

**Second Oxford/Princeton Workshop schedule**  
**4-6 January 2012**  
**OCCAM**

**All presentations will take place in the ground floor seminar room of OCCAM**

---

**Wednesday 4 January**

8:45-9:15: **Coffee** (common room)

9:15-9:30: **Introduction**

Ian Griffiths – Goals of the workshop

9:30-11:00: **An introduction to problems in environmental flows**

Daniele Vigolo – Particle-wall impacts in a confined extensional flow

Amy Tsai – Density-driven convection with an inclined boundary: application in carbon dioxide storage

Yohan Davit – Modelling transport phenomena in biofilms

Howard Stone – 3d imaging and modelling of biofilm streamers

11:00-12:00: **Coffee and discussion**

12:00-1:00: **Tissue engineering and filtration**

Marianne Ellis – Taking tissue engineering beyond the bench: the role of bioprocessing

Ian Griffiths – Control and optimization in filtration and tissue engineering

1:00-2:30 **Lunch and discussion (OCCAM Main Common Room)**

2:30-3:00 **Elasticity**

Alain Goriely – Two problems in elasticity where things go the wrong way, or do they?

3:00-4:30: **Filtration**

Maria Bruna – A hard sphere model for Brownian dynamics

Robert Field – Membrane distillation

Jiandi Wan – Micro/nanofluidics for water purification

4:00 onwards: **Breakout sessions: filtration**

Coffee and discussion (common room)

Laura Gallimore – Filtration mechanisms and filtercake modelling (a Study Group problem) (main room)

Discussion (library)

6:30: **Dinner**

Depart from seminar room

---

**Thursday 5 January**

8:45-9:15: **Coffee** (common room)

9:15-10:45: **Elastocapillarity**

Camille Duprat – Wetting and deformation of fibrous media: elastocapillarity and hygroscopic coiling

Doug Holmes – Control and manipulation of fluid flow using elastic deformations

Phil Trinh – On the interaction between thin films and elastic beams

10:45-11:45: **Coffee and discussion**

11:45-12: **A tour of the Princeton lab**

Janine Nunes and Ian Griffiths

12:00-1:00: **Surfactant systems**

Cara Morgan – A mathematical model and experiments for self-assembly at interfaces

Colin Bain – Adsorption of micelles to interfaces

Howard Stone – Dissolution controlled surfactant spreading

1:00-2:30 **Lunch and discussion (OCCAM Main Common Room)**

2:30-3:30: **Microfluidic fibre fabrication and modelling**

Janine Nunes – Microfluidic fiber fabrication

Michele Taroni – Modelling the behaviour of paramagnetic chains and fibres

3:30-4:00 **Plant sciences**

Kostas Zygalkakis – Mathematical modelling in the rhizosphere

4:00 onwards: **Breakout sessions: plant sciences**

Ian Griffiths – Biogeochemical problems in sediments (a Study Group problem) (seminar room)

Coffee and discussion (common room)

Discussion (library)

6:30: **Dinner**

Depart from seminar room

---

## **Friday 6 January**

8:45-9:15: **Coffee** (common room)

9:15-9:45: Rob Style – Frost heave patterning caused by buckling

9:45-10:15: Stephen Wilson – An overview of current projects for my visiting fellowship

10:15-10:45: Andreas Muench

10:45-11:15: Coffee

11:15-11:45: Nick Hankins – Forward osmosis: principles and applications