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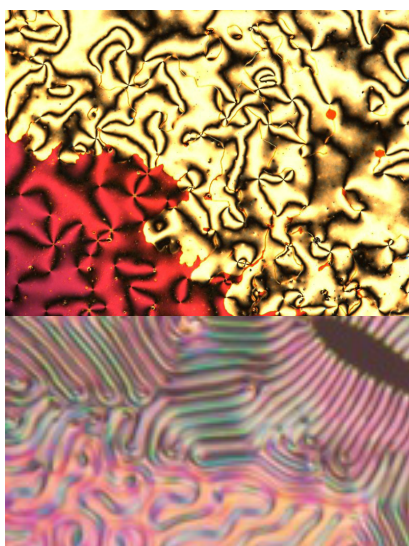
Dear Soft Matter Colleagues,

Summer is almost upon us so this month we have put together a conference listing to keep you informed on the many upcoming conferences with registration deadlines from May to September. Next month look out for the new edition of our career bulletin, so if you have any position openings that you would like advertised send them by email to us at [editor.softmatterworld@gmail.com](mailto:editor.softmatterworld@gmail.com).

## Research Group of the Month: The Hegmann Liquid Crystal & Nanocomposite Lab

The Hegmann group is based out of the Department of Chemistry at University of Manitoba, Canada. The group, under the leadership of Dr. Torsten Hegmann, is primarily interested in new and novel nanoparticle techniques to functionalize liquid crystals and nano-particles in liquid crystal display dispersions. More specifically, they are interested in the fabrication of liquid crystal (LC) – nanoparticle composites using functionalized nanoparticles (primarily metal and semiconductor) and thermotropic amphiphilic and non-amphiphilic (conventional) LC's. Of particular interest is the design of LC nanocomposite materials that will respond to external stimuli such as temperature and applied electric fields.

Their research in function-



*-Some of the amazing images you can find on the Hegmann Groups website; (from top) a) LC's in the nematic phase b) LC's in the chiral nematic phase*

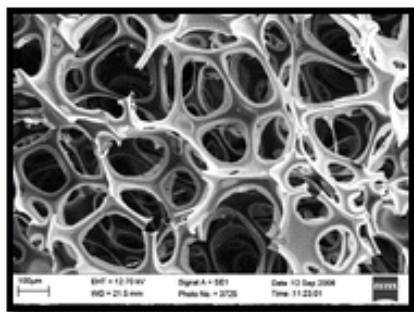
alizing metal nanoparticles and conventional LC's can ultimately have a profound effect on liquid crystal display efficiency and performance. The group is also developing approaches to use LCs as matrices for the assembly of semiconductor nano-

rods. This multi-investigator project with researchers at the University of Manitoba and the California Institute of Technology focuses on the design of an artificial photosynthesis system converting sunlight into chemical fuels (i.e. hydrogen).

The Hegmann group's breakthrough liquid crystal display research has widespread applications in everything from mobile phones to electronic games. The website has some stunning high resolution images of liquid crystals along with more in-depth and thorough explanations of the group's research. To read more about this fascinating research and techniques visit the Hegmann Group website in the [Latest Research](#) section.

## Porous gelatin hydrogels by gas-in-liquid foam templating

Andrea Barbetta *et al.* *Soft Matter*, 2010, 6, 1785 - 1792, DOI: 10.1039/b920049e

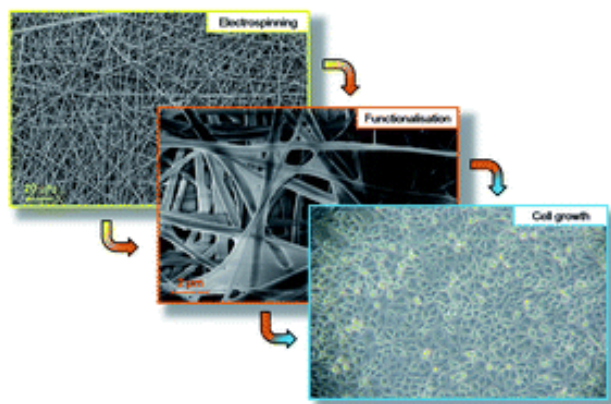


Researchers present how porous gelatin scaffolds were prepared by insufflating an inert gas (argon) inside a concentrated solution of gelatin in the presence of a suitable polymeric surfactant in association with sodium dodecyl sulfate. The scaffolds present a morphology characterised by pores of spherical symmetry highly interconnected by a plurality of interconnections and, as a consequence, are particularly suited for cell culturing.

## Collagen-functionalised electrospun polymer fibers for bioengineering applications

Alessandro Polini *et al.* *Soft Matter*, 2010, 6, 1668 - 1674, DOI: 10.1039/b921932c

Researchers present an in-depth study of protein functionalisation for polymethylmethacrylate fibers and compare different coating approaches for type I collagen, including physisorption and covalent binding methods relying on functional linkers. It is demonstrated that the largest amount of proteins adsorbed on fibers does not determine the best performance in terms of cell attachment and proliferation *in vitro*, which is instead related to the type of linking and the relevant role played by adsorption of serum biomolecules on the three-dimensional nanostructures.



## Effects of size, capping agent, and concentration of quantum dots on the properties of the colloidal mixture

B. Kinkead, T. Hegmann, *J. Mater. Chem.* 2010, 20, 448-458.

The Hegmann group has recently been studied the effects of different quantum dots on the electro-optical properties of a nematic liquid crystal medium, including the effects of CaSe and CaTe capping agents. This work was recently published in the *Journal of Materials Chemistry*.

## 23<sup>rd</sup> International Liquid Crystal Conference



The 23<sup>rd</sup> International Liquid Crystal Conference (ILCC) will be held in Krakow, Poland from the 11<sup>th</sup>-16<sup>th</sup> of July. It is being organized by the Jagiellonian University in cooperation with twelve Polish Universities and research institutions active in the field of liquid crystals. The 23<sup>rd</sup> International Liquid Crystal Conference will steer “*across borders and multiscales*” through all fields of scientific endeavour involving liquid crystals. Research presentations covering the broadest variety of subjects, ranging from synthetic chemistry through nanoscale characteristics up to macroscopic properties.



### New Improvements to Latest News Section!



Make sure to visit the Latest News section to see the new layout for conference listings. All conferences are now in separate tabs organized by month to help streamline the increasing volume of listings. There are currently over 15 upcoming conferences up in the Latest News section which are also attached in this this months Conference Listing. Don't miss out and resgister now!

### Gordon Research Conferences Granular & Granular-Fluid Flow

This fourth Gordon Conference on Granular and Granular-Fluid Flows will be held from the 20<sup>th</sup>-25<sup>th</sup> of June at Colby College, ME. Active researchers in granular materials are given an opportunity to learn about recent discoveries and to engage in discussions with other contributors to the field. Invited speakers will engage in interactions by covering a range of topics such as dilute and dense phase flows, jamming, regime transitions, multiphase systems, avalanches instabilities, patterns, segregation/mixing, and related phenomena.

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

Linda S. Hirst and Adam Ossowski  
**SoftMatterWorld.org**