

## Scientific Computing

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## CBC Workshop on Aerosols: Dispersion, Transport and Effects - May 4-5, 2009

This workshop concerned simulation of flows with small droplets or solid particles (aerosols), a topic of great relevance to, e.g., drug inhalation, spreading of the swine flu, bioterror attacks, and effects of pollution. The first day, at Simula, featured technical in-depth talks on mathematical modeling, numerical methods, and discussion of results from case studies. The second day, at FFI, contained presentations of the main results to the advisory committee for this project. The advisory committee has members from the Norwegian Armed Forces, the Norwegian Ministry of Defense, Ullevål University Hospital, CBC, University of Oslo, Norwegian University of Science and Technology, and the University of Cyprus.

Total number of participants: 30  
 Total number of guests outside of CBC: 10  
 Number of different nationalities represented: 6  
 Total number of speakers: 11  
 Total number of talks: 17

### CBC Workshop on Aerosols: Dispersion, Transport and Effects

Monday May 4, 2009.

0900 – 0910 Welcome and introduction: comments on the role of aerosols in the spreading of swine flu - by Mortensen  
 0910 – 0930 Modelling pollutant dispersion in an idealized urban area - by Wingstedt  
 0930 – 0950 Modelling particle transport and deposition inside a rotating aerosol chamber - by Vartdal  
 0950 – 1010 Low order dynamical systems modelling of scalar field transport - by Tutkun

1010 – 1030 Coffee



1030 – 1050 On the importance of turbulence on aerosol dispersion and transport - by Reif  
 1050 – 1110 Turbulence modelling with FEniCS - by Mortensen  
 1110 – 1155 Turbulent flow in the human airways and its effect on particle deposition - by Radhakrishnan

1155 – 1300 Lunch

1300 – 1345 Dispersion in Turbulent flows using Direct & Large Eddy Simulations : Progress update - by Grigoriadis  
 1345 – 1415 FEniCS: automated solutions of differential equations - by Logg

1415 – 1445 Coffee

1445 – 1505 Modelling particle transport and deposition in the human airways - by Fossum  
 1505 – 1525 Simulation Methodology for Bioflows - by ValenSendstad  
 1525 – 1600 Discussion

<b>What</b>	▪ Workshop
<b>When</b>	May 04, 2009 from 09:00 AM to 04:00 PM
<b>Where</b>	Simula
<b>Contact Name</b>	Hans Petter Langtangen
<b>Attendees</b>	04.05.2009 Arne Bockmann Hannibal Fossum Dimos Gregoriadis Anders Hegeland Hans Petter Langtangen Glenn T. Lines Anders Logg Marius Lysaker Kent-Andre Mardal André Massing Mikael Mortensen Hari Radhakrishnan Bjørn Anders Reif Kristoffer Selim Joakim Sundnes Murat Tutkun Kristian Valen-Sendstad Carl Erik Wassberg Emma Wingstedt
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