiyanagi, H. Okabayashi\*, S. Nave, J. Eastoe, C.J. O' Connor, *Phys. Chem. Chem. Phys.*, 1999, 1, 4395-4407.
61. *Adsorption and micellisation of partially- and fully-fluorinated surfactants*  
A. Downer, **J. Eastoe\***, A.R. Pitt, J. Penfold, R.K. Heenan, *Colloids and Surfaces A*, 1999, 156, 33-48.
62. *Interfacial compositions and phase structures in mixed surfactant microemulsions*  
A. Bumajdad, **J. Eastoe\***, P. Griffiths, D.C. Steytler, R.K. Heenan, J.R. Lu, P. Timmins, *Langmuir*, 1999, 15, 5271-5278.
63. *Oligo- and polyethylene glycols in water-in-oil microemulsions. A SANS study.*  
D. Schubel, O.D. Bedford, G. Ilgenfritz\*, J. Eastoe, R.K. Heenan, *Physical Chemistry Chemical Physics*, 1999, 1, 2521-2525.

## 2000 – ten refereed publications – one non-refereed publication

64. *Dynamic surface tension and adsorption mechanisms of surfactants at the air-water interface – refereed review article*  
**J. Eastoe\*** and J.S. Dalton, *Adv. Coll. Int. Sci.*, 2000, 85, 103-144.
65. *Adsorption of fluorosurfactants at air-water and water-CO<sub>2</sub> interfaces – refereed conference contribution*  
**J. Eastoe\***, A.M. Downer, A. Paul, D.C. Steytler\* and E. Rumsey, *Prog. Colloid. Polym. Sci.*, 2000, 115, 214.
66. *Studies of cationic and non-ionic surfactant mixed microemulsions by Small-Angle Neutron Scattering and Pulsed Field Gradient NMR – refereed conference contribution*  
M. Giustini\*, G. Palazzo, A. Ceglie, J. Eastoe, A. Bumajdad and R.K. Heenan. *Prog. Colloid. Polym. Sci.*, 2000, 115, 25-30.
67. *Adsorption of ionic surfactants at the air-solution interface*  
**J. Eastoe\***, S. Nave, A. Rankin, A. Paul, A. Downer, K. Tribe and J. Penfold, *Langmuir*, 2000, 16, 4511-4518.
68. *Droplet interfacial structure studied by SANS contrast variation – refereed conference contribution*  
J. Eastoe and R.K. Heenan\*, *J. Appl. Cryst.*, 2000, 33, 749-752.
69. *Vibrational spectra of Aerosol-OT homologous sodium dialkylsulfosuccinates - normal coordinate analyses of sodium diethylsulfosuccinate and sodium dimethylsulfosuccinate and their application to longer homologues.*  
Y. Nagasoe, H. Okabayashi\*, M. Abe, J. Eastoe, and C.J. O'Connor, *Vibrational Spectroscopy*, 2000, 23, 151-168.
70. *Fluoro-surfactants at air/water and water/CO<sub>2</sub> interfaces.*  
**J. Eastoe\***, A. Downer, A. Paul, D.C. Steytler, E. Rumsey, J. Penfold, and R.K. Heenan, *Phys. Chem. Chem. Phys.*, 2000, 2, 5235-5242.

71. *What is so special about Aerosol-OT? 1. Aqueous systems.*  
**J.Eastoe\***, S.Nave and J.Penfold. *Langmuir*, 2000, 16, 8733-8740.
72. *What is so special about Aerosol-OT? 2. Microemulsion systems.*  
**J.Eastoe\***, S.Nave, R.K.Heenan, D.C.Steytler and I.Grillo, *Langmuir*, 2000, 16, 8741-8748.
73. *Control over phase curvature using mixtures of polymerisable surfactants.*  
**J.Eastoe\***, M.Summers and R.K.Heenan, *Chem.Mat.Communications*, 2000,12, 3533-3537.
74. *Mixed surfactant microemulsions – non-refereed review article*  
**J.Eastoe\*** and A.Bumajdad  
*Recent Research Developments in Physical Chemistry*, 2000, 4, 337-350.

## 2001 – eight refereed publications

75. *Micellisation of hydrocarbon surfactants in supercritical carbon dioxide.*  
**J.Eastoe\***, A.Paul, S.Nave, D.Steytler\*, E.Rumsey, M.Thorpe, B.H.Robinson, R.K.Heenan,  
*J.Am.Chem.Soc. Comm.*, 2001, 123, 988-989.
76. *The remarkable "flip-flop" self-assembly of a diblock copolymer in aqueous solution*  
V.Butun, S.P.Armes\*, N.C.Billingham, Z.Tuzar, A.Rankin, J.Eastoe\* and R.K.Heenan,  
*Macromolecules*, 2001, 34, 1503-1511.
77. *Surfactant adsorption dynamics – refereed review article*  
**J.Eastoe\***, A.Rankin, R.Wat and C.D.Bain  
*International Reviews in Physical Chemistry*, 2001, 20, 1-30.
78. *Water-in-carbon dioxide macroemulsions and miniemulsions with a hydrocarbon surfactant*  
K.P.Johnston\*, D Cho, S.R.P. DaRocha, S.E.Webber, J.Eastoe, A.Dupont, D.C.Steytler,  
*Langmuir*, 2001, 17, 7191-7193.
79. *Polymerisation of cationic surfactant phases*  
**J.Eastoe\***, M.Summers, S.Davis, Z. Du, R.M.Richardson, R.K.Heenan, D.Steytler, I.Grillo,  
*Langmuir*, 2001,17, 5388-5397.
80. *Phosphate surfactants for water-in-CO<sub>2</sub> microemulsions*  
D.C. Steytler\*, E.Rumsey, M.Thorpe, J.Eastoe\*, A.Paul, R.K.Heenan,  
*Langmuir*, 2001, 17, 7948-7950.
81. *Fluorinated non-ionic surfactants bearing either CF<sub>3</sub>- or H-CF<sub>2</sub>- terminal groups: adsorption at the surface of aqueous solutions*  
**J.Eastoe\***, A.Paul, A.Rankin, R.Wat, J.Penfold, J.R.P.Webster  
*Langmuir*, 2001, 17, 7873-7878.
82. *Polymerisation of cationic surfactant films in microemulsions*  
**J.Eastoe\***, M.Summers, R.K.Heenan, D.Steytler, I.Grillo,  
*J.Disp.Sci.Tech*, 2001, 22, 597-606.

## 2002 – seven refereed publications – one non-refereed publication

83. *Interaction between a Novel Gemini Surfactant and Cyclodextrin: NMR and Surface Tension Studies*  
S. Abrahmsén-Alami\*, E. Alami, J. Eastoe, T. Cosgrove  
Journal of Colloid and Interface Science, 2002, 246, 191-202.
84. *Adsorption properties of novel gemini surfactants with non-identical headgroups*  
E. Alami\*, K. Holmberg and J. Eastoe  
Journal of Colloid and Interface Science, 2002, 247, 447-455.
85. *What is so special about Aerosol-OT? Part III – glutaconate versus sulfosuccinate headgroups and oil-water interfacial tensions*  
S. Nave, **J. Eastoe\***, R.K. Heenan, D. Steytler, I. Grillo, Langmuir, 2002, 18, 1505-1510.
86. *Effects of fluorocarbon surfactant chain structure on stability of water-in-carbon dioxide microemulsions. Links between aqueous surface tension and microemulsion stability.*  
**J. Eastoe\***, A. Paul, A. Downer, D.C. Steytler and E. Rumsey, Langmuir, 2002, 18, 3014-3017
87. *Formation of BaSO<sub>4</sub> nano-particles in microemulsions with polymerised surfactant shells*  
M. Summers, **J. Eastoe\*** and S. Davis, Langmuir, 2002, 18, 5023-5026.
88. *Water-in-carbon dioxide microemulsions stabilised by fluoro-surfactants – conference contribution – not refereed*  
**J. Eastoe\***, A. Paul, D. Steytler, E. Rumsey, R.K. Heenan, J. Penfold  
Adsorption and aggregation of surfactants in solution, 2002, Marcel Dekker, (Eds. K. Mittal & D.O. Shah), chapter 16, 299-326,
89. *Properties of a stilbene-containing gemini photo-surfactant: light triggered changes in surface tension and aggregation*  
**J. Eastoe\***, M. Sanchez-Dominguez, P. Wyatt\*, A. Beeby, R.K. Heenan, Langmuir, 2002, 18, 7837-7844.

This paper featured on the journal cover

90. *Interactions between non-ionic gemini surfactant and cyclodextrins investigated by small-angle neutron scattering.*  
E. Alami\*, S. Abrahmsén-Alami, J. Eastoe, I. Grillo, R.K. Heenan, J. Coll. Int. Sci., 2002, 255, 403-409.

## 2003 – fifteen refereed publications and one non-refereed publication

91. *Applications of polymerizable surfactants – refereed review article*  
M. Summers and **J. Eastoe\***, Adv. Coll. Int. Sci, 2003, 100-102, 137-152.
92. *Design and performance of surfactants for carbon dioxide– refereed conference contribution*  
**J. Eastoe\***, A. Dupont, A. Paul, D. C. Steytler\* and E. Rumsey, ACS Symposium Series. Separations and Processes Using Supercritical Carbon Dioxide.
93. *Neutron reflection and small-angle neutron scattering studies of a fluorocarbon telomer surfactant,*  
A. Dupont, **J. Eastoe\***, P. Barthelemey, B. Pucci, J. Penfold and R.K. Heenan, J. Coll. Int. Sci, 2003, 261 184-190.
94. *Micellisation of commercially viable surfactants for CO<sub>2</sub>,*  
J. Eastoe\*, A. Dupont, D.C. Steytler, M. Thorpe, A. Gurgel and R.K. Heenan, J. Coll. Int. Sci, 2003, 258, 367-373.

