

Physical Aspects of Polymer Science

Programme

Monday 9 September 2013

11:30 **Registration & refreshments**
Bar, The Ridge (Ranmoor Village, University of Sheffield)

12:20 **Lunch & exhibition**
Bar, The Ridge

13:20 **Welcome and introduction of the conference sponsors**
Dovedale Lecture Theatre, The Ridge

Session 1

13:30 **(invited) Structure-property relationships in the dynamics of polymer melts**
K Jacobs, Universität des Saarlandes, Germany

14:15 **Slip and interfacial structure of polymer melts and solutions in contact with functionalized surfaces**
P Gutfreund, Institut Laue-Langevin, France

14:35 **Novel conditions for controlling the final state of polymer blend thin films**
S Coveney, University of Sheffield, UK

14:55 **Phase separation and crystallization in thin film polymers**
L Jiang, University of Oxford, UK

15:15 **Crystallisation in fullerene/polymer thin-film bilayers**
D Mon, University of Swansea, UK

15:35 **Refreshment break and exhibition**
Bar, The Ridge

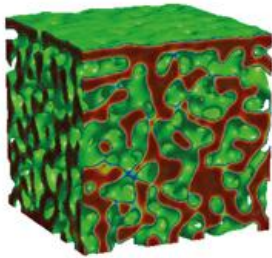
Session 2

Dovedale Lecture Theatre, The Ridge

16:00 **A relation of the swelling and viscoelastic behaviours of smart hydrogels for combination with oscillatory reactions**
G A Hurst, University of Newcastle, UK

16:20 **(New presentation) Large-area patterning of the tackiness of a colloidal nanocomposite adhesive by sintering of nanoparticles under IR radiation**
R Gurney, University of Surrey, UK

16:40 **Teasing crystals from soft phases: The journey to self-assembled, co-crystalline nanostructures for OPV's**
A Nedoma, Imperial College London, UK



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17:00 **Flash Posters (5 x 4 min. each)**

FP1. Influence of additives on nucleation and growth kinetics of conjugated polymers

A Guilbert, Imperial College London, UK

FP2. Elevated single polymer surface diffusion on a film near its glass transition temperature

M Mears, University of Sheffield, UK

FP3. Monte Carlo field-theoretic simulations for melts of symmetric diblock copolymer

P Stasiak, University of Reading, UK

FP4. Dynamics of polymer blend film formation during spin coating

Y Mouhamad, University of Sheffield, UK

17:20 **IOP Polymer Physics Group AGM**

17:45 **Exhibition, poster session and drinks reception**

Bar, The Ridge

19:30 **Conference dinner**

The Edge, Endcliffe Village, University of Sheffield

Tuesday 10 September 2013

Session 3

Dovedale Lecture Theatre, The Ridge

09:00 **Magnetic polymer vesicles for *in vitro* magneto-cytotoxicity and *in vivo* tumor targeting**

O Sandre, Laboratoire de Chimie des Polymères Organiques (LCPO) / Université de Bordeaux, France

09:20 **The hydration and ordering of lamellar block copolymer films prior to the formation of polymer vesicles**

A Parnell, University of Sheffield, UK

09:40 **Effect of the polymer architecture on the shape transformation of nanoscale polymer vesicles**

R Salva, Université de Bordeaux/CEA Saclay, France

10:00 **Coherent x-ray imaging of polymeric colloids**

T Waigh, University of Manchester, UK

10:20 **Using silk as a model for efficient, sustainable biopolymer processing**

C Holland, University of Sheffield, UK

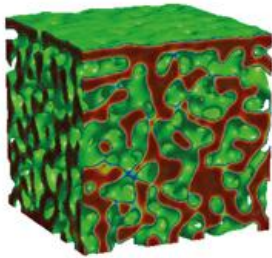
10:40 **Refreshment break and exhibition**

