

Poster Session A (afternoon of 14 April and morning of 15 April)

Biological systems

P.01 Mechanotransduction of deformable nano-structured elastic membrane surfaces on proliferation of osteoblast cells

G K Toworfe, Flowers School of Technology and Management, Germany / University of Pennsylvania, USA

P.02 Streaming potential in human dentin

Z Feng, Xiamen University, China

P.03 Structure and evolution of high-density protein systems

J Ioannou, University of Cambridge, UK

P.04 Dynamics of filopodium-like protrusion and endothelial cellular motility on 1-D extracellular matrix fibrils

YY S Huang, University of Cambridge, UK

P.05 Modelling of the Nuclear Pore Complex

D Osmanovic, University College London, UK

P.06 Effect of solvent on the self-assembly of Dialanine and Diphenylalanine Peptides

A N Rissanou, University of Crete, Greece / IACM FORTH, Greece

P.07 Double-belt a novel structure of membrane pore

R Vacha, Masaryk University, Czech Republic

P.08 Induced guidance of NIH 3T3 fibroblasts on Polydimethylsiloxane (PDMS) ridge-groove substrates: a time-lapse live-cell study

C-K Huang, University of Cambridge, UK

P.09 Influence of Ibuprofen on the structure of phospholipid layers

S Jaksch, Forschungszentrum Jülich GmbH, Germany

P.10 Study of cellular differentiation of embryonic carcinoma stem cells by AFM nanocytomechanics and Raman spectroscopy

E Canetta, St Mary's University College, UK

P.11 New insight into the structure and function of Hfq carboxyl terminus

V Arluison, University Paris Diderot, France/CEA, France

P.12 Single cell measurements of intracellular signaling, and motility, in activated macrophages

E Cammarota, University of Cambridge, UK

Colloids and nanoparticles

P.13 Restricted diffusion of small probe particles in a laponite dispersion

S Kaloun, SAEED Ecole Supérieure de Technologie Essaouira, Université Cadi Ayyad, Morocco

P.14 Dynamic properties of concentrated microgel suspensions and protein solutions

J Riest, Forschungszentrum Jülich GmbH, Germany

P.15 Detachment energies of spheroidal particles from liquid-liquid interfaces

G Davies, University College London, UK

P.16 Bicontinuous emulsions stabilized by nanoparticles

M Reeves, University of Edinburgh, UK

P.17 Controlling ink properties to achieve a 'flatter' film profile for applications in P-OLED displays

A D Eales, University of Cambridge, UK

P.18 Influence of magnetic field on the orientation of anisotropic magnetic particles at liquid interfaces

B J Newton, University of Hull, UK

Confined fluids and interfacial phenomena

P.19 Effective interaction between a colloid and a soft interface near criticality

A D Law, Max-Planck-Institut für Intelligente Systeme, Germany

P.20 Adsorption energies of poly(ethylene oxide)-based surfactants and nanoparticles on an air-water surface

A Nelson, ETH Zurich, Switzerland

P.21 Analysis of an axisymmetric two-phase flow model for particle transport at fluid interfaces

L Botto, Queen Mary University of London, UK

Optical methods and imaging

P.22 Dual-mode microviscosity measurements in lipid monolayer and bilayer systems with a molecular rotor

A Vysniauskas, Imperial College London, UK

P.23 Imaging dynamic patterns in lipid membranes using molecular rotors

M R Dent, Imperial College London, UK

P.24 A Label-Free Microfluidic Assay to quantitatively study antibiotic diffusion through lipid membranes

J Cama, University of Cambridge, UK

P.25 Simple continuum descriptions of macromolecule complexes for imaging techniques

C Prior, Durham University, UK

Polymers, polyelectrolytes and biomolecules

P.26 Modifications of the study of dielectric properties of a polycarbonate plastic (Makrofol KG) induced by Si^{7+} heavy ion irradiation

M Mujahid, University of Tabuk, Saudi Arabia

P.27 Pickering emulsion polymerized core-shell structured smart composite particles and their suspension rheology under electric and magnetic fields

H J Choi, Inha University, Korea

P.28 Passive and active microrheology of a polymer melt studied by molecular dynamics simulation

A Kuhnhold, Martin-Luther-Universitaet Halle-Wittenberg, Germany

P.29 Microscopic probing of melting and gelation processes in well-defined biopolymer network

H E Cingil, Wageningen University, The Netherlands

P.30 Tunable reversible hydrogels from metal-coordinated polymers

M Bohdan, Wageningen University, The Netherlands

P.31 Two-fluid model for ions distribution on a charged surface: A Monte Carlo study and modified Poisson-Boltzmann theory