95. *Photosurfactants new and old* – non-refereed review article  
M.Sanchez-Dominguez, P.Wyatt and **J.Eastoe\***, Self-Assembly, IOS Press Amsterdam, Nov.2003. Editor B.H.Robinson.
96. *Dynamic surface excess of fluorocarbon surfactants*  
J.Eastoe\*, A.Rankin, R.Wat, C.D.Bain, D.Strykas and J.Penfold, Langmuir 2003, 19, 7734-7739.
97. *Measurement of the dynamic surface excess of the non-ionic surfactant C<sub>8</sub>E<sub>4</sub>OMe by neutron reflection and ellipsometry*  
D. Valkovska, K. M. Wilkinson, R.A. Campbell, C.D. Bain\*, R. Wat and J. Eastoe, Langmuir 2003, 19, 5960-5962.
98. *pH Switching' for the Selective Extraction of Metal Ions into Supercritical CO<sub>2</sub>*  
J. P. Hanrahan, K. J. Ziegler, J.D. Glennon, D. C. Steytler, J. Eastoe, A. Dupont and J.D. Holmes\*, Langmuir 2003, 19, 3145-3150.
99. *Compositions of mixed surfactant layers in microemulsions determined by small-angle neutron scattering*  
A.Bumajdad, **J.Eastoe\***, S. Nave, D.C. Steytler, R. K. Heenan and I. Grillo, Langmuir, 2003, 19, 2560-2567.
100. *Fluorinated surfactants in supercritical CO<sub>2</sub>* – refereed review article  
**J.Eastoe\***, A. Dupont and D.C.Steytler, Current Opinions in Colloid and Interface Science, 2003, 8, 267-273.
101. *Concentrated polymerized cationic surfactant phases*  
M. Summers, **J. Eastoe\*** and R.M.Richardson, Langmuir, 2003, 19, 6357-6363.
102. *Photoresponsive microemulsions*  
**J.Eastoe\***, M.Sanchez-Dominguez, P.Wyatt, H.Cumber, G.Burnett, R.K.Heenan, Langmuir, 2003, 19, 6579-6581.
103. *Properties of mixed alcohol-zwitterionic surfactant films in quaternary microemulsions*  
A. Bumajdad\*, **J. Eastoe**, R.K.Heenan, Langmuir, 2003, 19, 7219-7225.
104. *Investigation of microstructure and dynamics of novel Gemini surfactant micelles by small-angle neutron scattering (SANS) and NMR self-diffusion*  
E. Alami\*, S. Abrahmsén-Alami, J.Eastoe, R.K.Heenan, Langmuir, 2003, 19, 18-23.
105. *Microemulsion formation in 1,1,1,2 tetrafluoroethane (R134a)*  
D.C.Steytler\*, M.Thorpe, J.Eastoe, A.Dupont, R.K.Heenan, Langmuir, 2003, 19, accepted July 2003.
106. *Determination of the dynamic surface excess of a homologous series of cationic surfactants by ellipsometry*  
T. Battal, G.C.Shearman. D.Valkovska, C.D.Bain\*, R.C.Darton, J.Eastoe, Langmuir, 2003, 19, 1244-1248.
107. *Frozen dispersions*  
D.C.Steytler\*, B.H.Robinson, J.Eastoe, J.D.Holmes and J.C.Dore. Self-Assembly, IOS Press Amsterdam, Nov.2003. p 112-120. Editor B.H.Robinson.

#### 2004 – eleven refereed publications

108. *Conductivity of mixed surfactant water-in-oil microemulsions*  
A.Bumajdad\* and J.Eastoe, Phys.Chem.Chem.Phys. 2004, 6, 1597-1602.
109. *Light-sensitive microemulsions*  
J.Eastoe\*, M.Sanchez-Dominguez, P.Wyatt, H.Cumber, R.K.Heenan, Langmuir, 2004, 20, 1120-1125.

110. *Adsorption of Ionic Surfactants at an Expanding Air–Water Interface*  
C.D.Bain, R.C.Darton, G.C.Shearman, D.Valkovska, J.Eastoe, Langmuir, 2004, 20, 4436-4445.
111. *Conductivity of water-in-oil microemulsions stabilised by mixed surfactants.*  
A.Bumajdad\* and J.Eastoe, J.Coll.Int.Sci., 2004, 274, 268-276.
112. *Surfactant-Free “Emulsions” Generated by Freeze-Thaw*  
G.R. Burnett, R. Atkin, S.Hicks **J. Eastoe**, Langmuir, 2004, 20, 5673-5678.
113. *UV causes dramatic changes in aggregation with mixtures of photo-active and inert surfactants*  
**J. Eastoe**, M. Sanchez Dominguez, P.Wyatt, A, Orr-Ewing, R.K.Heenan, Langmuir, 2004, 20, 6120-6126.
114. *Hybrid fluorocarbon-hydrocarbon CO<sub>2</sub>-philic surfactants. 1. Synthesis and properties of aqueous solutions.*  
**J. Eastoe\***, A. Dupont, M. Murray, L. Martin, F. Guittard, E.Taffin de Givenchy, R. K. Heenan, Langmuir, 2004, 20, 9953-9959.
115. *Hybrid fluorocarbon-hydrocarbon CO<sub>2</sub>-philic surfactants. 2. Formation and properties of water-in-CO<sub>2</sub> microemulsions.*  
**J. Eastoe\***, A. Dupont, L. Martin, D.Steytler, F. Guittard, E.Taffin de Givenchy, R. K. Heenan, Langmuir, 2004, 20, 9960-9967.
116. *A photo-responsive organogel*  
**J. Eastoe\***, M Sánchez-Dominguez, P, Wyatt. R.K. Heenan, Chem. Comm, 2004, 2608-2609.
117. *Adsorption kinetics of ammonium perfluorononanoate at the air–water interface*  
M. Sekine , R. A. Campbell , D. S. Valkovska , J. P. R. Day , T. D. Curwen , L. J. Martin , S. A. Holt, J. Eastoe and C. D.Bain, Phys.Chem. Chem Phys. 2004, 6, 5061-5065.
118. *Microemulsion-based synthesis of CeO<sub>2</sub> powders with high surface areas and high-temperature stabilities*  
A. Bumajdad, M.I Zaki\*, J.Eastoe and L.Pasupulety, Langmuir, 2004, 20, 11223-11233.

#### **2005 – five refereed publications, one book, three book chapters**

- 119 *Self-assembly in green solvents*  
**J. Eastoe\*** and S.Gold, Phys.Chem.Chem.Phys., 2005, 7, 1353-1362.
- 120 *Photo-stabilised microemulsions*  
**J. Eastoe\***, M. Sánchez-Dominquez, A. Vesperinas, A. Paul, R.K. Heenan and I. Grillo, Chemical. Communications, 2005, 2785-2786.
- 121 *Ionic liquid-in-oil microemulsions*  
**J. Eastoe\***, S. Gold, S.E. Rogers, A. Paul, T. Welton, R.K. Heenan and I. Grillo, J.Am.Chem.Soc, 2005, 217, 7302-7303.
122. *Dynamics of adsorption of cationic surfactants at air-water and solid-liquid interfaces*  
Rob Atkin Julian Eastoe\*, Erica J. Wanless and Colin D. Bain, in “*Dynamics of Self Assemblies of Surfactant and Amphiphilic Block Copolymers: Micelles, Vesicles and Microemulsions*” edited by R. Zana, Surfactant Science Series vol 125, CRC press, Taylor & Francis, Chapter 8 p379-418.
123. *What is so special about Aerosol-OT? Part IV – phenyl-tipped surfactants*  
**J. Eastoe\***, S. Nave, A.Paul, A. R. Pitt and R.K. Hennan, Langmuir 2005, 21, 10021-10027.
124. *Self-assembly of light-sensitive surfactants*  
**J. Eastoe\*** A. Vesperinas, Soft Matter, 2005, 1, 338-347.

125. *Surfactant aggregation and adsorption at interfaces*

J. Eastoe, Chapter 4, p50-74, *Colloid science: principles, methods and applications*, edited T. Cosgrove Blackwell Publishing, Sept 2005. ISBN-10-4051-2673-6.

126. *Microemulsions*

J. Eastoe, Chapter 5, p77-96, *Colloid science: principles, methods and applications*, edited T. Cosgrove Blackwell Publishing, Sept 2005. ISBN-10-4051-2673-6.

127 *Surfactant chemistry*

J. Eastoe, Wuhan Univeristy Press, Wuhan China. ISBN 7-307-04552-4. 183 pages in Chinese and English.

**2006 – fifteen refereed publications**

128 *Photo-responsive surfactants in microgel dispersions*

M. Bradley\*, B. Vincent, N. Warren, J.Eastoe, A. Vesperinas, Langmuir, 2006, 22, 101-105.

129 *Photodestructible vesicles*

**J. Eastoe\***, A. Vesperinas, A-C. Donnewirth, P. Wyatt, I.Grillo, R.K. Heenan, S. Davis, Langmuir, 2006, 22, 851-853.

130 *Electron density matching as a guide to surfactant design*

R.F. Tabor, S.Gold, **J. Eastoe\***, Langmuir, 2006, 22, 963-968.

