DEISA PRACE Symposium 2011

Helsinki, Finland
13-14 April, 2011

Venue: National Museum of Finland

Preliminary Agenda
Draft Mar 8, 2011

Tuesday, April 12

20:00   Dinner for Speakers
        Restaurant Töölönranta

Wednesday, April 13

8:00    Registration opens
9:00    Start of the Symposium

Welcome Address by Kimmo Koski, director of CSC –IT Center for Science Ltd.

9:20 – 11:05  “World-wide Perspectives 1”
Chair: Kimmo Koski
Speakers

9:20    Leena Vestala
        Director of the Division for Higher Education and Science, Finnish Ministry of
        Education, Culture and Science
        "Finnish Science Policy and Research Infrastructures"

9:40    Zoran Stancic
        Deputy Director General for Information Society and Media, European Commission
        "The Future of High Performance Computing in Europe"

10:20   Achim Bachem
        Chairman of Research Centre Juelich and Coordinator of PRACE
        "PRACE 2020 - a vision for a sustainable European HPC-Infrastructure"

11:00 - 11:25  Coffee break

11:25 – 12:35  “World-wide Perspectives 2”
Chair: Stefan Heinzel
Speakers

11:25    Thom Dunning
        UIUC, Director of NCSA
        "Sustained Petaflops from Blue Waters for Capacity Computing: preparing for the
        simulations"

12:00    Mitsuo Yokokawa
        Next-Generation Supercomputer R&D Center, Riken, Japan
        "On the development of the K computer"
12:35 – 13:50  Lunch

A tour of the National Museum will be organized during the lunch break (12:35-13:10). The optional tour is free of charge.

13:50 – 15:35  “World-wide Perspectives 3”
**Chair: Stefan Heinzel**

 Speakers

13:50  Xuebin Chi
Chinese Academy of Science, China
Scientific computing applications for Petascale system

14:25  David Keyes
KAUST, Saudi Arabia & Columbia University, US
The Exascale: Why an international campaign

15:00  Vladimir Voevodin
Moscow State University, Russia
Moscow State University and High Performance Computing

15:35 – 16:00  Coffee break

16:00 – 17:00  “Challenges in Computational Science 1”
**Chair: Janne Ignatius**

 Speaker

16:00  Thomas Janka – Astrophysics
MPI for Astrophysics, Garching, Germany
Advancing to the Third Dimension: Supernova Models Confronting Observations

16:30  De Raedt - Quantum Computing
Univ. Groningen, The Netherlands
Insights on Realistic Quantum Computing Devices from Simulation

17:00 – 18:50  PRACE User Forum
**Chair: Ana Bela Dias**

20:30  Conference Dinner
Restaurant Sipuli

Thursday, April 14

9:00 – 11:00  “Challenges in Computational Science 2”
**Chair: Klaus Schilling**

 Speakers

09:00  Hannu Kurki-Suonio - Space Research
University of Helsinki, Finland
PLANCK Space Mission of ESA

09:30  Thierry Poinson - Engineering
CNRS & CERFACS, Toulouse, France
What we will learn on turbulent combustion from simulations on the Exascale level

10:00  Giovanni Aloisio - Climate Research
Centro Euro-Mediterraneo per i Cambiamenti Climatici (CMCC), Italy
Climate change challenges at exascale

10:30  Alejandro Muramatsu – Materials Science
University of Stuttgart, Germany
Simulations Driven Design of Correlated Quantum Matter - The Case of Spin-Liquids
11:00 – 11:20  Coffee break

11:20 – 11:50  “DEISA & TeraGrid Follow-up”
   Chair: Alison Kennedy
   Speakers
   Hermann Lederer, Stefan Heinzel, RZG
   DEISA - Resumée
   John Towns, NCSA, TeraGrid Chair
   eXtreme Digital

11:50 – 13:05  “Extreme Computing 1”
   Chair: Alison Kennedy
   11:50  Ilpo Vattulainen – Biophysics
       Tampere University of Technology, Finland
       Physics of biological systems - Trafficking of cholesterol
   12:15  Koen Hillewaert – Engineering
       Cenaero, Gosselies, Belgium
       Convergence analysis of higher-order discontinuous Galerkin method
       for the direct numerical simulation of transitional flows
   12:40  Francesco Luigi Gervasio - Life Sciences
       Spanish National Cancer Research Centre, Madrid, Spain
       Combining computer simulations and experiments to study complex biological
       phenomena

13:05 – 14:15  Lunch break

   Chair: Hermann Lederer
   14:15  Peter Coveney - Turbulence
       University College London, UK
       Parallel space-time approach to turbulence
   14:40  Constantia Alexandrou – Nuclear Physics
       University of Cyprus, Cyprus
       Understanding the Strong Interactions via large scale simulations
   15:05  Sergei Ivanov, Dominik Marx - Chemistry
       University of Bochum, Germany
       Effects of Quantum Nuclear Motion in an Enzyme employing Hydrogen Tunneling
   15:30  Florian Janoschek - Bio-Engineering
       University of Eindhoven, the Netherlands
       Large Scale High Resolution Blood Flow Simulations

15:55  Concluding remarks

16:00  End of Symposium, Farewell Coffee