C-H Cheng, National Changhua University of Education, Taiwan

P.32 The role of confinement and interaction range on polarisation and alignment of stiff chains and networks

K K Müller-Nedebock, Stellenbosch University, South Africa

P.33 Inert-tail effect on the thermodynamics of DNA hybridisation

L Di Michele, University of Cambridge, UK

P.34 Large-area patterning of the tackiness of a colloidal nanocomposite adhesive by sintering of nanoparticles under IR radiation

J L Keddie, University of Surrey, UK

P.35 Lubrication by polymersomes under nanoconfinement

J E Bartenstein, University of Bristol, UK

Rheology and non-equilibrium phenomena

P.36 Spatio-temporal dynamics of collective flow across a bacterial carpet

Y-T Hsiao, National Central University Taiwan, China

P.37 Surface roughening due to patchy particles in (1+1) dimensions - A computational study

M J Kartha, University of Pune, India

P.38 Lipid bilayer membranes under shear flow from molecular simulations

A Botan, Université Lyon 1, France

P.39 The tube axis and entanglements in polymer melts

A Likhtman, University of Reading, UK

Self-assembly, biomimetics and pattern formation

P.40 From wound healing to artificial muscles: Modelling bio- and biomimetic materials with polar and nematic order parameters

M H Koepf, École Normale Supérieure, France

P.41 Dynamical Landau theory for the assembly and disassembly kinetics of supramolecular polymers

N Tiwari, Eindhoven University of Technology, The Netherlands

P.42 Engineering DNA-linked janus liposome clusters towards applications in drug delivery

T Wild, University of Leeds, UK

P.43 All-optical manipulation of photonic membranes

B Kirkpatrick, University of St. Andrews, UK

P.44 Self-assembly of nanoparticles on fluid membranes

A Saric, University of Cambridge, UK

P.45 Inherent variability in the kinetics of autocatalytic protein self-assembly

J Szavits-Nossan, University of Edinburgh, UK

P.46 Understanding the self-assembly and structure of interfacial films formed from the bacterial hydrophobin BsIA

R J Morris, University of Edinburgh, UK

P.47 Self-assembly of naphthalene-dipeptides to form hydrogel films at the air-water interface

T Li, University of Edinburgh, UK

Surfactants, foams and emulsions

P.48 Dynamic wetting of hydrophobic polymers by aqueous surfactant and superspreader solutions

X Wang, Technical University Darmstadt, Germany

P.49 Atomistic description of the solubilisation of testosterone propionate in a sodium dodecyl sulfate micelle

D Allen, King's College London, UK

Poster Session B (afternoon of 15 April and morning of 16 April)

Biological systems

P.01 Force localization in contracting cell layers

C Dunlop, University of Surrey, UK

P.02 Orientational order and motility in active droplets

D Khoromskaia, University of Warwick, UK

P.03 Fluctuating finite element analysis: Modelling biomacromolecules with continuum mechanics

D Read, University of Leeds, UK

P.04 Dynamics of oblate and prolate capsules in shear flow

Y Sui, Queen Mary University of London, UK

P.05 Mechanical properties of keratin fibres in complex environments

R Notman, University of Warwick, UK

P.06 Ion channel gating by electrokinetic interactions

D J Bonthuis, University of Oxford, UK

P.07 Variable temperature single molecule force spectroscopy of an extremophilic protein

K Tych, University of Leeds, UK

P.08 Modelling the transport of nanoparticles across the blood-brain barrier

G Fullstone, University College London, UK

P.09 Folding of cellular monolayers

S Hoehn, University of Cambridge, UK

P.10 Active polar fluid flow in deformable droplets

C A Whitfield, University of Sheffield, UK

P.11 Is it possible the hydrodynamic synchronization of colloidal rotors describing rigid trajectories? - an experimental proof

A Maestro, University of Cambridge, UK

P.12 Short-time dynamics E. coli chromosomal loci reveal a dependence on coordinate and indicate the presence of a sporadic but ubiquitous super-diffusive motion

A Javier Godinez, University of Cambridge, UK

Colloids and nanoparticles

P.13 Design concepts for nanostructured colloidal composites

J L Keddie, University of Surrey, UK

P.14 Nucleation of hard colloidal cubes

C Karner, University of Vienna, Austria

P.15 The reciprocal theorem for two objects

D Papavassiliou, University of Warwick, UK

P.16 PNIPAM microgels: A novel insight into their adsorption at fluid interfaces

A Maestro, University of Twente, The Netherlands / University of Cambridge, UK

P.17 Unusual order in squeezed spheres

W G Ellenbroek, Eindhoven University of Technology, The Netherlands

P.18 Deposition of colloidal asphaltene in capillary flow from computer simulation and homogeneous deposition models