131 *Alternative non-aqueous water-miscible solvents for surfactants*

C. Seguin, **J.Eastoe\***, R. Clapperton, R.K. Heenan, I.Grillo, Colloids and Surfaces A., 2006, 282-283, 134-142.

132 *Nanotechnology in action: Overbased nanodetergents as lubricant oil additives*

L. K.Hudson, **J. Eastoe\***, P. Dowding, Advances in Colloid and Interface Science, 2006, 123-126, 425-431.

133. *Photo-sensitive gelatin*

A.Vesperinas, **J.Eastoe\***, P.Wyatt, I.Grillo, R.K.Heenan, Chem. Comm. 2006, 4407-4409.

134 *Photodestructible surfactants in micromulsions*

**J. Eastoe\***, Progress in Colloid and Interface Science, 2006, 133, 106-110.

135 *Photo-induced Phase Separation*

**J.Eastoe\***, A.Vesperinas, P. Wyatt, I.Grillo, R.K. Heenan, J.Richards, G.A. Bell, J.Am.Chem. Soc., 2006, 128, 1468-1469.

136 *Fluorosurfactants at structural extremes: adsorption and aggregation.*

**J.Eastoe\***, S.E. Rogers, L.J. Martin, A. Paul, F. Guittard, E. Guittard, R.K. Heenan, J.R.P. Webster, Langmuir, 2006, 22, 2034-2038.

137 *Designed CO<sub>2</sub>-philes Stabilize Water-in-Carbon Dioxide Microemulsions*

J. Eastoe\*, S. Gold, S.Rogers, P. Wyatt, D. C. Steytler, A.Gurgel, R.K. Heenan, X. Fan, E.J. Beckman, R.M. Enick, Angewandte Chemie, 2006, 45, 3675-3677.

138 *Branched Trichain Sulfosuccinates as Novel Water in CO<sub>2</sub> Dispersants*

**J. Eastoe\***, S. Gold, D. C. Steytler, *Colloid and Polymer Science*, 2006, 284, 1333-1337.

139. *Characterization of nano-cerias synthesized in microemulsions by N<sub>2</sub> sorptiometry and electron microscopy*

M. I. Zaki\*, A. Bumajdad, **J. Eastoe**, L. Pasupulety, *Journal of Colloid and Interface Science*, 2006, 302, 501-508.

140. *Surfactants for CO<sub>2</sub>*

**J. Eastoe\***, S. Gold, D.C Steytler, *Langmuir* 2006, 22, 9832-9842.

141. *Unexpected adsorption behavior of nonionic surfactants from glycol solvents*

C.Seguín, **J.Eastoe\***, S. Rogers, M.Hollamby, R.M.Dalgliesh, *Langmuir*, 2006, 22, 11187-11192.

142 *Application of a multi-dentate amphiphilic compound to transfer silver nanoparticles into an organic solvent*

N. Gao, J. Dong, H. Zhang, X.Zhou\*, G.Zhang **J. Eastoe** *Journal of Colloid and Interface Science*, 2006, 304, 388-393.

## **2007–twelve refereed publications**

143. *Recent advances in nanoparticle synthesis with reversed micelles*

**J. Eastoe\***, M. J. Hollamby, L. K. Hudson, *Advances in Colloid and Interface Science*, 2007

144. *Three-Component Microemulsions Formed Using pH-Degradable 1,3-Dioxolane Alkyl Ethoxylate Surfactants*

M E. Rairkar, M. E. Diaz, M Torriggiani, R. L. Cerro, J. M. Harris, S. E. Rogers, **J. Eastoe**, J.A. Gomez del Rio, D. G. Hayes\*, *Colloids and Surfaces A*, 2007, 301, 394-403.

145. *Colloid–polymer mixtures in the protein limit*

K J. Mutch, J. S. van Duijneveldt\* and **J.Eastoe**, *Soft Matter*, 2007, 3, 155–167.

146. *De-Gassed Water and Surfactant-Free Emulsions: History, Controversy, and Possible Applications*

**J. Eastoe\***, C. Ellis, *Advances in Colloid and Interface Science*, 2007 134-135, 89-95.

147. *Controlling aggregation of non-ionic surfactants using mixed glycol media*

**J.Eastoe\***, C. Seguin, R.K. Heenan, I. Grillo, *Langmuir*, 2007, 23, 4199-4202.

148. *Generation of metal oxide nanoparticles in optimised microemulsions*

Ali Bumajdad\*, **Julian Eastoe**, Mohamed I. Zaki, Richard K. Heenan and Lata Pasupulety, *Journal of Colloid and Interface Science*, 2007, 312, 68-75

149. *SANS studies of the effects of surfactant head group on aggregation properties in water/glycol and pure glycol systems*

Caroline Seguin, **Julian Eastoe**, Richard K. Heenan and Isabelle Grillo *Journal of Colloid and Interface Science*, 2007, 312, 714-720.

150. *Surface and Micelle Properties of Novel Multi-dentate Surfactants*

Nan Gao, Jinfeng Dong, Gaoyong Zhang, Xiaohai Zhou, **Julian Eastoe**, Kevin J. Mutch and Richard K. Heenan, *Journal of Colloid and Interface Science*, 2007, 314, 707-711.

151. *Oil-in-water nanoemulsions for pesticide formulations*  
Lijuan Wang, Xuefeng Li, Gaoyong Zhang, Jinfeng Dong and Julian Eastoe  
Journal of Colloid and Interface Science, 2007, 314, 230-235.

152. *Hydrocarbon surfactants for CO<sub>2</sub>: an impossible dream?*  
**Julian Eastoe\***, Sarah Gold and David C Steytler, *Aust. J. Chem.* 2007, 60, 630-632.

153. *Light-induced flocculation of gold nanoparticles*  
Ana Vesperinas, **Julian Eastoe\***, Sally Jackson and Paul Wyatt  
Chem Comm, 2007, 3912-3914.

154. *Glycerol-induced swollen lamellar phases*  
Aihua Zou\*, Heinz Hoffmann, Julian Eastoe, Otto Glatter, Journal of Colloid and Interface Science, 2007, 316, 723-729.

## 2008 – ten refereed publications

[155](#). *Tuning Aggregation of Microemulsion Droplets and Silica Nanoparticles Using Solvent Mixtures*

**Julian Eastoe\***, Alireza Salabat; Kevin J Mutch; Richard F Tabor, Journal of Colloid and Interface Science, 2008, 318, 244-251.

156. *Photo-recovery of Nanoparticles from an Organic Solvent*

**Julian Eastoe\***, Alireza Salabat, Rico Tabor, Kevin Mutch and Ana Vesperinas, Langmuir, 2008, 24, 1829-1832.

157. *Small-angle neutron scattering study of microemulsion-polymer mixtures in the protein limit*

Kevin Mutch, Jeroen Van Duijneveldt, Julian Eastoe, Isabelle Grillo and Richard Heenan, Langmuir, 2008, 24, 3053-3060.

158. *Light-sensitive Lamellar Phases*

Aihua Zou, **Julian Eastoe\***, Kevin Mutch, Ana Vesperinas, Paul Wyatt, Günther Scherf, Otto Glatter and Isabelle Grillo, Journal of Colloid and Interface Science, 2008, 322 611-616.

159. *Nanoemulsions prepared by a two-step low-energy process*

Lijuan Wang, Kevin Mutch, **Julian Eastoe\***, Richard K. Heenan, Jinfeng Dong, Langmuir, 24 2008, 6092-6099.

160. *Photo-labile lamellar phases*

Aihua Zou, **Julian Eastoe\***, Youssef Espidel, Otto Glatter and Isabelle Grillo  
Soft Matter, 2008, 4, 1215-1218.

161. *Effect of solvent quality on aggregate structures of common surfactants*

Martin J. Hollamby, Rico Tabor, Kevin Mutch, Kieran Trickett, **Julian Eastoe\***, Richard K. Heenan and Isabelle Grillo, Langmuir 2008, 24, 12235-12240.

162. *Stabilization of CeO<sub>2</sub> nanoparticles in a CO<sub>2</sub> rich solvent*

Martin J. Hollamby, Kieran Trickett, Ana Vesperinas, Carl Rivett, David C Steytler, Zoe Schnepf, Jon Jones, Richard K Heenan, Robert M Richardson, Otto Glatter and **Julian Eastoe\***, Chem Comm, 2008, 5628-5630.

163. *Formation of Surfactant-Stabilised Silica Organosols*

Rico F. Tabor, **Julian Eastoe**, Peter J. Dowding, Isabelle Grillo and Richard K. Heenan, Langmuir, 2008, 24, 12792-12797

164. *Surfactant based gels*

**Julian Eastoe\*** and Kieran Trickett, *Advances in Colloid and Interface Science*, 2008, 144, 66-74.

**2009**

165. *Reversible Light-Induced Critical Separation*

Rico F. Tabor Richard J. Oakley, Julian Eastoe, Charl F. J. Faul, Isabelle Grillo and Richard K. Heenan, *Soft Matter*, 2009, 5, 178-180.

166. *Testing the Scaling Behavior of Microemulsion-Polymer Mixtures*

Kevin Mutch, Jeroen Van Duijneveldt\*, Julian Eastoe, Isabelle Grillo, Richard Heenan, *Langmuir*, 2008 accepted 09/10/08 la-2008-02488f.R1

167. *Cerium oxide nanoparticles prepared in self-assembled systems*

Ali Bumajdad\*, Julian Eastoe, Asha Mathew, *Advances in Colloid and Interface Science*, 2008 accepted Oct. 2008 doi:10.1016/j.cis.2008.10.004

168. *Fluorocarbon - Hydrocarbon Incompatibility in Micellar Polymerizations*

Sarah Rogers\*, **Julian Eastoe**, Laura Hudson, Sarah Gold, Richard K Heenan, Isabelle Grillo, *Journal of Colloid and Interface Science*, 2009, 330, 437-442.

