2^{nd} HIPERFIT Workshop 2011

Mathematical Finance meets Programming Languages and Systems

Call for Participation

December 1-2, 2011
Copenhagen, Denmark

Information online: `http://hiperfit.dk/workshop-12-2011.html`

HIPERFIT

Today, the financial sector faces daunting computational challenges, involving both an increasing demand for performance and higher transparency requirements. In addition, time-to-market is more and more important for financial applications, both by commercial software developers and in-house. The HIPERFIT[1] research center at the University of Copenhagen aims to solve these simultaneous challenges of high transparency, high computational performance and high productivity in an integrated approach of declarative, domain specific and high-level functional programming languages.
HIPERFIT fosters cooperation between researchers from three different university departments (Computer Science, Mathematics, and Physics), and major industrial partners. Researchers and practicioners contribute cutting edge knowledge from their respective fields to bear on computational and algorithmic problems that transcend their own field of expertise.

2^{nd} HIPERFIT workshop, December 1^{st} and 2^{nd}, 2011:

In view of our interdisciplinary spirit, HIPERFIT organises biannual workshops to encourage experts' exchange and discussions. Our 2^{nd} workshop, which will take place in Copenhagen on December 1-2, features 10 invited

[1] HIPERFIT is the research center for Functional High-Performance Financial Information Technology at the University of Copenhagen, funded by the Danish Council for strategic research. In cooperation with CFIR (Copenhagen Finance IT Region), the center joins researchers in mathematical finance, programming languages, and systems, and four major Danish banks (Danske Bank, Nordea, Jyske Bank, Nykredit) and two companies in Financial Software (SimCorp, Lexifi). For more information see `http://hiperfit.dk`.

presentations by our academic partners and invited guests, combined with two special talks (DIKU talk and COPLAS talk series).

Our eleven speakers are international researchers from the different HIPERFIT areas, ranging from modern mathematical finance, via programming language technology and modern approaches to parallel programming, to high-performance systems. Interested researchers and practicioners of all related fields are invited to participate in this exciting event in Copenhagen, to meet and discuss with our international speakers and guests.

Organisation and Venue:

The HIPERFIT 2011 workshop will be held at the University of Copenhagen, North Campus, in the HCØ building – next to the Department of Computer Science (DIKU). A map and travel information can be found on the department web pages `http://www.diku.dk/english/contact/findvej_kopi_kopi/`.

There will be no published proceedings, the meeting is intended to be an interdisciplinary forum for discussion and networking. For more information, including presentation abstracts and the most recent schedule information, please visit the workshop web pages `http://hiperfit.dk/workshop-12-2011.html`.

Participation is free, but for organisational purposes, a workshop registration is required. To register, please fill out the web form accessible from the workshop pages.

Looking forward to seeing you in Copenhagen!
Jost Berthold and Fritz Henglein – HIPERFIT Research Center

Workshop Programme:

Thursday 1^{st} December:

- Claudio Albanese, Imperial College/Global Valuation Ltd
  High Throughput Portfolio Processing on Heterogeneous Boards
- Enrico Biffis, Imperial College
  Collateral Flows, Funding Costs, and Counterparty-Risk-Neutral Swap Rates
- Don Syme, Microsoft Research Redmond
  Strongly-Typed Programming in the Information Rich World

- Niels Nygaard, University of Chicago
  Optimal Discretization of Random Variables and Option Pricing Using F#
- Satnam Singh, University of Birmingham
  Data-parallel GPU/FPGA Programming with Accelerator
- Manuel Chakravarty, University of New South Wales
  Shared Data Structures in Nested Data Parallelism
- Mary Sheeran, Chalmers University of Technology
  (DIKU talk) Domain-Specific Languages: Past, Present and Future

Friday 2^{nd} Dec.:

- Robert Harper, Carnegie-Mellon University
  On Teaching Parallelism in Introductory CS Courses at CMU
- John Reppy, University of Chicago
  Portable Parallelism in Diderot
- Clemens Grelck, University of Amsterdam
  Declarative Array Programming with Single Assignment C
  - Language Design and Compiler Technology -
- Thomas Neumann, Technical University Munich
  HyPer-sonic Combined Transaction AND Query Processing
- Robert Harper, Carnegie-Mellon University
  (COPLAS talk) Canonicity for Two-Dimensional Type Theory