

Scientific Computing

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CBC Workshop on Mathematical Modelling of Medical Systems - May 19, 2014

This is an informal meeting with Anders Dale to present and discuss research issues of mutual interest.

Total number of participants: 9
 Total number of guests outside of CBC: 1
 Number of different nationalities represented: 5
 Total number of speakers: 6
 Total number of talks: 6

Presentations:

Karen: Relation between Chiari I and syringomyelia from a mechanical perspective

Kent: Blood flow in the brain.

Johan: Polynomial Chaos Expansions on Discontinuous Problems

Simon: PDEs, parameter estimation, and optimal design made easy (FEniCS + dolfin_adjoint).



Jonathan: Efficient statistical uncertainty modeling.

Valeriya: Data-driven modelling using learning theory approaches

About Anders Martin Dale

Anders Martin Dale is a prominent neuroscientist and Professor of Radiology and Radiology, Neurosciences, Psychiatry, and Cognitive Science at the University of California, San Diego (UCSD), and is one of the world's leading developers of sophisticated computational neuroimaging techniques. He is the founding Co-Director of the Multi-Modal Imaging Laboratory (MMIL) at UCSD.

Dale founded and initially developed the brain imaging analysis software FreeSurfer as a graduate student at UCSD. He later co-developed FreeSurfer at Massachusetts General Hospital/Harvard Medical School with Bruce Fischl. In addition to FreeSurfer, his major scientific contributions include developing: a) event related functional magnetic resonance imaging (fMRI) (with Randy Buckner at Harvard), b) an in vivo method to quantify the gray matter thickness of the cerebral cortex using MRI images (with Bruce Fischl at Harvard), c) an analysis platform to combine fMRI with magnetoencephalography (MEG), d) computational morphometry to automatically label brain regions using MRI scans (with Bruce Fischl at Harvard and Rahul Desikan and Ron Killiany at Boston University), and e) MRI-based methodologies to quantify longitudinal change in brain regions (with Dominic Holland at UCSD). Working in collaboration with James Brewer and Linda McEvoy at UCSD, Dale has also demonstrated the efficacy of using automated MRI-based methodologies as a biomarker for early detection and tracking progression of Alzheimer's disease.

What	
When	May 19, 2014 from 01:00 PM to 04:00 PM
Where	Simula
Contact Name	Hans Petter Langtangen
Attendees	Anders Dale Karen Støverud Kent Andre Massing Johan Hake Simon Funke Jonathan Feinberg Valeriya Hans Petter Langtangen
Add event to calendar	 vCal  iCal