169. *Design and optimization of a new self-nanoemulsifying drug delivery system*

Lijuan Wang, Jinfeng. Dong\*, J. Chen, Julian Eastoe, X. Li, *Journal of Colloid and Interface Science*, 2009, 330, 443-448.

170. *Ionic Liquid Tunes Microemulsion Curvature*

Jingcheng Hao\*, Lipuin Lui, Pierre Bauduin, Thomas Zemb, Julian Eastoe, *Langmuir*, 2009, la-2008-036378.R1 accepted 22/12/2008.

**B – Research grants**

**1993**

1. SERC (GR/J/79218) *Properties of Fullerenes in Structured Surfactant Phases* - £26,000 plus an ear-marked studentship.
2. Kodak UK helped fund a Ph.D. studentship (1993-96).

**1994**

3. AFRC (F01702) *New Phospholipid Microemulsions* - £100,000 - incl. 2 year Post-Doctoral Researcher. This established a surface laser light scattering facility at Bristol for studying properties of fluid interfaces.
4. EPSRC (GR/K64774) *Dynamics of Surfactant Adsorption* - £72,000 plus earmarked studentship - joint with Dr. Beeby, Chemistry Durham who was also awarded £40,000 and a studentship.
5. EPSRC (GR/K04804) *New Magnetic Surfactant Phases* - £21,000 plus earmarked studentship - joint with Dr. Richardson in Chemistry.
6. Royal Society (13608) *Bilayer Bending Energies* - £10,000.
7. CIBA Trust - Award for Collaboration with Europe - to work with Prof. Ilgenfritz, in Chemistry at the University of Cologne 1994-96 - £3000. CIBA is a chemical company.

**1995**

8. British Council - £3,500 for consumables to support visiting scholar Ms. Dong 1995.

**1996**

9. EPSRC Realising Our Potential Award (GR/K85247) *Interfacial Rheology of Flowing monolayers* - £98,000 - incl. 2 year PDRA - joint with Dr. Reynolds of the Bristol Colloid Centre.

### **1997**

10. EPSRC (GR/L05532) *Water-in-CO<sub>2</sub> Microemulsions* - £168,000 to Bristol including ear-marked studentship - joint with Dr. Steytler in Chemistry at the University of East Anglia, who was also awarded a similar sum.

11. Royal Society (17985) *Liquid Interfacial Tensions* - £10,000.

12. Astra Charnwood - agreed a £3,000 contract for research on novel surfactants.

### **1999**

13. EPSRC (GR/M83780) *Surfactants at expanding liquid surfaces* - £102,329 to Bristol, as part of a £0.3M programme including neutron beam time. This is a joint award with Dr. C.Bain (Oxford).

### **2001**

14. CASE studentship with Kodak to support Laura Martin - £15k

15. CASE studentship with Disperse Technologies to support Stuart Hicks - £20k. A joint project with Prof. T.Cosgrove at Bristol.

16. Glaxo - agreed a £4,500 contract for research on novel surfactants.

17. British Council Alliance collaborative awards with Dr. Guittard University of Nice France - £8000

### **2002**

18. EPSRC ACORN Nanotechnology grant *Polymerisable surfactants* - £100,000

19. Eli Lilly – contract research - £20,000.

20. Krüss Germany – new equipment £20,000

21. University of Kuwait – Nanostructured catalysts. I am a non-resident Co-Principal Investigator on a grant awarded to Dr. Ali Bumajdad; value \$150,000. Although this is not direct income to the University of Bristol, I was instrumental in initiating the project, I helped Dr. Bumajdad write the proposal, and reply to referees comments. In 2004 he spent a 1-year sabbatical in my laboratory working on collaborative aspects of this project. Research paper 118, listed above, is the first publication to arise for this joint grant.

### **2003**

22. Krüss Germany – new equipment £15,000

23. Japan Society for the Promotion of Science - £1,500.

24. Huntsman Surface Science – joint funded studentship - £33,000.

25. Syngenta - joint funded studentship - £39,000

### **2004**

26. EPSRC Industrial CASE PhD studentship with Infineum - £54,000 + £33,000 top-up.

27. Omnova (US coating firm) - £6,000

28. Kodak joint funded studentship - £33,000 – commencing 2005.

29. EPSRC Responsive mode grant *Polymer induced interactions in self-assembled systems* – joint with Dr. Jeroen van Duijneveldt - £90,000.

### **2005**

30. EPSRC *Oxidation of hydrocarbons in supercritical media* – joint with Prof Graham Hutchings Cardiff. £100,000 for Bristol and £100,000 for Cardiff.

31. Jointly-funded studentship with Kodak to fund Martin Hollamby - £33,000

32. Royal Society China fellowship to fund Dr. Aihua Zou - £25,000

## **2006**

33. Jointly funded PhD studentship with Infineum - £33,000. Student Rico Tabor.

## **2007**

34. EPSRC Next Generation Facility Users (EP/F020686) – 4-year project PhD - £120k – July 2007.

## **2008**

35. US-DOE Department of Energy subcontractor grant (US-DOE NETL IAES 8.2.14). In collaboration with Professor Bob Enick – Pittsburgh. \$225,000.

36. Jointly funded PhD studentship with Infineum - £35,000. Student Marios Hatzopolous.

### **Peer review facilities time**

Beam time awarded has steadily risen from 16 days in 1998 to 34 days in 2003. The figures for 2007 and 2006 are 20 days and 22 days respectively, but there was a long refurbishment facilities shutdowns at both ISIS and ILL during these years.

Facilities access is central to my research. I feel it is reasonable to include the value of this beam time, since competitive International peer-review committees award the grants, and these facilities are funded from the UK National Science Budget.

For ISIS experiments this beam time at has been valued using EPSRC “ticket” costs (a method employed from 1997-2001, during which the cost per day rose from £9.6k to £13k). For awards post 2001 the full commercial cost, charged to external companies, has been used (currently £15k).

For ILL experiments this beamtime at has been valued in terms of the equivalent commercial cost charged to external companies (currently £9k)

Based on these nominal values beam time awarded to me has steadily risen in value from £160k in 1998 to £460k in 2003.

33. EPSRC ISIS Neutron Facility Rutherford Appleton Laboratory. Around 300 peer reviewed beam days, with a value over £3.0 M, and £100,000 for consumables have been awarded.

34. Institut Max-von Laue - Paul Langevin, Grenoble, France. 45 beam days valued at approximately £450,000.

35. Synchrotron Radiation Source (SRS) Daresbury 4 beam days. Grants for consumables and travel approximately £3,000.

## Overseas PhD students

In addition, PhD students supported by overseas governments have joined my research group.

### 1997

Kuwait Government - £62k - Mr.A.Bumajdad.

### 2002

Mexican Government - £60k to support M. Sanchez-Dominguez – jointly supervised with Dr. P Wyatt.

### 2007

Malaysian Government - £70k to support PhD studies for A. Lazim.

### 2008

Malaysian Government - £80k to support PhD studies for A. Mohamed.

## Post-doctoral researchers

			destination
Dr. D.Sharpe	BBSRC	1994-1996	
Dr. D.Sharpe	EPSRC	1996-1997	Seagate
Dr. S.Stebbing	EPSRC	1997-1998	Crossfield
Dr. R.Wat	EPSRC	1999-2002	Pharametrics
Dr. G. Burnett	EPSRC	2003-2004	GlaxoSmithKline
Dr. A. Paul	EPSRC	2004-2005	Lectureship at Cardiff
Dr. S. Rogers	EPSRC	2005-2007	Diamond light source
Dr. A. Zou	Royal Society	2006-2007	Lectureship in China
Dr. A. Vesperinas	EPSRC	2007-2008	Imerys

## C - Indications of external recognition

I was awarded the Rideal Medal in 2007. This is a UK national award from the Royal Society of Chemistry and Society for Chemical Industry for “distinction in colloid or interface science”. Previous recipients include Sir Sam Edwards, Professors Everett, Ottewill, Vincent, Helmuth Mohwald and Dominic Tildesley.

## External presentations

I have given over 110 invited research talks and presentations. \* Denotes invited lecture, those not marked are contributed talks.

1.	<i>Conference Presentation</i> – Nanomaterials, Cancun Mexico	Dec	2008
2.	<i>Department Seminars (2)</i> – Chemistry, University of Naples Italy	Oct	2008
3.	<i>Plenary lecture (*)</i> – 19 <sup>th</sup> IUPAC conference on Physical Organic Chemistry Santiago, Spain	July	2008
4.	<i>Rideal Medal lecture</i> – Rideal symposium SCI London	May	2008
5.	<i>Plenary lecture</i> – Indian colloids conference Indian Statistical Institute – Kolkata	Nov	2007
6.	<i>Department Seminar</i> – Chemistry, University of Florence Italy	July	2007
7.	<i>Conference Presentation</i> - American Chemical Society Colloids Division Delaware	June	2007
8.	<i>Inaugural lecture</i> – University of Bristol	May	2007
9.	<i>Conference Presentation</i> – Rideal Medal Lecture Symposium Society for Chemical Industry – London	April	2007
10.	<i>Department Seminar</i> – (*) Chemistry – Queensland University Brisbane	Feb	2007
11.	<i>Department Seminar</i> – (*) ANSTO neutron facility Sydney	Feb	2007
12.	<i>Conference Presentation</i> - (*) Keynote Speaker Australian Colloid and Interface Science conference (ACIS) Sydney	Feb	2007

