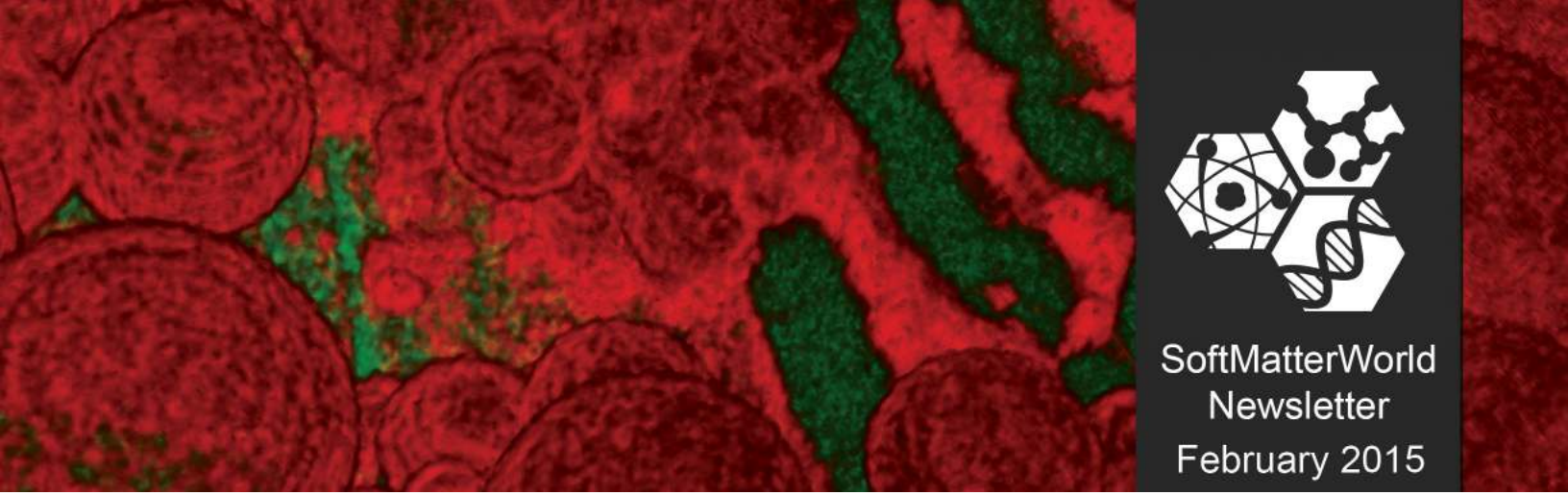


Dear Soft Matter Colleagues,

Welcome to this month's newsletter, where we are excited to announce the winners of this year's soft matter image competition, see page 2. There are also several interesting meetings to announce in the US, Europe and Asia. Take a minute to think if you have any interested soft matter related announcements to make to the community and send them in.

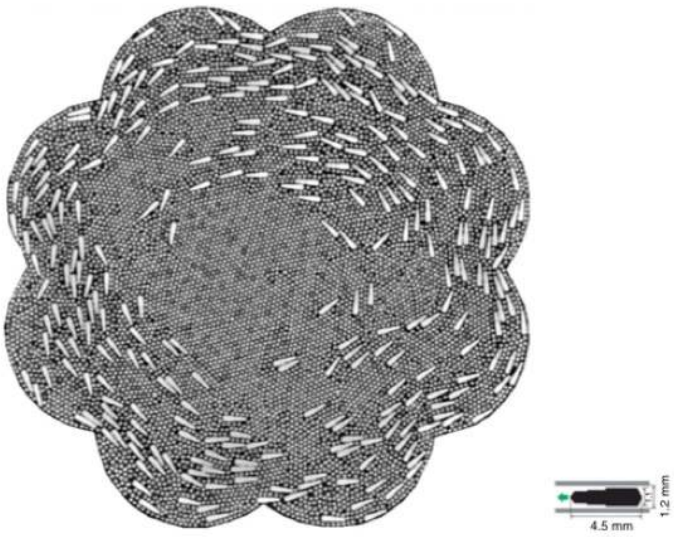
Flocking at a Distance in Active Granular Matter

