

Scientific Computing

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CBC Workshop on Petsc4py - June 4, 2012

Dr. Aron Ahmadia from KAUST will hold a workshop on Petsc4py, June 4 at 14:15 - 16:00 in Hjørnehiet.

petsc4py workshop

Dr. Aron Ahmadia, KAUST

Total number of participants: 11
 Total number of guests outside of CBC: 3
 Number of different nationalities represented: 4
 Total number of speakers: 1
 Total number of talks: 1

We will focus on implicit methods for solving partial differential equations using Petsc4py, which offers high-level Python access to the PETSc library (for distributed array computing, sparse matrices, linear and nonlinear solvers, preconditioners, and eigensolvers). We will take a tour of the functionality of Petsc4py using two examples, a 3-dimensional Poisson problem and a nonlinear velocity-vorticity formulation of steady 2-dimensional cavity- and lid-driven flow. We will also briefly discuss performance and design considerations such as dynamic loading, interfacing with Cython, and using f2py to generate Fortran 90 extension modules.

About the speaker

Dr. Ahmadia is a Computational Scientist at the Supercomputing Laboratory at King Abdullah University of Science and Technology (KAUST). He works at the intersection of applied mathematics, software engineering, and application domains as diverse as adaptive optics, semiconductor lithography, and ice-sheet modeling. His focus is in the collaborative development of robust, reproducible, and scalable software tools for computational science.

High-Level Programming Techniques

Efficient Collective File System Interfaces at the Petascale
 Hyperbolic Partial Differential Equations
 Synthetic PPC450D Assembly for Generation and Optimization

New Optimization Methods and Applications

Numerical Time Integrators
 Mask Initialization in Semiconductor Lithography
 Synthetic Assembly Kernels

What	
When	Jun 04, 2012 from 02:30 PM to 04:15 PM
Where	Hjørnehiet @ Simula
Contact Name	Hans Petter Langtangen
Attendees	Aron Ahmadia Dag Sverre Seljebotn Glenn T. Lines Heidi-C. Bernhoff-Jacobsen Johan Hake Joris Verschaeve NN1 Preben N. Olsen Wei Zhang Xing Cai Yapi Donatien Achou
Add event to calendar	 vCal  iCal