13.	<i>Conference Presentation</i> - (*) Keynote Speaker Soft Matter conference, Grenoble	Nov	2006
14.	<i>Conference Presentation</i> - (*) Keynote Speaker International Association of Colloid Scientists (IACIS), Beijing	Oct	2006
15.	<i>Scientific Highlight Lecture</i> - (*) Neutron Beam Users' Meeting Rutherford Appleton Laboratory	May	2006
16.	<i>Conference Presentation</i> - (*) Invited Speaker – American Chemical Society National Meeting Atlanta	Mar	2006
17.	<i>Research and teaching lectures</i> (4) – (*) <i>Department Seminar</i> – (*) Chemistry – Kuwait University	Nov	2005
18.	<i>Department Seminar</i> – (*) Physical chemistry, University of Hull	Nov	2005
19.	<i>Department Seminar</i> – (*) Physical chemistry, University of Oxford	Nov	2005
20.	<i>Schools lecture</i> – (*) Royal Institution, London	Nov	2005
21.	<i>Schools lecture</i> – (*) Rutherford Appleton Labs., Oxford	Nov	2005
22.	<i>Schools lecture</i> – (*) University of Bristol	Nov	2005
23.	<i>Department Seminar</i> – (*) Chinese Academy of Sciences, Beijing - China	Oct	2005
24.	<i>Research Seminars</i> (2) – (*) Kamie Manufacturing – Xian, China	Oct	2005
25.	<i>Research and teaching lectures</i> (4) – (*)– Wuhan University – China <i>Department Seminar</i> – (*) Chemistry and 3 postgraduate seminars on Colloid science and presentation skills	Oct	2005
26.	<i>Research presentation</i> – (*) Syngenta, Bracknell	Oct	2005
27.	<i>Research presentation</i> – (*) Huntsman, Birmingham	Oct	2005
28.	<i>Conference Presentation</i> (*) Plenary Speaker 42 <sup>nd</sup> meeting of the German Colloid Society – Aachen	Sept	2005
29.	<i>Conference Presentation</i> (*) Invited Speaker European Colloid and Interface Science conference –Norway	Sept	2005
30.	<i>Conference Presentation</i> - (*) Invited Speaker – European Colloids and Interfaces Conference, Loughborough	July	2005
31.	<i>Department Seminar</i> – (*) Chemistry – Keio University, Tokyo	June	2005
32.	<i>Research presentation</i> – (*) Sisheido Research Centre - Yokohama	June	2005
33.	<i>Conference Presentation</i> - (*) Invited Speaker – American Chemical Society Colloids Meeting Potsdam NY	June	2005
34.	<i>Research presentation</i> – (*) ICI paints, Slough	April	2005
35.	<i>Conference Presentation</i> - (*) Invited Speaker – American Chemical Society National Meeting San Diego	Mar	2005
36.	<i>Conference Presentation</i> - (*) Invited Speaker – Advances in non-aqueous colloids Royal Society of Chemistry London	Dec	2004
37.	<i>Conference Presentation</i> - (*) Keynote Speaker - CNRS Nanoparticles conference Paris	Oct	2004
38.	<i>Conference Presentation</i> (*) Invited Speaker European Colloid and Interface Science conference – Spain	Sept	2004
39.	<i>Department Seminar</i> – (*) Chemistry – Wuhan University – China and 3 postgraduate seminars on Colloid science and presentation skills	July	2004
40.	<i>Research and teaching lectures</i> (4) – (*) China Research Institute for Daily Chemical Industry (RIDCI) Taiyuan China	July	2004
41.	<i>Conference Presentation</i> - (*) Invited Speaker - Structure, properties and applications of surfactants Royal Society of Chemistry London	May	2004
42.	<i>Conference Presentation</i> - (*) Keynote Speaker - Nanoparticles 2004 Orlando	Mar	2004
43.	<i>Department Seminar</i> – (*) Chemistry – Wuhan University – China	Dec	2003
44.	<i>Department Seminar</i> – (*) Zhengzhou University of Light Industry China	Dec	2003
45.	<i>Research and teaching lectures</i> (4) – (*) Zhengzhou University of Light Industry China	Dec	2003
46.	<i>Department Seminar</i> – (*) Physics - University of Kyoto	Oct	2003
47.	<i>Research presentation</i> – (*) Sisheido Research Centre - Yokohama	Oct	2003
48.	<i>Department Seminar</i> – (*) Chemistry - Tokyo Metropolitan University	Oct	2003

\* denotes invited lecture, those not marked are contributed talks

49.	<i>Department Seminar</i> – (*) Chemistry - Tokyo Science University	Oct	2003
50.	<i>Department Seminar</i> – (*) Institute for Solid State Physics - Tokyo Univ.	Oct	2003
51.	<i>Conference Presentation</i> (*) – Keynote Speaker - European Colloid and Interface Science conference – Florence.	Sept	2003
52.	<i>Conference Presentations</i> (2) – International Association of Colloid Scientists (IACIS) Brazil	Sept	2003
53.	<i>Summer school</i> – Unilever Port Sunlight	June	2003
54.	<i>Conference Presentations</i> (2) - American Chemical Society Colloid group meeting two lectures – Georgia Tech. Atlanta	June	2003
55.	<i>Research presentation</i> – (*) Society for Chemical Industry, Founder's Symposium SCI headquarters, London	April	2003
56.	<i>Research presentation</i> – (*) Royal Society of Chemistry "Nanoparticle Systems" Royal Institution, London	Mar	2003
57.	<i>Research and teaching lecture</i> - (*) Royal Institution, London	Mar	2003
58.	<i>Department Seminar</i> – (*) Chemical Engineering, Loughborough University	Feb	2003
59.	<i>Department Seminar</i> – (*) University Pisa, Italy	Dec	2002
60.	<i>Conference Presentation</i> – (*) REFILL conference, Grenoble France	Oct	2002
61.	<i>Research and teaching lectures</i> (4) – (*) China Research Institute for Daily Chemical Industry (RIDCI) Taiyuan China	Oct	2002
62.	<i>Research presentation</i> – (*) Syngenta, Jealot's Hill UK	Sept	2002
63.	<i>Conference Presentations</i> (2) – Surfactants in Solution – Barcelona	June	2002
64.	<i>Department Seminar</i> – (*) University of Sydney, Australia	April	2002
65.	<i>Conference Presentation</i> – (*) Self-assembly conference, Tuscany	April	2002
66.	<i>Conference Presentation</i> – (*) ACS Spring meeting Orlando	April	2002
67.	<i>Department Seminar</i> – (*) - Adelaide University, Australia	Nov	2001
68.	<i>Research presentation</i> – (*) Disperse Technologies, Guildford	Nov	2001
69.	<i>Department Seminar</i> - (*) Massachusetts Institute of Technology Department of Chemical Engineering	April	2001
70.	<i>Tele-conference seminar</i> - (*) University of North Carolina-Chapel Hill and North Carolina State University	April	2001
71.	<i>Conference Presentation</i> - (*) Keynote Speaker - American Chemical Society national meeting - San Diego	April	2001
72.	<i>Research Seminar</i> – (*) Eli Lilly - Indianapolis Indiana	Mar	2001
73.	<i>Department Seminar</i> - (*) University College Cork, Ireland	Mar	2001
74.	<i>Conference Presentation</i> - (*) Keynote Speaker - Nanoparticles 2001 Orlando	Feb.	2001
75.	<i>Conference Presentation</i> - (*) Workshop on Fluorinated Surfactants sponsored by the US Army Research Office, Avignon, France	Jan.	2001
76.	<i>Department Seminar</i> - (*) University of Hull	Dec	2000
77.	<i>Conference Presentation</i> - (*) Workshop on Decontamination sponsored by the US Army Research Office Jackson Hole, Wyoming	Oct	2000
78.	<i>Conference Presentation</i> – (*) Plenary Speaker – Fast Reactions in Solution Group Royal Society of Chemistry, University of Durham	Sept	2000
79.	<i>Seminar</i> - research presentation to University of Bristol Convocation	July	2000
80.	<i>Conference Presentation</i> – (*) Keynote Speaker - Surfactants in Solution, University of Florida	June	2000
81.	<i>Conference Presentation</i> - (*) Keynote Speaker – COSMO2000, Amman, Jordan	June	2000
82.	<i>Conference Presentation</i> – (*) meeting of Recent Appointees in Polymer Science held at Unilever Port Sunlight, UK	April	2000
83.	<i>Conference Presentation</i> – (*) Royal Society of Chemistry meeting Adsorption to Interfaces Univ. Surrey	April	2000
84.	<i>Conference Presentation</i> – (*) Society for Chemical Industry symposium (Founder's Lecture) London	April	2000
85.	<i>Conference Presentation</i> – (*) Keynote Speaker - European Colloid and Interface Science conference – Dublin Ireland	Sept	1999
86.	<i>Conference Presentations</i> (2) - American Chemical Society Colloid group meeting Massachusetts Institute of Technology	June	1999