E S Boek, Imperial College London, UK

Confined fluids and interfacial phenomena

P.19 Predicting anomalous fluid densities in carbon nanotubes

G J Wang, MIT, USA

P.20 Direct effects of non-equilibrium aggregates on Pdadmac/SDS layers at the air/water interface

I Varga, Eötvös Loránd University, Hungary

P.21 A Landau-Squire nanojet

N Laohakunakorn, University of Cambridge, UK

P.22 Hindered diffusion coefficients of spherical particles confined by microchannels

K Misiunas, University of Cambridge, UK

Liquid crystals/Liquids and glasses

P.23 Crystallization mechanism in melts of short n-alkane chains

M Anwar, Université du Luxembourg, Luxembourg

P.24 Effect of temperature on orientational ordering in a modified Gay-Berne fluid

R C Singh, Vidya College of Engineering, India

P.25 Electron transitions in Cr²⁺ in the aqueous solutions of MgSO_{3.6}H₂O:Cr

I Ismailov, Shumen University, Bulgaria

Polymers, polyelectrolytes and biomolecules

P.26 Cross-sectional imaging of organic solar cells:

Understanding efficiency and lifetime issues

T Glen, University of Cambridge, UK

P.27 Computational studies on the effect of stereotacticity of poly(N-isopropylacrylamide) in aqueous solution

V Botan, RWTH University, Germany

P.28 MD and COSMO-RS contact statistics for

poly(N-isopropylacrylamide) in solvents

V Botan, RWTH University, Germany

P.29 Transition path sampling with core-modification aimless shooting for a homopolymer chain

C Leitold, University of Vienna, Austria

P.30 Self-assembly of degalatosylated xyloglucan from tamarind seeds

D Bulone, Biophysics Institute, National Research Council, Italy

P.31 Key factors regulating the mass delivery of macromolecules to model cell membranes: gravity and electrostatics

R A Campbell, Institut Laue-Langevin, France

P.32 Hydration dynamics of proteins in solutions studied in 220–325 GHz band

O Sushko, Queen Mary University of London, UK

P.33 Nanostructuring thin polymer films with 2 and 3-beam single pulse laser interference lithography

I Martín-Fabiani, Instituto de Estructura de la Materia (IEM-CSIC), Spain

Rheology and non-equilibrium phenomena

P.34 Active nematic dynamics in a viscoelastic background

E Hemingway, Durham University, UK

P.35 Simulation of the linear and non-linear rheology of viscoelastic polymer solutions

B W Fitzgerald, University of Twente, the Netherlands

P.36 Plastic deformation mechanisms in glassy and semi-crystalline polymers

S Jabbari-Farouji, University of Joseph-Fourier-Grenoble, France

P.37 Dynamics and structure: a study of gelation in a non-aqueous colloidal system

F R Bartholomew, University of Cambridge, UK

Self-assembly, biomimetics and pattern formation

P.38 Lattice model of nucleation via partially disordered precursor

Y Lifanov, University of Warwick, UK

P.39 Fibrous scaffolds for neural tissue engineering in the auditory system

K Ngamkham, University College London, UK

P.40 Hierarchical morphogenesis of a hybrid peptide/protein system

K E Inostroza, Queen Mary University of London, UK; Nanotechnology Platform, Parc Científic de Barcelona, Spain

P.41 Synthetic DNA viruses for targeting breast cancer cells

L Guan, University College London, UK

P.42 Design of patchy polymersomes with topological surface patterns at the nanoscale

L Messenger, University College London, UK

P.43 Fabrication of “intelligent nanosurfaces” for controlled cell-substrate interaction

P Mokarian-Tabari, University College Cork and Tyndall National Institute, Ireland; Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN), Trinity College Dublin, Ireland

P.44 Artificial DNA membrane nanopores

K Göpfrich, University of Cambridge, UK

P.45 Out of equilibrium pattern formation in lipid membranes

L Parolini, University of Cambridge, UK

Surfactants, foams and emulsions

P.46 Surfactants and aqueous solubility enhancement of drugs: importance of the hydrophilic “head group”

Y Saaka, King's College London, UK

P.47 Pickering emulsion by arresting phase separation using anisotropic particles

S V Daware, Indian Institute of Technology, India

P.48 Immiscible lipids control the morphology of patchy emulsions

L-L Pontani, New York University, USA