



FEniCS'12

High-performance PDE frameworks for modern architectures

Oslo, June 5–7 2012

Program

Tuesday June 5

Location: "Storstua" at Simula

09.00–13.00 Registration (in Simula reception)
09.30–12.00 FEniCS Tutorial by **Anders Logg**

Session 1 *Chair: Anders Logg*

13.00–13.15 Welcome by **Anders Logg**
13.15–14.00 **Garth Wells**
14.00–14.45 **Paul Kelly**
14.45–15.00 Break

Session 2 *Chair: Xing Cai*

15.00–15.45 **David Ketcheson**
15.45–16.15 Break
16.15–16.40 **Graham Markall**
16.40–17.05 **Brian Brennan**
17.05–17.30 **Martin Alnæs**

Wednesday June 6

Location: "Storstua" at Simula

Session 3 *Chair: Hans Petter Langtangen*

10.00–10.45 **Felipe Cruz**
11.00–11.45 **Andy Terrel**
12.00–13.00 Lunch
13.00–13.45 **Carsten Burstedde**
13.45–14.30 **Ridgway Scott**
14.30–14.45 Break

Session 4 *Chair: Marie E. Rognes*

14.45–15.10 **Simon Funke**
15.10–15.35 **David Ham**
15.35–16.00 **Josef Höök**
16.00–16.30 Break
16.30–16.55 **Andre Massing**
16.55–17.20 **Kent-Andre Mardal**

19.00– Workshop dinner

Thursday June 7

Location: "Bakrommet" at Simula

Session 5

Chair: Xing Cai

09.30–10.15

Andre Brodtkorb

10.15–11.00

Scott Baden

11.00–11.15

Break

11.15–12.00

Didem Unat

12.00–12.15

Closing remarks

List of speakers and titles

<i>Easy HPC</i>	
Garth N. Wells	1
<i>Generating programs works better than transforming them, if you get the abstraction right</i>	
Paul H. J. Kelly	3
<i>Design of optimal Runge-Kutta methods</i>	
David Ketcheson	5
<i>Generating high-performance multi-platform FEM solvers using the Many-core Form Compiler and OP2</i>	
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<i>An embedded language for vector operations via OpenCL</i>	
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<i>Algorithms for efficient compilation of complicated forms</i>	
Martin S. Alnæs	11
<i>High-performance heterogeneous CPU-GPU computing on DEGIMA cluster</i>	
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<i>Title: TBA</i>	
Andy Ray Terrel	15
<i>Modular forest-of-octrees AMR: algorithms and interface</i>	
Carsten Burstedde	17
<i>Scalable solution of non-linear time-dependent systems</i>	
L. Ridgway Scott	19
<i>libadjoint: a new abstraction for developing adjoint models</i>	
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<i>dolfin-adjoint: automating the adjoints of DOLFIN models</i>	
David A. Ham	23
<i>GenFoo: A general Fokker-Planck solver with applications in fusion plasma physics</i>	
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<i>Nitsche's method for fictitious domains and overlapping meshes: analysis and implementation.</i>	
Andre Massing	27
<i>The surprise talk</i>	
Kent-Andre Mardal	29
<i>Compact stencils for the shallow water equations on graphics processing units</i>	
André R. Brodtkorb	31
<i>Computing at a million laptops per second</i>	
Scott B. Baden	33
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