

## MATERIALS AND COMPLEXITY V --- ANU KIOLOA CAMPUS 10-13 DECEMBER 2007

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### Monday Dec 10

16:30 Coach departs RSPHysSE  
19:00 Pasta dinner

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### Tuesday Dec 11

09:00-10:30

#### Session I

**Chair: Vince Craig**  
Adrian Sheppard

Welcome

Ray Dagastine  
Sherry Mayo  
Dave Dunstan

Probing dynamic interaction forces in Soft Matter Systems  
X-ray micro-Tomography in the Terabyte Science Theme at CSIRO  
Elasticity in Polymer Couette flow

11:00-13:30

#### Session II

**Chair: Rob Sok**  
Andy Christy

Continuum model for polyhedra and polyhedral tilings: constraints on possible binary crystal

Tomaso Aste  
Olaf Delgado-Friedrichs

Insights into disorder  
A software library for periodic structures in Euclidean space

16:00-17:30

#### Session III

**Chair: Christoph Arns**  
Trond Varslot  
Anthony Jones  
Masa Prodanovic

Radar imaging: waveform design for clutter rejection  
Elastic properties of the human proximal femur  
Drainage and imbibition simulations in realistic porous media based on the level set method

19:00

BBQ

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### Wednesday Dec 12

09:00-10:30

#### Session IV

**Chair: Stephen Hyde**

Gary Delaney  
Stuart Ramsden  
Toen Castle

Random Apollonian Packings of Non-circular Grains  
Investigating 2D Symmetry with Periodic Circle Packings  
Tangling On Embedded Nets: Chiral and Amphichiral Structures contain Torus knots, Links and Entanglements

11:00-12:30

#### Session V

**Chair: Tomaso Aste**

Myfanwy Evans  
Peter Wood  
Shaun Howard

Irregular Forests and Filaments  
Computational Topology  
Reflectometry: The Next Generation

15:30-17:00

**Session VI**

**Chair: Arthur Sakellariou**

Shichen Ji The effects of branch points on the properties of stiff dendrimers  
Yasmin Meléan Potential of carbonate rocks for CO<sub>2</sub> storage  
Liliana de Campo Polyphiles - Self Assembling Molecules with 3 (or more) Immiscible Arms

18:00

Bus departs Kioloa for Conference Dinner

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**Thursday Dec 13**

09:00-10:30

**Session VII**

**Chair: Mark Knackstedt**

Abid Ghous FIB Tomography: Characterising complex reservoirs at nanoscale  
Munish Kumar Fluid flow in real rocks - an understanding of the complexities of wettability in hydrocarbon bearing systems  
Drew Parsons Can dispersion interactions cause electrostatic potentials to change sign?

11:00-12:30

**Session VIII**

**Chair: Tim Senden**

Gunther Andersson Measuring Concentration Depth Profiles at Soft Matter Surfaces  
Vivianne Deniz Air bubbles and oil droplets in electrolyte solutions  
Christine Henry Cantilever-dependent "boundary slip" in the AFM

14:30-16:00

**Session IX**

**Chair: Adrian Sheppard**

Gerd Schroeder Tensor-valued Minkowski measures for tomographic datasets: Are they useful for structure characterisation?  
Andrew Kingston Digital Radon Transforms: Making the maths behind tomography computer friendly  
Werner Kunz Specific ion effects - some experiments and new modelling results  
Adrian Sheppard Closing remarks

16:30

Bus departs Kioloa for RSPHysSE

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