Schedule of talks: FEniCS 14, Paris

Monday, 16 June 2014

8:30–9:00, Registration

9:00–12:35, Morning session chair: Garth Wells

9:00–9:30, Jean-Claude Nedelec, Ecole Polytechnique
Title: TBA
9:30–9:35 Questions and Discussion

9:35–10:05, Marie E. Rognes, Simula Research Laboratory
Title: An adjoint-enabled simulation framework for cardiac electrophysiology
10:05–10:10 Questions and Discussion

10:10–10:40, Florian Rathgeber, Imperial College London,
Title: Firedrake: Re-imagining FEniCS by Composing Domain-specific Abstractions
10:40–10:45 Questions and Discussion

10:45–10:50 Beverage break

10:50–11:20, Martin Sandve Alnæs, Simula
Title: TBA
11:20–11:25 Questions and Discussion

11:25–11:55, Hartmut Monien, Bethe Center for Theoretical Physics, Bonn
Title: Using FEniCS to solve problems in algebraic geometry
11:55–12:00 Questions and Discussion

12:00–12:30, Bärbel Janssen, KTH, Stockholm
Title: Quadrature for flexible interface representation in Dolfin-HPC
12:30–12:35 Questions and Discussion

12:35–14:00 Lunch on your own
Monday, 16 June 2014

14:00–17:50, Afternoon session chair: Rob Kirby

14:00–14:30, **Corrado Maurini**, Andres Leon Baldelli, and Tianyi Li, Univ. Pierre and Marie Curie
Title: *Variational inequalities solvers and their application to variational damage and fracture mechanics*
14:30–14:35 Questions and Discussion

14:35–15:05 **Fabio Luporini**, Paul H. J. Kelly, and David A. Ham, Imperial College London
Title: *COFFEE: an Optimizing Compiler for Finite Element Local Assembly* (*COFFEE* stands for *COmpiler For FinitE Element local assembly*)
15:05–15:10 Questions and Discussion

15:10–15:40, **Andrew T. T. McRae**, Gheorghe-Teodor Bercea, Lawrence Mitchell, David A. Ham, and Colin J. Cotter, Imperial College London,
Title: *Firedrake: extruded meshes and outer-product elements*
15:40–15:45 Questions and Discussion

15:45–16:00 Beverage break

16:00–16:30, **Johan Jansson**, KTH, Stockholm and Basque Center for Applied Mathematics, Bilbao
Title: *Adaptive high-performance methods and applications in the FEniCS-HPC framework*
16:30–16:35 Questions and Discussion

16:35–17:05 Erik Burman, **Susanne Claus**, Peter Hansbo, Mats G. Larson, Andre Massing,
Title: *Level-set based unfitted finite element methods in FEniCS*
17:05–17:10 Questions and Discussion 17:10–17:40

**Johan Hoffman**, KTH, Stockholm
Title: *High Performance Computing with FEniCS*
17:45–17:50 Questions and Discussion

17:50–18:30 Beverage break

19:30 *Dinner at Le Train Bleu, Gare de Lyon*

When more than one author is listed, the speaker’s name is in boldface.
Tuesday, 17 June 2014

9:00–12:35, Morning session chair: David Ham

9:00–9:30, Anders Logg, Chalmers Univ.
Title: TBA
9:30–9:35 Questions and Discussion

9:35–10:05, Benjamin Kehlet, Simula
Title: mshr — mesh generation in FEniCS
10:00–10:05 Questions and Discussion

10:10–10:40, Laurent Rineau, Geometry Factory
Title: CGAL mesh generation
10:40–10:45 Questions and Discussion

10:45–10:50 Beverage break

10:50–11:20, Kristian Ejlebjerg Jensen, Gerard J. Gorman, Imperial College London,
Title: Anisotropic Mesh Adaptation and Topology Optimization
11:20–11:25 Questions and Discussion

11:25–11:55, Colin Cotter, Department of Mathematics, Imperial College London
Title: Mixed finite element methods on curved meshes
11:55–12:00 Questions and Discussion

12:00–12:30, David Bernstein, Garth Wells, Chris Richardson, Axel Gerstenberger
Title: The XFEM in FEniCS with an Application in Fracture Mechanics
12:30–12:35 Questions and Discussion

12:35–14:00 Lunch on your own

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Tuesday, 17 June 2014

Afternoon session chair: Anders Logg 14:00–14:30, Axel

**Gerstenberger**, Garth Wells, Chris Richardson, David Bernstein
Title: *An algebraic multi-grid implementation in FEniCS for solving 3D fracture problems using the extended finite element method*
14:30–14:35 Questions and Discussion

14:35–15:05 **Simon W. Funke** and M Nordaas, Simula Research Laboratory
Title: *Optimisation algorithms in Hilbert spaces for PDE-constrained problems*
15:05–15:10 Questions and Discussion

15:10–15:20 Beverage break

15:20–15:50 **Rob Kirby**, Baylor Univ., Waco, TX
Title: *Recent results on Bernstein polynomials*
15:50–15:55 Questions and Discussion

15:55–16:25 **Garth Wells**, Jesus College
Title: *TBA*
16:25–16:30 Questions and Discussion

16:30–19:00 **Meet the Developers** This is an opportunity to meet one-on-one with developers of key parts of the FEniCS suite.

Beverages and snacks will be available.

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