



A CMA-workshop on

Computational Finance and Physics

Oslo, March 22-23, 2004

On March 22 and 23 there will be a workshop on computational finance and physics at the Centre of Mathematics for Applications (CMA), University of Oslo. The workshop will focus on computational methods and their analysis for problems arising in finance and physics. There will be particular emphasis on the development and application of various types of Monte Carlo methods. The speakers have background in physics, statistics, probability, finance, and partial differential equations, and the main purpose of the workshop is to promote discussion across these disciplines.

Topics that will be addressed include

- American options and Monte Carlo methods
- Quasi-Monte Carlo methods in finance
- Spatial random fields and insurance
- Modeling errors versus Monte Carlo uncertainty in finance
- Numerical methods for Hamilton-Jacobi-Bellman (integro) partial differential equations and their convergence analysis.
- Variational and diffusion Monte Carlo methods in quantum physics with applications to many-body problems
- Path integral methods in quantum physics
- Monte Carlo methods in statistical physics
- Monte Carlo simulations in heavy-ion collisions

Invited speakers include

- **Marco Avellaneda** (Courant Institute of Mathematical Sciences, US), to be confirmed.
- **Erik Bølviken** (University of Oslo)
- **Jordi Boronat** (Universitat Politècnica de Catalunya, Spain)
- **Lars Oswald Dahl** (Storebrand)
- **David Dean** (Oak Ridge National Lab and University of Tennessee, US)
- **Xeni Dimakos** (Norwegian Computing Center)
- **Eirik Flekkøy** (University of Oslo)
- **Espen R. Jakobsen** (Norwegian University of Science and Technology)
- **Claudia La Chioma** (Istituto per le Applicazioni del Calcolo "M. Picone", Rome)
- **Kevin Schmidt** (Arizona State University, US)
- **Agnes Sulem** (Inria, France)
- **Anders Szepessy** (Royal Institute of Technology, Sweden)
- **Evgeny Zabrodin** (CMA)

All persons who are interested are welcome to attend this informal workshop.

Organizing committee:

[Fred Espen Benth](#) (UiO/CMA)

[Morten Hjorth-Jensen](#) (UiO/CMA)

[Kenneth Hvistendahl Karlsen](#) (UiB/CMA)