87.	<i>Conference Presentation</i> (*) "Infineum Industry-Academic Conference" - Oxford	April	1999
88.	<i>Conference Presentation</i> (*) "Scattering Techniques" - Society for Chemical Industry London	Mar	1999
89.	<i>Royal Society of Chemistry Lecture</i> (*) - Cardiff University	Jan	1999
90.	<i>Conference Presentation</i> - Royal Society of Chemistry Colloid and Interface Science Group Meeting "Novel Surfactants" North East Wales Institute Wrexham	Sept	1998
91.	<i>Departmental Seminar</i> - (*) Imperial College, Chemistry, London	May	1998
92.	<i>Departmental Seminar</i> - (*) Nottingham, Chemistry	Mar	1998
93.	<i>Departmental Seminar</i> - (*) Bath, Chemistry	Mar	1998
94.	<i>Departmental Seminar</i> - (*) University College London, Physics	Oct	1997
95.	<i>Scientific Highlight Lecture</i> - (*) 1997 Neutron Beam Users' Meeting Rutherford Appleton Laboratory	Sept	1997
96.	<i>Conference Presentation</i> - Royal Society of Chemistry Colloid and Interface Science Group Meeting "Polymers and Surfactants" North East Wales Institute Wrexham	Sept	1997
97.	<i>Conference Presentations</i> (2) - American Chemical Society Colloid group meeting University of Delaware Newark Delaware	July	1997
98.	<i>Departmental Seminar</i> - (*) Oak Ridge National Laboratory - Tennessee	July	1997
99.	<i>Group Seminar</i> - University of North Carolina Chapel Hill	June	1997
100.	<i>Departmental Seminar</i> - (*) Rutherford Appleton Laboratory ISIS	June	1997
101.	<i>Scientific Highlight Lecture</i> - (*) 1996 Neutron Beam Users' Meeting Rutherford Appleton Laboratory	Sept	1996
102.	<i>Conference Presentation</i> - 11 <sup>th</sup> International Surfactants in Solution Jerusalem	June	1996
103.	<i>Departmental Seminar</i> - (*) Southampton, Chemistry	March	1996
104.	<i>Conference Presentation</i> - International Symposium on Micelles, Florida	Aug	1995
105.	<i>Evening Lecture</i> - (*) Society for Chemical Industry at London HQ	Dec	1994
106.	<i>Conference Presentation</i> - (*) "New Physico-Chemical Techniques in Food Science" Leeds University	Sept	1994
107.	<i>Departmental Seminar</i> - (*) Max-Planck Institute for Colloid and Surface Science - Berlin	July	1994
108.	<i>Departmental Seminar</i> - (*) University of Cologne - Chemistry	July	1994
109.	<i>Departmental Seminar</i> - University of Bristol - Chemistry	Dec	1993
110.	<i>Conference Presentation</i> - Royal Society of Chemistry Colloid and Interface Science Group Meeting "Pure and Applied Aspects of Surfactant Behaviour", Strasbourg	April	1993
111.	<i>Departmental Seminar</i> - (*) Rutherford Appleton Laboratory ISIS		1992
112.	<i>Conference Presentation</i> - 8 <sup>th</sup> International Surfactants in Solution, Florida	June	1990
113.	<i>Conference Presentation</i> - NATO Advanced Study Institute on Colloidal Systems, Aberystwyth	Sept	1989
114.	<i>Conference Presentation</i> - Reversed Micelles Workshop, Wageningen Netherlands	Mar	1989
115.	<i>Departmental Seminar</i> - (*) Ramkhamhaeng University, Bangkok, Thailand	Jan	1989

In addition, my PhD students and Post-Docs have regularly made oral contributions at International conferences, including recently American Chemical Society Colloid group meeting Boulder 2006, International Association of Colloid Scientists (IACIS) Brazil Sept. 2003 and Bristol 2000; Surfactants in Solution, University of Florida June 2000; American Chemical Society Colloid group meeting - Massachusetts Institute of Technology June 1999. I expect that all of my students attending research conferences present at least a poster: over 50 such presentations have been made.

I have been invited to chair sessions at International conferences, recently Conferences in India, Australia (both 2007), IACIS in China (2006), ACS National and Group meetings (Georgia 2003, San Diego 2002, Delaware 1997), European Colloid and Interface Scientists meetings (Florence 2003), a CNRS-sponsored conference (Paris 2004) and the XVIIth European Chemistry at Interfaces Conference in 2005.

## Ph.D examinations

External	20		
T. Darmanin	Nice France	Dec	2008
M.Cote	Cardiff	Nov	2008
Y.Feng	Oxford (M.Sc. exam)	Dec	2007
L.Cailler	Nice France	Dec	2007
P. Taylor	Hull	June	2005
K.Wilkinson	Oxford	Nov	2004
M.Porter	Hull	May	2004
M.Wright	UEA Norwich	May	2004
M.Wan	Melbourne Australia	April	2004
A.Cheung	Cardiff	Oct	2003
A.Jackson	Oxford	Sep	2003
K.Flook	Durham	Mar	2003
R.Atkin	Univ. Newcastle, Australia	Sept	2002
J-P Curtois	Univ. Surrey	July	2002
H.Gazzaz	UEA Norwich	June	2001
N.Warren	Oxford	July	1999
A.Hussain	Imperial College	June	1997
R.Thompson	Hull	April	1997
M.Johal	Cambridge	Jan	1997
B.J.Khoo	Imperial College	May	1996

Internal	20		
Y Zhang		Sept	2008
P.Davies		April	2008
C. Galviani		Dec	2007
E. Stattersfield		July	2005
W. Tawepreedra		July	2005
Y.Hennequin		July	2004
G Pastor Moreno		Sept	2002
A.Parker		Nov	2001
J.Joseph		Nov	2001
E.Kaneva		Oct	2001
M.Lei		Jan	2001
N.Jenkins		Nov	2000
M.Chadwick		Mar	1999
S. Calpin-Davies		Nov	1998
A.Loxley		June	1998
D.Teare		Dec	1997
S.Froggatt		Nov	1997
I.M.Hedgecock		July	1994
M.Ito			1994
M.J.Lloyd		March	1994

## Overseas visitors

J.Dong	P.R. China	1995-1996
T.K.Sen	India	1998
S.Yamamoto	Nagoya Univ. Japan	1998
Z.Du	P.R. China	1999-2000
E-O.Alami	Chalmers Univ. Sweden	1999-2000
K.Debbadi	Univ. Nice France	2002
C.Jansyk	Univ. Nice France	2003
A.Bumajdad	Kuwait University	2003-2004
R.Grilli	Perugia University	2004
A-C. Donnawirth	Lyon University	2005
A. Zou	South Eastern University China	2006-2007
M. Mendez Perez	Spain	2006-2007
Alireza Salabat	Iran	2007-2008
Lijuan Wang	P.R.China	2007-2008
Clayton Radke	UC Berkely	2007

## **D – Future plans**

I intend to develop colloid chemistry to meet 21st Century challenges: versatile, and economically viable green solvents (ionic liquids and CO<sub>2</sub>), stabilisation in partially-fluorinated pharmaceutical grade solvents, pH and light-responsive delivery systems, self-assembled templates for applications in nanotechnology. This will draw on my chemical creativity to identify and obtain new interfaces and stabilisers, as well as guide others to achieve these research goals. To further these research programmes I will also lead developments at UK and International facilities by innovating applications of neutron scattering. For example, optimised sample environment such as high-pressure, stopped-flow, temperature-jump and flash photolysis cells.

For the research activities to grow it will be necessary to seek income from a variety of sources. The intention is to strengthen and expand the existing relationships listed above, and develop collaborations with other companies. These interactions will form the foundations for Research Council-Industry schemes, such as ACORN and Faraday partnerships. I recognise that a strong international profile for my research will also help ensure an increased flow of high quality personnel, and funds from overseas Governments and agencies.

## **7. Teaching**

The main teaching achievements, demonstrated by the award of the Wharton Prize (1999), are to deliver lectures with coherence and clarity, enthusiasm and energy.

### **Undergraduate and taught postgraduate units in Chemistry**

Extensive back-up material is provided to facilitate the students' understanding. For each separate course I prepare a hand-out containing a justification, summary, numbered figures, reading references, workshop/tutorial questions and revision questions. This material appears on the OHP during the course, and the numbered diagrams are linked in to the lecture notes, which I write up live on the visualizer projector. These lecture notes are then scanned in to form pdf files, which are made available to the students on the "Blackboard" webpages for future reference. In addition to hand-outs, I have also produced back-up texts for all of the courses; these contain detailed the explanations and workings, being also available on "Blackboard".

Units in years 2 and 3 are supported by workshop sessions (6 x 50 min per course).

In addition I am involved in the weekly 2nd year and 3rd year Physical Chemistry Problem Classes – a recent innovation aimed at improving problem-solving skills.

### **Innovatory units or teaching methods**

Document "Good Teaching Practice in the School of Chemistry"

During 1998-99 I chaired a Working group, and authored an 11-page document, identifying good teaching practices across the undergraduate programme in the School of Chemistry. In 2003 I have revised and updated this document, which is now available on the local chemistry intranet.

### **Web-based multiple choice questions**

In support of year 1 lectures (kinetics) a set of multiple-choice questions were posted on the local TAL web-page. These questions were of similar format to one half of the end of year examination: incorrect attempts are offered a hint, to prompt the correct answer. Hence, they were not only a revision aid, but also provided training in "exam technique".

### **Memory aids**

Earlier on in my Academic career, I was troubled that many students could not identify or recall certain equations that were central to the courses. It seemed that there was a lack of familiarity with these concepts, despite their cyclical use throughout the lecture/workshop units. As a test, I made up white T-shirts, bearing one of these equations on front and back, and wore the garments whilst lecturing. This unconventional method appeared to work, by constantly reminding the students of the key equations, their recall seemed to have measurably improved (especially in workshops and during examinations).

## Practicals

I put special effort into the laboratory classes. I am responsible for one of the 2nd year practicals in the CETL ChemlabS for Physical Chemistry (Chemical Kinetics). Each week I spend about one hour on an introductory talk, checking on the progress of the experiments, and giving a debriefing session to the group at the end of the day. The aim is to illustrate the close links between the experiment and its background theory.

