CONFERENCE PROGRAM - 5th Australian-Korean Rheology Conference, 1-4Nov 2009, Sydney

Sunday, 1 Nov 6pm~ Evening Cocktail Reception- Nicholson Museum, Main Quadrangle, University of Sydney

Monday, 2 Nov - 8.30am~ Registration at 'Veterinary Science Conference Centre', University of Sydney

(morning coffee/tea available 8:30am - 9:00am)

	Webster theatre	*WP Young room*
9:00	Welcome Remarks (B. Todd, P. Griffin)	
9:10	**M. Kröger (Plenary Lecture)** *Rheology & structure of simple complex matter*	
	Micro-Macro Rheology A (chair R Gupta)	**Numerical Methods A** (chair B Todd)
9:55	**K.H. Ahn** *Heterogeneity of complex fluids in different length scales*	**Y.D. Kwon** *Numerical Modeling of Time-Dependent Highly Nonlinear Viscoelastic Flow with Inconsistent Time Integration and Decoupling*
10:15	**S.J. Park** *Long-Chain Dynamics of Binary Blend of Linear Polymer*	**S.C. Xue * and G.W. Barton** *A Pressure-Based Finite Volume Method Employing Unstructured Grids for Viscoelastic Flow Problems*
10:35	**COFFEE/TEA**	
11:00	**P.T. Slatter*, R. Haldenwang & R.P.Chhabra (Keynote Lecture)** (chair R Gupta) *The Laminar/Turbulent Transition for Sheet Flow*	
	Micro-Macro Rheology B (chair R Gupta)	**Numerical Methods B** (chair B Todd)
11:30	**Y. K. Wong and R. Prabhakar** *Can Closure Approximations Predict the Slow Dynamics Associated with Coil-Stretch Hysteresis in Dilute Polymer Solutions?*	**D. Kittipoomwong*, H. See & N. Mai-Duy** *Dynamic Simulation of Rod-like Particulate Suspensions*
11:50	**A. Ushida*,T. Hasegawa,T. Narumi &S. Kudou** *Reduction in Pressure Drops of Some Kinds of Fluids Flowing out of Micro-orifices*	**N. M. S. Hassan, M. M. K. Khan and M. G. Rasul** *CFD Modelling of Bubble Trajectory in non-Newtonian Crystal Suspension*
12:10	**R. Subramanian** *Optical Rheology of a Viscoelastic Polydimethylsiloxane in Jeffrey-Hamel Type Flow*	**K. Le-Cao*, C.-D. Tran , N. Mai-Duy & T. Tran-Cong** *Direct Simulation Of Two-Dimensional Particulate Shear Flows Using Radial Basis Functions*
12:30	**LUNCH (AT CONFERENCE CENTRE)**	
1:15	**Y.W. Mai (Keynote Lect)** (chair A Jabbarzadeh) *Processing, Microstructure and Mechanical Properties of Polymer/Clay Nanocomposites*	
	Micro-Macro Rheology C(chair A Jabbarzadeh)	**Numerical Methods C** (chair R Prabhakar)
1:45	**T. Narumi*, M. Ouchi, M. Takashima, T. Hasegawa and T. Takahashi** *Gap Size Effect on Deformation Behavior of DNA Polymers in Micro Channels*	**D. Chakraborty*, M. Pasquali & J. Ravi Prakash** *Influence of Viscoelasticity on Flow in a Two-dimensional Collapsible Channel*
2:05	**T.T. Pham and J. Ravi Prakash*** *Polymer Chains In A Poor Solvent Subjected To Extensional Flow*	**X-J Fan*, R Zheng and R.I.Tanner** *Smoothed Particle Hydrodynamics for High Viscous Non-Newtonian Flow Simulation*
2.25	**HJ Lim, Y.J. Nam, J. X. Hou, and S. Shin** *Temperature-dependence of Erythrocyte Aggregation Force: Threshold Shear Stress in Microfluidics*	**R. Guang*, M. Rudman, A. Chryss and S.Bhattacharya** *Particle Transportation Of Non-Newtonian Suspensions In Self-Formed Open Channel*

