



April 2010, Issue 16

Dear Soft Matter Colleagues,

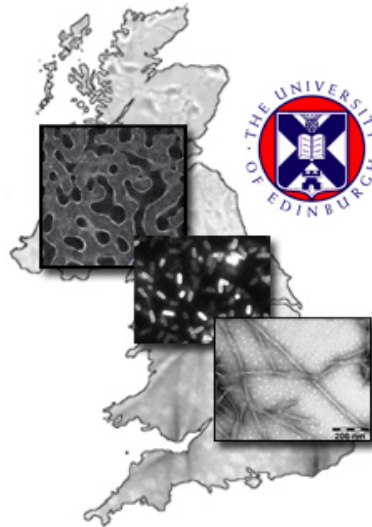
The coming spring months are bringing with them a variety of new conferences all around the world. Check the Latest News section for a full listing of upcoming conferences and their registration deadlines and information. Remember to feel free to pass the Soft Matter World newsletter on to fellow researchers and students.

Research Group of the Month: University of Edinburgh Soft Matter Physics

Located at the **University of Edinburgh**, Scotland, this Soft Matter Physics group is part of the Institute for Condensed and Complex Systems. Aside from its focus in Soft Matter the group places emphasis on active matter; the active or life counterparts of soft matter, such as bacterial suspensions and biological polymers.

The groups interest in active matter is a recurrent theme of their research;

- **Physics of barriers in soft matter and biology** - analysis of processes in which involve crossing free energy barriers.
- **Rheophysics of soft matter** - the physical mechanisms that govern the yielding and flow of dense colloids, gels and emulsions.
- **New soft materials** - an emergent research fo-



cus on the study of colloidal particles dispersed in complex solvents, in particular various liquid crystals and phase-separating binary fluids and the subsequent formation of soft materials.

- **Physics of cellular motion** - the motility of bacteria in complex polymer media.

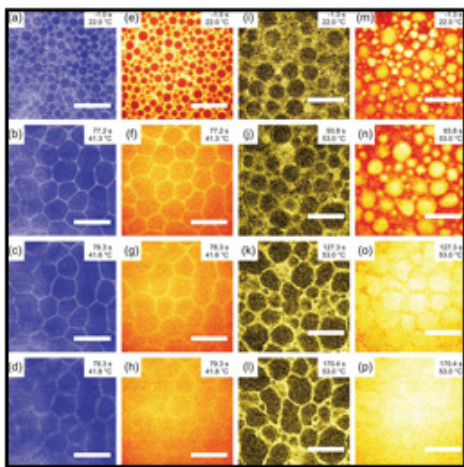
In addition to its wide range

of research topics, the Soft Matter Physics group is part of the Collaborative Optical Spectroscopy, Micromanipulation and Imaging Centre (COSMIC), a cross-disciplinary centre that aims at the coordinated use of ultra-fast real-time spectroscopy, advanced imaging and optical micromanipulation techniques. The ultimate goal being to incorporate these three elements for advanced characterisation, visualisation and control of materials at the molecular level.

A more detailed explanation of the groups research, its members, publications and collaborators can be found on their website. Support the Soft Matter World community and visit their website in the [Latest Research](#) section.

Demixing, remixing and cellular networks in binary liquids containing colloidal particles

Job H. J. Thijssen and Paul S. Clegg. *Soft Matter*, 2010, 6, 1182 - 1190, DOI: 10.1039/b918002h

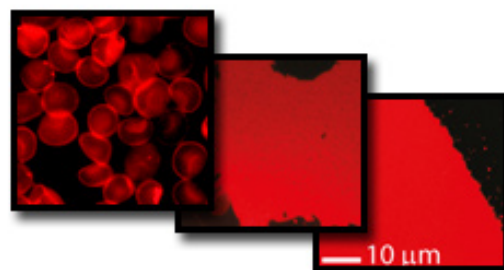


Job H. J. Thijssen and Paul S. Clegg, a member of our featured group this month, present a confocal-microscopy study of demixing and remixing in binary liquids containing colloidal particles. Particle-stabilized emulsions, fabricated by nucleation and growth of droplets upon cooling from the single-fluid phase, are heated and the subsequent formation of polyhedral cellular networks of colloids is observed. Given a suitable liquid-liquid composition, the droplets do not shrink and they remain closely packed. These network formations open up an avenue for their application in the fabrication of advanced materials.

Single Step Process to Reconstitute Cell Membranes on Solid Supports

M. D. Mager and N. A. Melosh. *Langmuir*, 2010, 26 (7), pp 4635-4638. DOI: 10.1021/la100583f

Researchers present a new technique to create supported lipid bilayers from whole cell lipids without the use of detergent or solvent extraction as a modification of the bubble collapse deposition (BCD) technique. This capability to create fluid, biologically relevant bilayers will facilitate the use of high-resolution scanning microscopy techniques in the study of membrane-related processes.



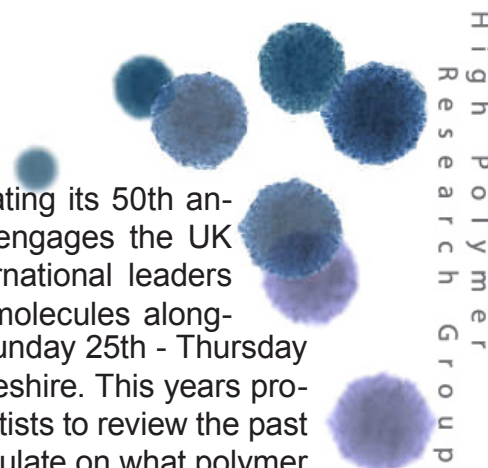
NYU Researchers Create "Handshaking" Particles

<<http://www.nyu.edu/about/news-publications/news/2010/03/24.html>>

Physicists at New York University have created "handshaking" particles that link together based on their shape rather than randomly. Their work, reported in the latest issue of the journal *Nature*, marks the first time scientists have succeeded in "programming" particles to join in this manner and offers a type of architecture that could enhance the creation of synthetic materials. You can read more in the official press release at the [NYU website](#).

HPRG 50th Anniversary Meeting

The High Polymer Research Group (HPRG) is celebrating its 50th anniversary this year. The HPRG through its meetings, engages the UK polymer science and technology community with international leaders in the field, and addresses new applications of macromolecules alongside the burgeoning issues of the day. It is being held Sunday 25th - Thursday 29th April, 2010 at Shrigley Hall Hotel, Pott Shrigley, Cheshire. This years program includes some of the world's leading polymer scientists to review the past achievements, to tell us of their current work and to speculate on what polymer science might look like in the next 50 years. Registration is still open so make sure not to miss out on this great opportunity and read more in the [Latest News](#) section.



H I G H P O L Y M E R
R E S E A R C H G R O U P

International Soft Matter Conference 2010

The International Soft Matter Conference is being held in Granada, Spain, July 5th - 8th, 2010. The conference will bring together students and scientists interested in soft matter systems such as polymers, colloids, surfactants, membranes, biomaterials and their composites. It intends to address Soft matter science's need for an interdisciplinary approach connecting theoretical, computational and experimental physics, physical chemistry, material science and biology. A special focus of discussion in this context will be the application of soft matter concepts to biological and biomimetic systems.

There will be four types of presentations: plenary talks, invited and contributed talks, and posters. These will be chosen by the program committee in cooperation with the advisory board. The contributed talks will be selected from submitted abstracts. Registration is open and the abstract submission deadline is April 15th, 2010. Read more in the [Latest News](#) section.



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We hope you enjoy browsing softmatterworld.org and come back soon

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SoftMatterWorld.org