Nitin Kumar, Harsh Soni, Sriram Ramaswamy & A. K. Sood. "Flocking at a Distance inActive Granular Matter." Nature Communications 5, 4688 (2014)

Emergent order is a unique concept that describes a process in which complex patterns and structured phenomena occur from smaller entities that don't individually exhibit these complex traits. One example of such a process is flocking, a collection of objects moving in a synchronized manner. Sriram Ramaswamy and his team at the Indian Institute of Science in collaboration with the Tata Institute of Fundamental Research, have used an interesting experimental technique to recreate flocking in a granular material. Ramaswamy and his team did this by using millimeter-sized tapered rods in a medium of spherical beads and an underlying vibrating surface (Figure 1). Using a simulation model they also constructed an analytical theory for the spontaneous phase change in which tapered rods transition from a disordered form to an ordered one. In addition, they describe experimental methods in which they were able to increase or decrease flocking by changing rod/bead concentrations. The "flocking" of small particulates created by their model has potential to be used as a transport mechanism for particulate or even cellular matter as a new form of active matter.

The actual mechanism of motion for the tapered step wise rods has been described in other studies cited in the article; what the group focuses on now is why and how these rods find a complex flocking order through the vibrational energy provided by the surface. Using a magnetic shaker the research group moves the amorphous monolayer of beads and rods within a flower-shaped sample cell (preventing particle accumulation on boundaries) and captured image data using a high speed camera (Figure 1).

The results show spontaneous emergent order in the form of flocking for the bead-rod system and demonstrate for the first time, the formation of a true flock in a collection of dry grains. Based on the hydrodynamic data of a 2-dimensional fluid of beads, Ramaswamy and his team were able to develop an analytical theory for their system. Their data found a positive correlation between flocking and higher concentrations of both beads and rods.



► *Figure 1: A monolayer of beads and rods on top of a flower shaped vibrational bed demonstrating the process of spontaneous flocking. Measurements for a single rod are shown on the bottom right.*