	Webster theatre	*WP Young room*
2.45		**R. Prabhakar** *Dumbbells with Conformation-Dependent Drag: Improved Constitutive Models for Dilute Polymer Solutions*
3.05	**COFFEE/TEA**	
	Micro-Macro Rheology D (chair I Ivanov)	**Molecular Dynamics A** (chair M Kröger)
3.30	**J. W. Kim and K. S. Cho** *Effect of Structures of Temporary Networks on Viscoelasticity of Polymer Solutions based on PVA*	**B. D. Todd*, J. S. Hansen and P. J. Daivis** *A model for the prediction of slip for highly confined nanofluids*
3.50	**P Sunthar* and Deepak Ahirwal** *Intrinsic Viscosity of Dilute Polymer Solutions in a Good Solvent*	**A. Jabbarzadeh* and R.I. Tanner** *Molecular Dynamics Simulations of Polymer Crystallization*
4.10	**I. Ivanov* and S.N. Bhattacharya** *Extensional Rheology of Polymer-Clay Nanocomposites*	**L. Ramin* and A. Jabbarzadeh** *Study of Rheological Properties of Dodecanethiol Self Assembled Monolayers on Gold Using Molecular* Dynamic Simulation
4.30	**S. Farnoush* and M. T. Manzari** *Study Of Suspension Flow Around A Particle Attached To A Solid Surface Using An Immersed Boundary-Lattice Boltzmann Method*	**T. C. Le*, B. D. Todd, P. J. Daivis and A. Uhlherr** *Rheology Of Hyperbranched Polymer Melts Under Shear*
4.50 - 6.00	**POSTER SESSION**	

Tuesday 3 November

(morning coffee/tea available 8am - 8:30am)

8.30	**O Ok Park (Plenary Lecture)** (chair H See) *Polymer Nanocomposites and Some Rheological Aspects*	
	Experimental Rheology A (chair P Scales)	**Molecular Dynamics B** (chair P Slatter)
9.15	**E. Miller and J.J. Cooper-White,*** *The effects of chain conformation in the microfluidic entry flow of polymer-surfactant systems*	**J.S. Hansen, B.D. Todd and P.J. Daivis*** *Nanofluidics: Departure From Classical Fluid Dynamics Theory*
9.35	**J.Y. Moon*, A.Y. Lee, Y.K. Lee, J.H. Sung, K.H. Ahn and S.J. Lee** *Formation Of Particle Microstructure In Shear Thickening Fluid Under Shear Flow*	**R. M. Puscasu*, B. D. Todd, P. J. Daivis & J. S. Hansen** *Computed Non-Local Viscosities for Molecular Fluids*
9.55	**S.P. Usher* and P. J. Scales** *Thickener Modelling: Incorporating Shear Effects*	**S. Bernardi*, B. D. Todd and D. J. Searles** *Thermostatting Highly Confined Fluids*
10.15	**COFFEE/TEA**	

	Webster theatre	*WP Young room*
10.45	**P. Harrowell (Keynote Lect)** (chair R Tanner) *Lubrication Flow and Surface Slip:* *Insights from Molecular Simulation*	
	Experimental Rheology B (chair R Tanner)	**Polymer Processing A** (chair R Zheng)
11.15	**T.M.Nicholson,* A.V.Samelor and J.A. Cichero** *Rheological Characterization Of Fluids Used For The Management Of Dysphagia*	**S.Y. Kim, S.H. Kim, H.J. Oh, C.H. Kim and J. R. Youn*** *Residual Stresses and Thermo-viscoelastic deformation of Film Insert Molded Parts*
11.35	**S. Raha*, N. Kao and S.Bhattacharya** *Melt Strength Behaviour of PS/SEBS Blends*	**D.K. Woo, B.C. Kim and S.J. Lee*** *Rheological Properties and Morphology of Polystyrene/ Multi-Walled Carbon Nanotube Composites Prepared by Latex Technology*
11.55	**L. Pullum*, P Slatter, L. Graham & A.Chryss** *Is Capillary Tube Data Valid For Suspension Flows?*	**R. Zheng, C. Hadinata and F. Costa** *Flow-Induced Crystallization And Simulation Of Injection Molding*
12.15	**D. Lee Wo* and R. Tanner** *The Impact Of Blue Organic and Inorganic Pigments On The Rheological Properties Of Isotactic Polypropylene*	**R. I. Tanner and F. Qi*** *Stretching, Shearing and Solidification*
12.35	**LUNCH (AT CONFERENCE CENTRE)**	
	Experimental Rheology C (chair D James)	**Polymer Processing B** (chair T Nicholson)
1.20	**D. F. James*, R. Yip and I.G. Currie** *Viscoelastic Flow Through Widely Separated Rods*	**S.H. Kim*, J.H. Jeong and J.R. Youn** *Nanopattern Insert Molding and Characterization of Molded Products*
1.40	**K. Sungsanit*, N. Kao, S.N. Bhattacharya and S. Pivsaart** *The Properties of Plasticized linear and Branched PLLA*	**D.G. Hassell*, T.D. Lord, L. Scelsi, D. Auhl, D. Hoyle, O. Harlen, T.C.B. McLeish and M.R. Mackley** *Matching Precise Polymer Processing With Computational Predictions in µPP2*
2.00	**R.K. Gupta* and S.N. Bhattacharya** *Effect of Mixing on Shear and Extensional Rheology of EVA Nanocomposites*	**T.M. Nicholson and T.C.B McLeish** *Factors Affecting The Extrudate Swell For High Density Polyethylene*
2.20	**Y.R. Fan*, and G. Guo** *Shear-induced cavitation of silicone oils*	**R.I.Tanner*, K.Housiadas and F.Qi** *A Simple Approach to the Mechanics of Concentrated Suspensions in a Non-Newtonian Matrix*
2.40	**T. Deawwanich*, Q. D. Nguyen and N. Tonmukayakul** *Flow and Displacement of Viscoplastic Fluids in Eccentric Annuli*	**H.J. Oh*, S.H. Kim, S.Y. Kim and J.R. Youn** *Fluid-Structure Interaction Analysis on the Film Wrinkling Problem of a Complicated FIM (Film Insert Molding) Part*
3.00	**W.J. Han*, S.H. Lim , M.L. Yu, and K.H. Ahn** *Modification Of Capillary Rheometer For Particulate Suspension and Flow Visualization*	
3.20	**COFFEE/TEA**	

