Scientific Computing

CBC Seminar on Structure-Preserving Iterative Methods - May 23, 2012

There will be a joint workshop between Prof. Jan Nordbotten's group from the Department of Mathematics, University of Bergen, and CBC people from the Robust Solvers project on May 23.

Total number of participants: 5
Total number of guests outside of CBC: 3
Number of different nationalities represented: 1
Total number of speakers: 1
Total number of talks: 1

Seminar on Structure-Preserving Iterative Methods

This workshop addressed how to construct numerical methods that preserve certain important properties such as local mass balance. The first target application was elastic deformation of a porous medium coupled with flow (single- or two-phase) through the medium. This mathematical model is of relevance both to the oil industry and to the understanding of flow in the spine and the syringomelia disease. Our aim at this workshop was to discuss how to construct finite element methods (mixed methods or discontinuous Galerkin methods) that mimic the desirable physical properties of finite volume methods. Such finite element methods can be readily implemented in FEniCS and applied to unstructured meshes in geometrically complicated domains of high geological and biomedical relevance. The FEniCS model can also easily be extended to incorporate additional partial differential equations for various physical effects.

What	▪ Workshop
When	May 23, 2012 from 10:00 AM to 04:00 PM
Where	Bakrommet @ Simula
Contact Name	Hans Petter Langtangen
Attendees	Jan Nordbotten Eirik K. Joachim Haga Kent-Andre Mardal Hans Petter Langtangen
Add event to calendar	vCal iCal