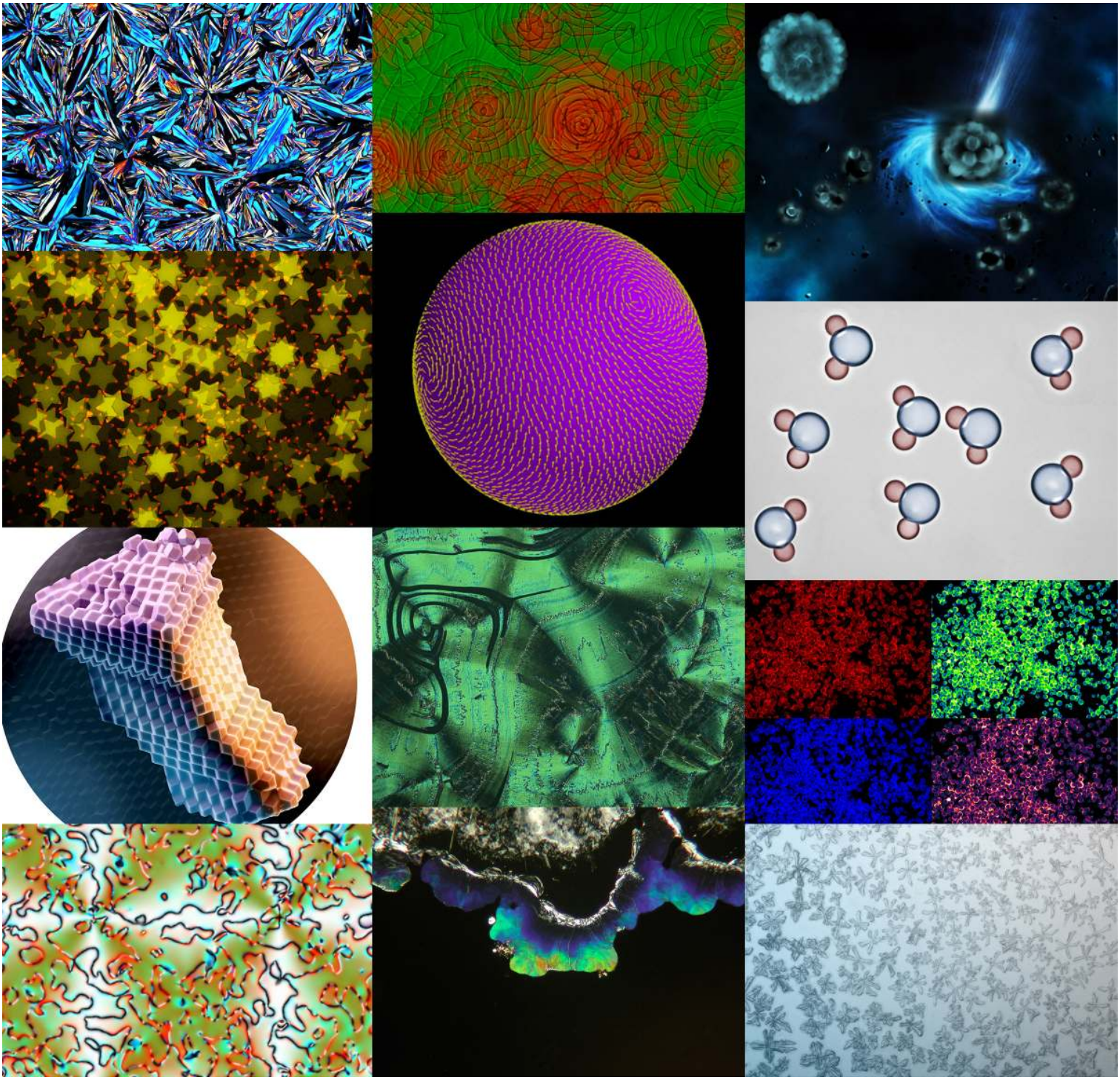
Further research in this field could lead to development of active matter as a form of particulate transport, and potentially even be used in cellular matter in bioengineering applications.

You can read the full paper here.

- Mike Facio

Congratulations to the winners of our 2015 image contest!

We had some beautiful submissions to our image competition this year and below you can see twelve of the best. The winning groups will be recieving a desktop calendar featuring all the best images. Go to the gallery page on our website to see the full caption details and citations. The winning contributors were: Jennifer Kirchhoff, Florida State University, Jan Lagerwall, University of Luxembourg, Jongmin Kim, Sung-Min Kang, Byungjin Lee, Chaeyeon Kim and Chang-Soo Lee, Chungnam National University, Nathan Melton and Lauren Edwards, University of California, Merced, Hanumantha Rao Vutukuri, Utrecht University, Wojciech Tomczyk, Jagiellonian University and Sajedeh Afghah, Andrew Konya, Jonathan Selinger, and Robin Selinger, LCI, Kent State University.



Royal Society discussion meeting: Soft interfacial materials - from fundamentals to formulation.

London Oct 12/13 2015,

Scientific discussion meeting organised by Professor Michael Cates FRS, Professor John Seddon, Dr Nicholas Brooks, Dr Paul Clegg and Professor Alex Lips.

The science of soft interfaces (lipid membranes, emulsions, particle stabilised droplets etc) is rapidly moving into an era of predictive capability that allows the design and development of advanced materials to be based on secure scientific knowledge. The meeting will not only address fundamental science, focussing on generic design principles for self organisation and interfacial structure, but also explore the resulting prospects for 'informed formulation' of new and improved industrial products.