	Webster theatre	*WP Young room*
	Experimental Rheology D (chair O Ok Park)	**Elec/Mag Rheology A** (chair WH Li)
3.50	**J.C. Hyun (Special Lecture)** *Role of ChE and ChErs in the 21st century civilization: Conceptual understanding of macroeconomic connections embedded in ChE discipline as related to the central theme (paradigm) of the 21st century civilization*	**F. F. Fang, B. J. Park and H. J. Choi*** *Magnetoresponsive Smart Magnetic Composite Materials and Their Rheology*
4.10	**K. S. Cho*, K.-W. Song, G.-S. Chang, J. W. Kim, and H.C. Jeon** *Scaling Relations in LAOS and Classification of Complex Fluids*	**M.S. Chun* and M.P. Pandey** *The Role of Surface Conductance on Electrokinetic Flows in Microchannels*
4.30	**A. McDonnell, R. Prabhakar, J. R. Friend and L. Y. Yeo** *Vibration-Induced Non-Newtonian Jets*	**H.T. Lim, S.H. Lee, D.K. Han, K.H. Ahn and S.J. Lee** *Characterization of clay dispersion in the polymer nanocomposites by rheological and dielectric properties*
4.50	**K. S. Cho** *Intrinsic Frequency and Its Applications*	**Y. K. Kor* and H. See** *The Electrorheological Response of Elongated Particles*
(5:15pm- Special AGM of Australian Society of Rheology in WP Young room)		
7.00	**BANQUET (HOLME BUILDING, UNIVERSITY OF SYDNEY)**	

Wednesday 4 November

(morning coffee/tea available 8am - 8:30am)

	Material properties (chair P Daivis)	**Elec/Mag Rheology B** (chair S Bell)
8.30	**P.J. Daivis*, B.D. Todd and J.S. Hansen** *Coupling Between the Density and Velocity Gradients in Flows of Confined Fluids*	**Y. Zhou*, X. Z. Zhang and W. H. Li** *Viscoelastic Properties of MR Elastomers*
8.50	**P.J. Scales* and S.P. Usher** *The Shear and Compressive Yield Stress of Coagulated Suspensions: Critical Strain Relationships*	**X. Z. Zhang and W. H. Li*** *Study of Thixotropy Phenomenon of Magnetorheological Shear Thickening Fluids*
		Food Rheology (chair S Bell)
9.10	**B. Sandnes*, H. A. Knudsen, K. J. Måløy, E. G. Flekkøy and H. See** *Pattern Formation And Rheology In Confined Granular Fluid Mixtures*	**C. Hicks* and H. See** *The Characterisation of Bread Dough: Experimental and Conceptual Issues using a Capillary Rheometer*
9.30	**T.Y.Hwang, H.J.Kim, Y.J.Ahn and J.W.Lee*** *Development of PP/MWCNT nanocomposites prepared with Twin Screw Extruder*	**S. Wang, S.Bell, K.Regenauer-Lieb, P.Austin & M.Bahar** *The effects of porosity and permeability on stress-strain plots of bread crumbs.*
9.50	**A. Ahmed* and R. J. Sadus** *Predicting Viscosity As A Function Of Pressure*	**S. C. Dai* and R. I. Tanner** *A Study of the Biaxial Deformation of Bread Dough*
10.10	**C. Kugge*, R. Hill, N. Vanderhoek and D. Bousfield** *Oscillatory Shear Response Of Barrier Dispersion Coatings Containing Clay Of Different Shape Factor*	**S.Bell and T.Sridhar** *Strain-hardening and extensibility of wheat flour doughs*
10.30	**COFFEE/TEA**	
10.50	**CLOSING REMARKS**	
10.55	**KSR & ASR COMBINED MEETING** (and awarding of Student Prizes, sponsored by Rheology Solutions)	
11.30	**DEPART FOR EXCURSION: LUNCH CRUISE ON SYDNEY HARBOUR, FOLLOWED BY SCENIC BUS TOUR OF FORE-SHORE & MANLY. BUSES RETURN TO CONFERENCE VENUE AND RYDGES CAMPERDOWN HOTEL AT APPROX. 5pm**	