Bar, The Ridge

Session 4

11:05 **(invited) Protein adsorption on polymer surfaces; Nightmare or blessing?**

J Genzer, North Carolina State University, USA

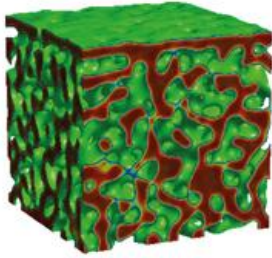


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- 11:50 **Nanoscale viscoelastic properties and adhesion of polydimethylsiloxane with varied crosslink densities**
J Chen, University of Newcastle, UK
- 12:10 **True molecular resolution studies of bulk polymer samples by torsional tapping mode atomic force microscopy**
N Mullin, University of Sheffield, UK
- 12:30 **Crystallinity modification in Polyethylene-b-Polyethylene glycol diblock copolymers adsorbed on chemically grafted substrates**
D Fischer, Université de Haute Alsace, France
- 12:50 **Lunch**
Bar, The Ridge

Session 5

- 14:35 **Relaxation of knotted chains in shear flows**
S Hanna, University of Bristol, UK
- 14:55 **Association of smart rheological systems**
S Boothroyd, University of Durham, UK
- 15:15 **Effect of molecular weight distribution on flow-induced nucleation in polymers**
O Mykhaylyk, University of Sheffield, UK
- 15:35 **Refreshment break and poster session**
Bar, The Ridge
- IOP Polymer Physics Group Best Student Paper Prize*
Chair: Joe Keddie, University of Surrey, UK
- 16:15 **Directed phase separation of PFO:PS blends during spin-coating using feedback controlled in situ stroboscopic fluorescence microscopy**
D Toolan, University of Sheffield, UK
- 16:35 **(invited) Founders' Prize Lecture**
D Bradley, Imperial College London, UK
- 17:15 **Conference drinks reception**
Bar, The Ridge
- 18:15 *Board coach on Endcliffe Vale Road (near conference venue)*
- 18:30 *Coach departs for Kelham Island Museum*
- 19:00 **Conference Dinner**
Kelham Island Museum, Sheffield (return coach travel provided)



Physical Aspects of Polymer Science

Wednesday 11 September 2013

Session 6

Dovedale Lecture Theatre, The Ridge

09:00 (invited) **APS/DPOLY exchange lecture - 'Matrix assisted pulsed laser deposition of polymer thin films'**
R Priestley, Princeton University, USA

09:45 **Thick oriented nanostructure of block copolymer by multilayer assembly**
J-Y Yu, French Alternative Energies and Atomic Energy Commission, France

10:05 **Photonic and plasmonic nanocomposites through infrared-radiation-assisted film formation of nanoparticle blends**
A Utgennant, University of Surrey, UK

10:25 **Microwave annealing: An emerging technique for rapid self-assembly of block copolymers. Case study: Lamellar forming poly (styrene-*b*-lactic acid) (PS-*b*-PLA)**
P Mokarian, University College Cork/Trinity College Dublin, Republic of Ireland

10:45 **Refreshment break**
Bar, The Ridge

Session 7

11:05 (invited) **Title tbc**
W Blau, Trinity College Dublin, Republic of Ireland

11:50 **Pre-processing of polymer: Fullerene solutions to impact thin film morphology**
R Dattani, Imperial College London, UK

12:10 **Hyper-elasticity, electro-mechanical and thermo-mechanical properties in thermoplastic polymer/Carbon black nanocomposites**
A Mdarhri, University Cadi Ayyad, Morocco

12:30 **Minimum in proton mean square displacement in PS-SWCNT nanocomposites**
V Bird, University of Durham, UK

12:50 **Relation between structure and electrical properties of chitosan-based bionanocomposites**
Y Prokhorov, CINVESTAV del IPN, Unidad Queretaro, Mexico

13:10 **Closing remarks**

13:30 **Lunch**
Bar, The Ridge