Session titles and confirmed speakers are as follows:

- **1. Functional amphiphiles and lipids**
  (Laurent Sagalowicz, Gordon Bell, Peter Olmsted, Calum Drummond)
- **2. Membranes and delivery**
  (Cyrus Safinya, Patricia Bassereau, Bob Prud'homme)
- **3. Particles and proteins at interfaces**
  (Kate Stebe, Patrick Spicer, Peter Kralchevsky, Cait MacPhee)
- **4. Unconventional emulsions and multiphase gels**
  (Bill Frith, Isabelle Capron, Simon Biggs)

You can download the program and biographies of the organisers and speakers are available on the meeting web page. Speaker abstracts will be available closer to the meeting date. Recorded audio of the presentations will be available on the meeting web page after the event and the papers will be published in a future issue of Philosophical Transactions A.

A poster session will be held throughout the meeting alongside the schedule of presentations. To submit a poster please email a title, 200-word abstract and list of authors to the Royal Society events team at discussion.meetings@royalsociety.org no later than Friday 31 July 2015. The scientific organisers will make a selection based on the abstracts received. Please note spaces are limited. Abstracts submitted after the deadline may be considered, subject to availability.

This event is intended for researchers in relevant fields and is free to attend. There are a limited number of places and registration is essential. An optional lunch is offered and should be booked during registration.

IFF Spring School 2015 "Functional Soft Matter", 23.02.-06.03.15

We are pleased to announce that there are still a few places available for the IFF Spring School 2015 taking place from 23 February until 06 March 2015 at Forschungszentrum Juelich, Germany. The IFF Spring School 2015 intends to give an introduction to and an overview of current research topics of soft matter systems with the emphasis on biological and technological functionality.

For further information on the school and how to apply, please visit the website: www.iff-springschool.de

International Workshop for Soft Matter and Biophysics

BIOCOMPLEX 2015, 6/24-6/26, TAIPEI, TAIWAN

The goal of the workshop is to encourage exchange between Taiwanese researchers and with international experts in biophysics and soft matter physics. In addition to traditional physicists, experts in these fields come from materials science, chemistry, biology, and engineering disciplines. Significant growth in these fields in recent years has been buoyed by intense public interests on novel materials for improved energy storage and efficiency, medical diagnostics and treatment, and the complex social-economic behavior in an increasing inter-linked world.

- **The topics of this year's workshop are**
- · **Macromolecules in Crowded Systems**
- · **Dynamics of Biological Molecules**
- · **Astro-biology**

Abstract submission deadline is April 5, 2015. The registration fee for international participants is $100 USD, including banquet.

More information can be found on

www.phys.sinica.edu.tw/~biocomplex2015

American Chemical Society: Colloid and Surface science symposium

June 15 – 17, 2015, Pittsburgh, USA

Abstracts are now being accepted for the 89th American Chemical Society Colloid and Surface Science Symposium. The Symposium will take place on the campus of Carnegie Mellon University in Pittsburgh, Pennsylvania, USA. Please visit the Symposium website to view the technical program and submit your abstract. Abstract submission closes on April 6, 2015.

Chaired by Steve Garoff, Jim Schneider, and Bob Tilton, this Symposium will highlight the latest scientific advances in colloid and surface science, its intersection with other scientific domains such as biophysics and environmental science, and its applications in biotechnology, coatings, functional nanomaterials, and other diverse areas. The set of technical symposia has been carefully composed to provide forums for the foundational topics in colloids, surfaces, nanomaterials and soft condensed matter, as well as emerging topics and applications.

In addition to 13 technical symposia and a poster session, the Symposium features two distinguished plenary lectures, the Unilever Award lecture, the Victor K. LaMer Award lecture, and an instrument exhibition. This year's plenary lecturers are Professor Tejal Desai of the University of California at San Francisco and Professor David Pine of New York University.

Faculty positons

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submissions to the editor at editor@softmatterworld.org

Thanks for reading

Linda Hirst and The SoftMatterworld Team