POSTER PRESENTATIONS

P01: Molecular weight changes during photo-oxidation of polyethylene nanocomposites, T. O Kumanayaka, R. Parthasarathy*, M. Jollands and I. Ivanov

P02 : Diffusion And Viscosity In Arabinoxylan Solutions, K J Shelat, T M Nicholson*, K H Wong and R G Gilbert

P03 : Rheological Property Modeling in Carbothermic Aluminium Production, D.I. Gerogiorgis* and B.E. Ydstie

P04 : Self Diffusion Distributions of Molten Polyurethanes, N.J. Kim

P05 : Physical properties of thermotropic side-chain triblock copolymers, K. S. Dan, Y. G. Han and B. C. Kim1*

P06 : Physical Gelation in Poly(-caprolactone)/Polyhedral Oligomeric Silsesquioxane(POSS) Hybrid Nanocomposites, K.-S. Lee and Y.-W. Chang*

P07 : The high pressure rheology of polymer containing supercritical carbon dioxide, M.S. Kim, T.Y. Hwang, Y.J. Ahn and J.W. Lee*

P08 : (withdrawn)

P09 : Preparation of Alginate-based hydrophilic & flexible polyurethane foams (PUF), O. J. Kwon, S. T. Oh, M. J. Kim, W. R. Kim and J. S. Park*

P10 : Detection of Single Base Mismatch Using Selective Aggregation of CdS Quantum Dots, T. Kim, M. Noh, H. Lee, S-W. Joo, S. Y. Lee, B. Kim and K. Lee

P11 : Measurement of residual stress in injection molded articles using photoelastic equipment and comparison with computer simulation, J.S. Hong, J. Goo, H. Y. Kim, S. R. Park, J. H. Kim, and M.-Y. Lyu*

P12 : Dissipative Particle Dynamics Simulation of Particulate Suspensions, D. Kittipoomwong*, A. Jabbarzadeh and H. See

P13 : Creep and Recovery Behavior of MR Elastomers, W. H. Li*, D. Y. Zhang and Y. Zhou

P14 : Investigation of Ribbing Instabilities in Multiple Roll Coating Processes, J.H. Lee, S.K. Han, J.T. Kim, and H.W. Jung

P15 : Comparison of Experimental Data of LAOS with Viscoelastic Models, J. E. Bae*, H. C. Jeon and K. S. Cho

P16 : The effect of dope viscosity on the wet spinning of regenerated silk fibroin, H. J. Cho, E. Cha, I. C. Um*

P17 : Detection of DNA Mutations Using Selective Aggregation of Gold Nanoparticles, H. Lee*, T. Kang, S.-W. Joo, S. Y. Lee, K.-A. Yoon and K. Lee

P18 : Nonlinear Viscoelastic Behaviors of Different Types of Mayonnaises in Several Shear Flow Fields, H.J. Ahn* and K.W. Song

P19 : Rheological Characterization of Semi-solid Pharmaceutical and Cosmetic Products, E.K. Park* and K.W. Song

P20 : Time-Dependent Rheology of Concentrated Xanthan Gum Systems, J.S. Lee* and K.W. Song

P21 : Frequency Response of Simplified Curtain Coating by Several Numerical Algorithms, S.H. Lee, J.S. Lee, B.S. Kim, H.W. Jung and J.C. Hyun

P22 : Sensitivity Analysis in Rheological Processes Using Frequency Response Methods, J.Y. Lee, S.H. Lee, S.W. Choi, H.M. Kim, H.W. Jung and J.C. Hyun

P23 : The Effect Of Glycerol And Starch Oxidation On The Rheology Of Banana Starch Solutions, Y. Rivera-Ramírez, P. Alanís-López, C. López-González, J.Alcántar-Torres and J. Solorza-Feria*

P24 : Modelling the Behaviour Of Flexible Fibres Under Shear, J. Nowakowski* and H. See