



SoftMatterWorld Newsletter

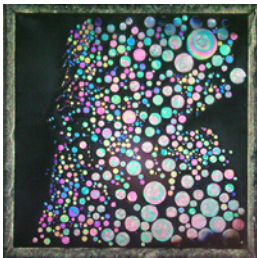
January 2010, Issue 13

Dear Soft Matter Colleagues,

Happy New Year! This newsletter marks one year since the first Softmatterworld newsletter was sent out in January of 2009. To celebrate we have made some major changes to the layout of the newsletter. We encourage you to print it out and post it in your lab, classroom or office. We intend on expanding our network and mailing list as much as possible this year, so keep up the great work and let everyone know!

Boulder Liquid Crystal Group

To celebrate the one year mark of SMW's newsletter, we are featuring one of the first groups that became part of the SoftMatterWorld Global Network; the **Liquid Crystal Physics Group in the Physics Department at the University of Colorado, Boulder**. Some of their research interests include;



Thin freely suspended smectic film viewed in reflected light, with islands of greater thickness showing interference colors. Image taken from < <http://bly.colorado.edu/index.html> >

- Phases of Bent-Core Liquid Crystals
- Chiral Topological Defects in Freely Suspended Smectic Films
- Laser Tweezing of Smectic Islands
- Nano-imprinted polymer films and liquid crystal alignment

The website is full of great images and in-depth explanation and coverage of the group's research and publications. So support the SMW global network and visit their [website](#) to read more!

LCMRC

Under the direction of Professor Noel Clark the group is part of an NSF funded MERSEC research center focusing on;

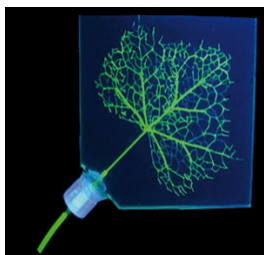
- Molecular/Macromolecular Liquid Crystal Science
- The interface of Liquid Crystal Material with solid substrates
- Liquid Crystal polymers and gels

The center also features a strong educational program with ongoing opportunities for doctoral study and research experience for teachers program. You can visit the LCMRC site [here](#).

Instant insight: Making synthetic cells

Cell and organelle mimics typically perform one simple function. Frank Caruso and team at the University of Melbourne, Australia, contemplate more complicated systems. In this mini-review, they discuss the potential of polymer capsules derived by the layer-by-layer assembly as a platform system for the construction of artificial cells and organelles. Read more at the RSC publishing [website](#).

Self-healing networks mimic nature



Microvascular networks, such as those found in leaves, can be made. Image taken from RSC publishing <http://www.rsc.org/Publishing/ChemScience/Volume/2010/01/self_healing.asp>

A new method to make complex microvascular networks could revolutionise tissue engineering. Biomimetic microvascular networks with complex architectures are embedded in epoxy matrices using direct-write assembly. Fluid transport in multi-generation bifurcating channels is systematically investigated and maximum flow efficiency is found to occur when Murray's law is obeyed (mimicking bio-vascular systems). To read more visit the RSC publishing [website](#).

Gallery

We need your soft matter images to add to the [Gallery](#)! If you have any that you would like featured on the site please email the editor (editor.softmatterworld@gmail.com) and attach your file (RGB image, maximum 800px on the long edge at 72dpi) with a suitable description, your name and the year the image was produced.

- **Cyclodextrin–dextran based in situ hydrogel formation: a carrier for hydrophobic drugs;**

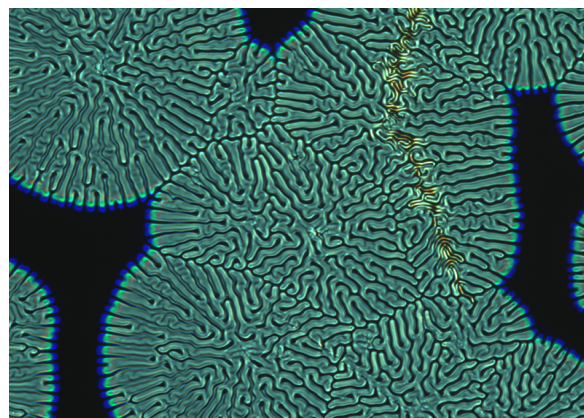
Ke Peng, Itsuro Tomatsu, Alexander V. Kobko and Alexander Kros
[Read More at www.rsc.org](http://www.rsc.org)

