

**INI/WIMCS Joint Follow-Up Meeting on
COMPUTATIONAL CHALLENGES IN PARTIAL DIFFERENTIAL EQUATIONS**

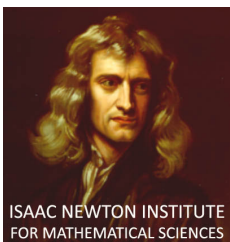
**Swansea University
4th–8th April 2011**

PROVISIONAL PROGRAMME

Version 4 September 10, 2010

ORGANISERS

Mark Ainsworth (University of Strathclyde), Charles M Elliott (University of Warwick)
Kenneth Morgan (Swansea University), Endre Süli (University of Oxford)



Monday 4th April, 2011

0730 Breakfast (for residents)

1030 Registration Opens

1100 Coffee

1230 Lunch

1345 **T. Lyons**, Director, WIMCS.

Welcome and opening.

1400 **A. Abdulle**, EPFL, Switzerland.

TBA.

1445 **T. Y. Hou**, Caltech, USA.

Uncertainty qualification via a data-driven multiscale stochastic method.

1530 Coffee

1600 **C. Le Bris**, CERMICS-ENPC, France.

Computational approaches for randomness in materials science.

1645 **D. Peric**, Swansea University, Wales, UK.

TBA.

1730 Close

1800 Reception

1900 Dinner (for residents)

Tuesday 5th April, 2011

0730 Breakfast (for residents)

0900 **S. Bartels**, Universität Bonn, Germany.

Adaptive algorithms and error control for phase field models.

0945 **J. S. Lowengrub**, UC Irvine, USA.

TBA.

1030 Coffee

1100 **G. S. Mishuris**, Aberystwyth University, Wales, UK.

TBA.

1145 **B. Stinner**, University of Warwick, England, UK.

TBA.

1230 Lunch

1400 **J. W. Barrett**, Imperial College London, England, UK.

TBA.

1445 **K. Deckelnick**, Otto–von–Guericke–Universität Magdeburg, Germany.

Numerical analysis of an inverse problem for the eikonal equation.

1530 Coffee

1600 **G. Dziuk**, Universität Freiburg, Germany.

TBA.

1645 **S. Ruuth**, Simon Fraser University, Canada.

TBA.

1730 Close

1900 Dinner (for residents)

Wednesday 6th April, 2011

0730 Breakfast (for residents)

0900 **C. Farhat**, Stanford University, USA.

On-line interpolation on Riemannian manifolds of parameterized reduced-order models.

0945 **Y. Maday**, Université Pierre et Marie Curie, France.

TBA.

1030 Coffee

1100 **A. T. Patera**, MIT, USA.

Certified reduced basis methods for in-situ real-time solution of parametrized partial differential equations.

1145 **J. Peraire**, MIT, USA.

TBA.

1230 Lunch

1400 **G. Rozza**, EPFL, Switzerland.

Reduced basis methods for viscous flows: focus on efficient geometrical parametrization for (shape) optimization and parameter estimation.

1445 **S. Adhikari**, Swansea University, Wales, UK.

TBA.

1530 Coffee

1600 **G. M. Karniadakis**, Brown University, USA.

Stochastic modeling for high-dimensional systems.

1645 **W. Ren**, Courant Institute, USA.

A continuum model for moving contact lines and the spreading of liquid thin films.

1730 Close

1900 Dinner (for residents)

Thursday 7th April, 2011

0730 Breakfast (for residents)

0900 **S. J. Cox**, Aberystwyth University, Wales, UK.

Bubble-scale simulations of the flow of aqueous foams.

0945 **Q. Du**, Pennsylvania State University, USA.

TBA.

1030 Coffee

1100 **T. Lelièvre**, CERMICS-ENPC, France.

TBA.

1145 **T. N. Phillips**, Cardiff University, Wales, UK.

TBA.

1200 Lunch

1400 **E. Cancès**, CERMICS-ENPC, France.

Density functional theory for large or infinite systems.

1445 **R. S. Elliott**, University of Minnesota, USA.

TBA.

1530 Coffee

1600 **P. Lin**, University of Dundee, Scotland, UK.

Error analysis of a complex lattice quasi-continuum method.

1645 **C. Ortner**, University of Oxford, England, UK.

Construction and analysis of atomistic/continuum coupling methods on simple lattices.

1730 Close

1930 Reception

2000 Conference Dinner

Friday 8th April, 2011

0730 Breakfast (for residents)

0900 **L. Formaggia**, Politecnico di Milano, Italy.

Numerical modeling for the simulation of the cardiovascular system.

0945 **K. Miller**, The University of Western Australia, Australia.

Real-time non-linear finite element and meshless computations.

1030 Coffee

1100 **P. Nithiarasu**, Swansea University, Wales, UK.

Subject-specific biomedical modelling challenges.

1145 **S. Sherwin**, Imperial College London, England, UK.

From h to p efficiently: bridging the gap between high and low order finite element methods.

1230 Close and Lunch

1900 Dinner (for residents)