## Undergraduate and taught postgraduate units in Chemistry

year	title	lectures	contact hours	students	dates
3rd	Self-Assembly	6	12	120	1994-2008
2nd	Chemical Kinetics	6	12 + 24 lab.	180	1994-2007
2nd	Chemical Equilibria	6	12	180	1998-2002
1st	Kinetics	6	6	300	1995-2008
1st	Tutorials	24		12	1994-

## Postgraduate courses

M.Sc. Surface Chemistry and Colloids (1993-99)

title	lectures	contact hours	students	dates
Self-assembly systems	6	6	10	1993-1999
Thin films	6	6	10	1993-1999

## Postgraduate School of Chemistry (2000-2007)

Adsorption and aggregation of surfactants	4	4	10	2000-2007
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## Major teaching responsibilities in previous years

year	title	lectures	contact hours	students	dates
1st	Maths 1S (1994-96)	10	10	20	1994-6

## Contributions to continuing professional development

- Bristol Spring School in Colloid Science (1994-2006 annually)

unit title	lectures	delegates
Surfactants	1	25-30 normally
Emulsions and Microemulsions	1	25-30
- Lecturer on Industrial courses given in the School by the Bristol Colloid Centre

1994	Emulsions and Foams
1994	Surfactants and Wetting
1997 and 1999	Total Colloid Stability
2002	Fluid interfaces – awareness day
2004	Members' awareness forum
- Lecturer on an internal training course at Unilever Port Sunlight. June 2003.
- Lecturer on course Surface Chemistry for Kruss GmbH. June 2001 and April 2006.
- Lecturer on Colloid Science and Pharmaceutical Formulations an in-house course for Vectura a local SME at the University of Bath. May 2001.
- Lecturer on course School of Industrial Surface Chemistry for Camtel Ltd. Oct. 1999.
- Lecturer on a short course called Particle Sizing and Surface Characterisation held at UEA Norwich UK June 1995.

## Post-graduate supervision

To date I have been responsible for supervising 30 PhD students. Half of these (15) have been female, and over one third (11) have been recruited from overseas.

Ph.D. students	funding		status	first destination
P.G.A.Rogueda <sup>+</sup>	Kodak	1993-96	graduated Feb 1997	Astra Zeneca
E.R.Crooks <sup>○</sup>	EPSRC earmarked	1994-97	graduated July 1998	Thorn EMI
K.J.Hetherington <sup>*</sup>	EPSRC quota	1994-97	graduated July 1998	Unilever
J.Dalton <sup>*</sup>	EPSRC earmarked	1995-98	graduated July 1999	Post-doc ECC
B.Warne <sup>+</sup>	EPSRC earmarked	1995-98	graduated Feb 2000	Nanomagnetics
A.Bumajdad <sup>○</sup>	Kuwait Govt.	1996-99	graduated Feb 2001	Univ. Kuwait
A.Downer <sup>+</sup>	EPSRC CASE - Kodak	1996-99	graduated Feb 2001	PDRA Durham
A.Paul <sup>○</sup>	EPSRC earmarked	1997-2000	graduated Feb 2002	PDRA Cardiff
A.Rankin <sup>*</sup>	EPSRC quota	1997-2000	graduated July 2002	computing
S.Nave <sup>○</sup>	University scholarship	1997-2000	graduated Feb 2002	Astra Zeneca
M.Summers <sup>*</sup>	EPSRC quota	1998-2001	graduated Feb 2003	nuclear industry
A.Dupont <sup>+</sup>	University scholarship	2000-2003	submitted Oct 2003	Patent Attorney
M.Sanchez Dominguez <sup>○</sup>	Mexican Govt.	2000-2003	graduated Feb 2004	CNRS PDRA
L.Martin <sup>*</sup>	EPSRC CASE – Kodak	2001-2004	joint with Dr. P.Wyatt	
S.Hicks <sup>○</sup>	EPSRC CASE		graduated July 2006	Durham Council
	Disperse Technologies		joint with Prof. T.Cosgrove	
S.Rogers <sup>*</sup>	EPSRC	2002-2005	graduated July 2005	Accountancy
C.Seguín <sup>○</sup>	Huntsman/Chemistry	2003-2006	graduated July 2006	Diamond light source
S.Gold <sup>○</sup>	DTA	2003-2006	graduated July 2007	Sun chemical
A.Vesperinas	DTA/Syngenta	2004-2007	graduated Feb 2008	Astra Zeneca
L.Hudson <sup>○</sup>	EPSRC industrial CASE	2004-2007	graduated Feb 2008	post-doc
M.Hollamby	Kodak/Everett grant	2005-2008	fourth year writing up	Lubrizol
K.Mutch <sup>○</sup>	EPSRC	2005-2008	third year	
			third year	
			joint with Dr. J vanDuijneveldt	
K.Trickett <sup>○</sup>	Everett scholarship	2006-2009	third year	
R.Tabor <sup>*</sup>	Infineum/DTA	2006-2006	third year	
A.Lazim <sup>○</sup>	Malaysian government	2007-2010	second year	
C.Galvani	Transfer from J Riley	2006-2007	graduated Feb 2008	
O.Myakonkaya <sup>○</sup>	ORS/Self-funded	2007-2010	second year - upgrade from M.Sc.	
A.Mohamed <sup>○</sup>	Malaysian government	2008-2011	first year	
S.Cummings	EPSRC	2008-2011	first year	
M.Hatzopolous	Infineum/DTA	2008-2011	first year	

○ - first degree from another University – recruited from outside Bristol

+ - recruited from the Bristol M.Sc. in Colloid Science, but with a first degree from another University

\* - previously carried out an undergraduate research project at Bristol under my direction

I am currently second assessor to five other Ph.D. students

**M.Sc. students** - supervision of summer projects and research theses for the Colloids M.Sc.

1993	P.G.A.Rogueda, S.R.Chatfield
1994	A.R.Cox, S.Stebbing, D.Crichton examiner for T.Comyn
1995	Z.Bayazit, A.Lodhi, B.Cazelles
1996	A.Bumajdad, A. Hale
1997	M.Eskici
2006	S.Jain – self-funded – India
2007	O.Myakonkaya – self-funded – Russia (see above, progressing to PhD)

I have acted as second assessor for more than ten other M.Sc. students at the University of Bristol.

## **Undergraduate students**

Like most research group leaders in the School of Chemistry I supervise an average of 3 undergraduate research projects per year. Hence, I have been responsible for research training of around 50 students. Seven of these have stayed on in my group as PhD students.

## **8. Academic leadership and citizenship.**

### **A - Academic leadership in the discipline**

My achievements in academic leadership demonstrate that I have gained a high degree of respect from the broader scientific community outside of Bristol. This is best exemplified by the first two points below. Significantly, my affiliation with the University of Bristol appears in every addition, on the cover sheets, in both of these most important international Colloid Science journals. Therefore, my knowledge and expertise of colloid science makes a constant and highly visible contribution towards the international research profile of the University of Bristol.

### **Editorships and editorial boards**

From Jan 2006 I have been a co-editor on *Journal of Colloid and Interface Science*. This is high profile international job, which maintains Bristol's prominent position as a beacon of excellence, and a guardian the discipline. None of the other recent Bristol professors of Colloid Science have held such a high profile Editorship position. I handle over 300 manuscript submissions per year. I take a significant role in driving changes and improvements in the journal.

Elected member of *Langmuir* editorial board since Jan 1997. *Langmuir* is the American Chemical Society journal for Colloids and Surfaces, and based on the citations index it is now the premier Physical Chemistry journal. I have been invited to perform this duty for a fourth successive three-year term.

From 2003-2005 I served on the editorial board, as the local UK co-ordinator, for the international journal *Colloid and Polymer Science*.

### **Reports and advisory roles to external/government panels**

In July 2005 I was commissioned by CCLRC, with two other Professors (Helliwell, Manchester and McEwan, UCL) to prepare a report on "The potential of neutron scattering to enhance research training in the UK". This will contribute towards a major bid for a new generation neutron scattering centre in UK, and was assessed by the UK Minister for Science and Innovation.

In 2003 was tasked with "championing" bids for new instrumentation at the Target Station II project for the ISIS facility Rutherford Appleton Laboratories. This is a £100M programme (announced spring 2003) to provide optimised neutron beams, which can be employed in colloid and interface science. The small-angle neutron scattering instrument SANS2b (£3-4M), one for which I was champion, was identified as one of four top priority instruments from the possible list of eleven different bids.

From 2004 I have been on the annual international medal jury for the colloid division of the American Chemical Society.

In 2000 was invited by the Irish Government agency Enterprise Ireland to assess the first four year phase of the Irish Centre for Colloids and Biomaterials. This work involved visiting the two main research centres, in Dublin and Belfast, and preparing a detailed report (~ 30 pages) evaluating the work of the groups.

Between Jan 1998 and Jan 2001 I was on an International scientific panel for deciding on beam-time applications to the Institut Max-von-Laue Paul-Langevin neutron facility in Grenoble, France. Two meetings a year in Grenoble, ~ 100 proposals a time.

Invited member of the “Large-scale structures” neutron beamtime proposal selection committee at ISIS, Rutherford Appleton Laboratory UK. (June 2002 – June 2004). This involves similar workload as described above.

I am a member of the management board of the UK Isotope Facility for Scattering from Soft Condensed Matter Systems, to manage the provision of specialist chemical samples to the UK scientific community (2008-2012). This facility was granted £0.5M from EPSRC and CCLRC (now STFC), for which I was a co-proposer (PI's Prof Jeff Penfold and Dr. Robert Thomas, Oxford).

Elected member of EPSRC peer Review College from Jan. 1997-2002, and again from 2005. I am also a referee for American Oil Chemists' Society, Medical Research Council, Enterprise Ireland, Research Council of Norway and Leverhulme Trust grant applications.

### **External examining duties**

I have served as external examiner in Physical Chemistry at the University of Hull UK (2005-2008).