- **Floating colloid carpets**

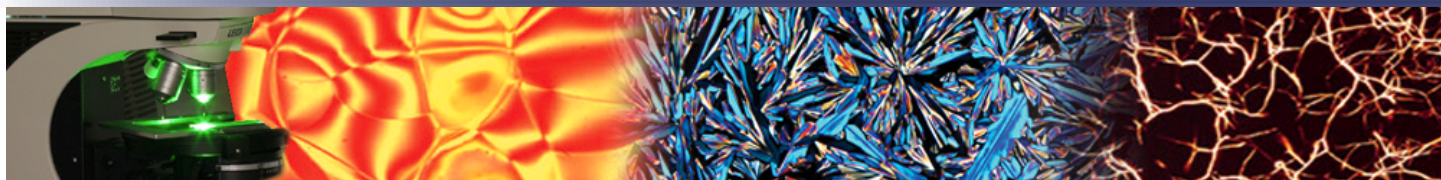
Nienke Geerts and Erika Eiser
[Read More at www.rsc.org](http://www.rsc.org)

- **Flip-Flop-Induced Relaxation of Bending Energy: Implications for Membrane Remodeling**

R.J. Bruckner, S.S. Mansy, A. Ricardo, L. Mahadevan, and J.W. Szostak
[Read More at www.cell.com/biophysj/](http://www.cell.com/biophysj/)



Polarized microscopy image of the cholesteric (chiral nematic) liquid crystalline phase (100x magnification). Jennifer Kirchoff, Florida State University.



APS March Meeting 2010

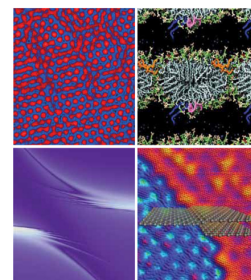
The American Physical Society will hold its 2010 March Meeting, March 15–19 in Portland. Over 7,000 of the top scientists involved in physics research and applied physics throughout the world are expected to be attending.

A few of the benefits offered include:

- Virtual Tradeshow
- Job fair services
- Program book advertising
- Discounted hotel rates
- among many others. . .

Early bird registration deadline is on January 15, 2010.

2010
March
Meeting



WWW.APS.ORG/MEETINGS/MARCH

ISWOLD 2010

The Weizmann Institute of Science in Rehovot, Israel is holding a student workshop; **The International Student Workshop on Lipid Domains (ISWOLD) is taking place on March 7-12, 2010.** The workshop is primarily aimed at students and postdocs, most of whom will come from outside Israel. Its primary purpose is to address and discuss approaches to help understand the structure and composition of lipid domains from a multi-disciplinary approach combining chemistry, biology and physics. *The Workshop is limited to 50 students, and the deadlines for registration and grant application are on January 7, 2010. So apply Now!*

BPS 54th Annual Meeting

The Biophysical Society is holding its 54th annual meeting in San Francisco, California from February 20-24, 2010. The BPS meeting is the largest gathering of biophysicists in the world. It brings together prominent scientists from every corner of scientific research ranging from chemists and physicists to pharmacologists, x-ray crystallographers and spectroscopists to present cutting-edge research and share ideas. The meeting also includes an employment service with nine Subgroup Symposia, career programs and resume critiquing.

Late Abstract Submission is still open until January 8th. so be sure to not miss out on this great conference. Visit the [website](#) to register!

We hope you enjoy browsing softmatterworld.org and come back soon - please let us know if you have any suggestions for improving the site.

Linda S. Hirst and Adam Ossowski

SoftMatterWorld.org

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