



Durham University

Department of Physics

Tom McLeish

- Genotype/Phenotype Modelling of Evolutionary Landscapes in Spatial Patterning

Suzanne Fielding

- Theory of non-equilibrium dynamics of soft condensed matter and complex fluids.
- Shear banding instabilities and non-equilibrium (flow induced) phase transitions in complex fluids such as surfactants, polymers and liquid crystals
- Biologically active suspensions

John. Girkin

- Development of optical instrumentation to provide quantified data into physical and mathematical models of complex biological systems



Durham University

Department of Mathematics

Buddho Chakrabarti, Ostap Hryniv, Bernard Piette, Wojtek Zakrzewski

- Energy transport along proteins via polarons
- Non-equilibrium macromolecular structures in cells, microtubules, DNA, proteins ...
- Strain response of dry foam under large amplitude periodic stress

Brian Straughan

- Global nonlinear stability in porous convection at thermal non-equilibrium
- Tipping points in Cattaneo-Christov thermohaline convection (heat wave)

Max Jensen

- Anisotropic diffusion and transport effects across the cell membrane

Patrick Dondl

- Transition of scales in the dynamic behaviour of continuum mechanical systems including the propagation behaviour of driven (out of equilibrium) phase boundaries