I have been appointed as external examiner in Physical Chemistry at the University College Cork (2008-2011).

I was appointed a jury member for PhD theses at the University of Nice in Dec 2007 and Dec 2008.

Non-visiting External Examiner in the Department of Chemistry, University of Malta. June 1997.

External PhD examinations are listed above.

### **Visiting professorships and fellowships**

I have been appointed Visiting Professor at Kuwait University from November 2005.

In Oct 2002 I was made Visiting Professor in surfactant science at the China Research Institute for Daily Chemical Industry (RIDCI) Taiyuan China, and at the University of Wuhan China in Dec 2003.

I was Visiting Professor in surfactant science at the Zhengzhou Institute for Chemistry, China in Dec 2003.

In October 2003 held a visiting fellowship from the Japan Society for the Promotion of Science to visit groups in Tokyo, Kyoto and Nagoya.

### **Refereeing for journals**

I have refereed over 500 academic papers to date, mainly for *Science*, *Journal of the American Chemical Society*, *Langmuir*, *Journal of Physical Chemistry*, *Colloids & Surfaces* and *Royal Society of Chemistry* publications.

## **B - Academic leadership in the University**

### **Director of International Affairs**

From October 2005 I have been Director of International Affairs in the School of Chemistry. This role is to promote the International Profile, by raising awareness of research and training excellence of the School of Chemistry. Goals are to increase the quality and number of overseas students signing up for post-graduate and undergraduate degree programmes, and to capitalize on opportunities for international grant income and research output.

In 2006 I established an International Advisory Panel (IAP). I have steadily increased the number of IAP members to 19. This group comprises internationally recognised experts in chemistry research and higher education. The purpose of this IAP is to advise SoC about international affairs relating specifically to their geographical region.

In October 2006 I helped organize and deliver overseas Schools outreach events in Wuhan China, in collaboration with other School of Chemistry staff (Prof. Dudley Shallcross, Mr. Tim Harrison).

In November 2007, piggy-backed on to a conference trip, I visited schools on New Delhi and Kolkata. As a result CETL ChemlabS outreach activities and links with these schools will begin in 2008 (Tim Harrison will visit). There is now a strong possibility to receive a group of gifted chemistry students in Bristol from the Sanskriti School New Delhi in late summer 2008.

## **Kruss Surface Science Centre**

As of October 2008 I have established in the School of Chemistry at the University of Bristol a new instrument suite as a result of my collaboration with Kruss GmbH, a German manufacturer of instrumentation for surface science analysis. This facility, the *Kruss Surface Science Centre*, provides free at the point of use access to state-of-the art equipment, as well as training and support for its use to researchers in the University.

## **Open day lecture**

As part of my work on Chemistry Admission committee from 1999-2002 I was responsible for delivering a general interest chemistry lecture on University Preview Day. The lecture was on *Films, Foams and Swarming Molecules*, supplemented by plenty of live displays, which include a Boy-in-a-bubble trick and a full-screen projection of nematic liquid crystals viewed through a polarising light microscope.

**Mentor** At his request I took on the role of 'Teaching Mentor' for a new staff member Dr. van Duijneveldt Sept. 1997.

**Interview panels** In Dec. 1999 I was a member of an interview panel charged with appointing a Reader in Physical Chemistry. In Jan 2007 I was on an interview panel for appointing a Lecturer/Reader in Physical Chemistry.

## **C - Professional activities outside the University**

There are numerous important external administrative and management tasks I am/have been responsible for. These activities are documented above, and below, being essentially research-oriented, and demonstrate that my expertise is widely sought by external bodies.

External Society for Chemical Industry - Bristol section committee 1993-1997.  
*Colloid and Surface Chemistry* national group committee  
from summer 1998 to 2001.

## **Conference organisation**

I am on the scientific organizing committee for the European Colloid and Interface Science (ECIS) Conference at Antalya Turkey 2009. (~ 500 delegates).

I am on the local organizing committee International Conference on Small-Angle Scattering – Oxford (SAS) Sept 2009.

I am an invited member of the scientific steering group for the major international conference on my discipline "Surfactants in Solution", Berlin August 2008.

I was on the Scientific Organizing committees of "International symposium on recent trends in colloid and surface science" to be held November 15-16, 2007 in India, and "Formula V", held November 19-22 2007, Berlin.

I was on the local organising committee for the XVIIth European Chemistry at Interfaces Conference at Loughborough, 2005. (~ 120 delegates)

I was on the scientific organising committee for an international conference *Self-assembly: the future* held in Tuscany, Italy April 2002. This involved fund-raising (Army Research Office – USA, EU and ACS), and arranging the scientific programme consisting of talks for 60 or so international scientists. A book of the proceedings from this conference was published in late 2003.

I was on the local organising committee, responsible for the scientific programme, for the International Association of Colloid and Interface Scientists meeting in Bristol in July 2000. The meeting attracted around 700 delegates.

I organised the Society for Chemical Industry's 2000 Founder's Lecture Mini-symposium at Imperial College London April 2000.

In September 1999 I was asked by EPSRC to organise and chair the Large Scale Structures session of the annual meeting of UK Neutron Users, which was held in the University of Durham.

I organised a workshop on *Colloid Synthesis and Characterisation* in Bristol (1998) for CERC3 (Chairmen of European Research Councils' Chemistry Committees). This involved participation of 30 young scientists from throughout Europe, who were sponsored by their respective Governments.

In 2007 I instigated a south west region colloids conference, "M4 colloids". This symposium is an informal, friendly meeting between colloid science and interfacial science research groups from the universities of Cardiff, Bath and Bristol. The conference is financially self-supporting; in 2007 it attracted about 60 attendees, and in 2008 it was expanded to include groups from Oxford and King's College London. An event will be held in Cardiff in July 2009. I have delegated aspects of administration and publicity to a group of hand-picked PhD students, one from each university: the idea is that they can take ownership of the meeting, and gain valuable organization experience. A key aim is the fostering of a friendly environment for open, scholarly discussion and stimulation for new ideas in colloid science and interface science research.

I have chaired sessions at International conferences, recently Conferences in India, Australia (both 2007), IACIS in China (2006), ACS National and Group meetings (Georgia 2003, San Diego 2002, Delaware 1997), European Colloid and Interface Scientists meetings (Florence 2003), a CNRS-sponsored conference (Paris 2004) and the XVIIth European Chemistry at Interfaces Conference in 2005.

### **Expert witness**

From June 2008 I have been acting as an Expert Witness in a Patent contest case concerning Colloidal Pharmaceutical Formulations. This involves scrutiny and criticism of scientific evidence, as well as design, execution and interpretation of my own experiments to test the formulations for infringements.

### **D - Community, public engagement and widening participation activities**

In Nov 2005 I delivered a schools lecture in the Faraday Lecture theatre at the Royal Institution in London. The aim of the lecture is to inspire younger scientists to choose a career as a research chemist.

"The secret chemistry of the mobile phone" is a 1-hour presentation, appropriate for 6<sup>th</sup>-form audiences, written with and given jointly with Dr. Jason Riley (ex School of Chemistry, now of Imperial College). The presentation was first given in March 2004, and will be rolled out to local schools and colleges in the coming years. In 2005 we gave this lecture at the Rutherford Appleton Laboratories (twice in November). The lecture will be given in the School of Chemistry in March 2008.

During Science Week in 2003 I lectured on "Chemistry in Action" to 300 sixth form students in the Faraday Theatre at the Royal Institution. This presentation was in the broad area of Nanotechnology, included numerous demonstrations with audience participation.

During National Chemistry Week, in Nov. 2001 I gave a presentation on issues in modern Chemistry to 1000 pupils at Bristol Grammar School during morning assembly.

I have lectured to Bristol science pupils on open days in the School of Chemistry under the "Young and Gifted Scheme" in 2002 and 2003.

Starting in 1995 my research group has regularly contributed a 'live' display to the Science to the People exhibitions held in the Bristol Galleries shopping centre (SET95, SET96, SET98 and SET 2000, SET 2002). In the 2002 exercise my research group, demonstrating "mega bubble" blowing, appeared in a photo feature in the local Bristol Evening newspaper.

I have made "science day" presentations at a local Bristol School (Ashley Down Infants/Juniors).

## Appendix

### The 1999- 2000 Clifford Wharton Prize – Citation

Julian Eastoe is this year's winner of the Clifford Wharton prize for excellence in teaching in the School of Chemistry. This prestigious prize is awarded mainly on the basis of student feedback, especially through the questionnaires. This year Julian has given four Honours lecture courses, one Chemistry 1S course plus two MSc taught courses in Colloid Science, all given with typical enthusiasm and thoroughness. He has given the same commitment to his Chemistry 1A tutorials, workshops and laboratory sessions. He has achieved outstanding questionnaire results this year, building on previous excellence.

His enthusiasm for his subject is made abundantly clear in all his teaching activities; he is forever producing new ideas, changing his approach and teaching material accordingly. He expects the same commitment from the students. He is a great populariser of chemistry. He is to be seen at the forefront on preview days with a general interest lecture, or blowing soap bubbles in the quadrangle; or he can be seen up to his armpits in colloidal slime at public displays in the Galleries (Shopping Mall).

Julian is an enthusiastic member of the Teaching Committee and of the Teaching Advisory Board. Recently he and several colleagues produced a valuable Guideline for Good Teaching Practice in the School of Chemistry. The aim of this ongoing document is to set and improve teaching standards within the School. Julian has proved to be a good mentor to some of his less experienced colleagues.

Julian's nomination for the award has been heartily endorsed by the students on the Staff/Student Liaison Committee.

Many congratulations to Julian: the award and cheque for £500 will be presented at the beginning of the new teaching year in October.

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