

DEISA PRACE SYMPOSIUM 2011

April 13–14, 2011
National Museum of Finland
Helsinki, Finland

PROGRAMME

TUESDAY, APRIL 12

20:00 **Dinner for Speakers** at [Restaurant Töölönranta](#)

WEDNESDAY, APRIL 13

8:00 **Registration opens**

9:00 **Start of the Symposium**

Welcome Address by **Kimmo Koski**, Managing Director, CSC –IT Center for Science Ltd., Finland

9:20 – 10:45 **“World-wide Perspectives 1”**

Chair: **Kimmo Koski**

9:20 **Leena Vestala**

Director, Division for Higher Education and Science, Ministry of Education, Culture and Science, Finland

Finnish Science Policy and Research Infrastructures

9:40 **Zoran Stancic**

Deputy Director-General, Information Society and Media Directorate-General, European Commission, Belgium

The Future of High Performance Computing in Europe

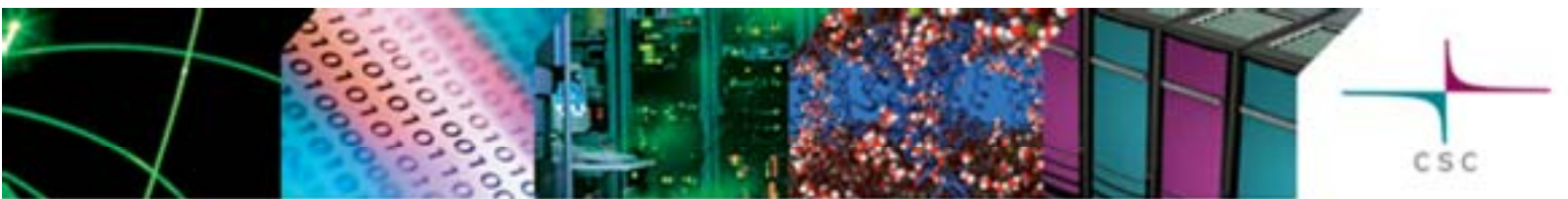
10:10 **Achim Bachem**

Chairman of the Board of Directors, Forschungszentrum Jülich GmbH and Coordinator, PRACE, Germany

PRACE 2020 - a vision for a sustainable European HPC-Infrastructure

10:45 - 11:00 **Coffee break**





11:00 – 12:10 “World-wide Perspectives 2”

Chair: **Stefan Heinzl**

11:00

Thom Dunning

Director, National Center for Supercomputing Applications (NCSA), University of Illinois at Urbana-Champaign (UIUC), USA

Sustained Petaflops from Blue Waters for Capacity Computing: preparing for the simulation

11:35

Vladimir Levin

Professor, Lomonosov Moscow State University, Russia

Application of CUDA technology for strength problems. Fidesys package.

12:10 – 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. Please sign up for the tour at the registration desk.

13:50 – 15:35 “World-wide Perspectives 3”

Chair: **Stefan Heinzl**

13:50

Xue-bin Chi

Professor, Computer Network Information Center (CNIC), Chinese Academy of Science (CAS), China

Supercomputing Applications in CAS

14:25

David Keyes

Dean, Mathematical and Computer Sciences and Engineering Division, King Abdullah University of Science and Technology (KAUST), Saudi Arabia

The Exascale: Why an international campaign

15:00

Vladimir Voevodin

Deputy Director, Research Computing Center (RCC), Lomonosov 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**

16:00

Hans-Thomas Janka – Astrophysics

Research Group Leader, Max Planck Institute for Astrophysics, Germany

Advancing to the Third Dimension: Supernova Models Confronting Observations

16:30

Hans De Raedt – Quantum Computing

Professor, Department of Applied Physics, University of Groningen, the Netherlands

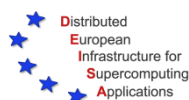
Insights on Realistic Quantum Computing Devices from Simulation

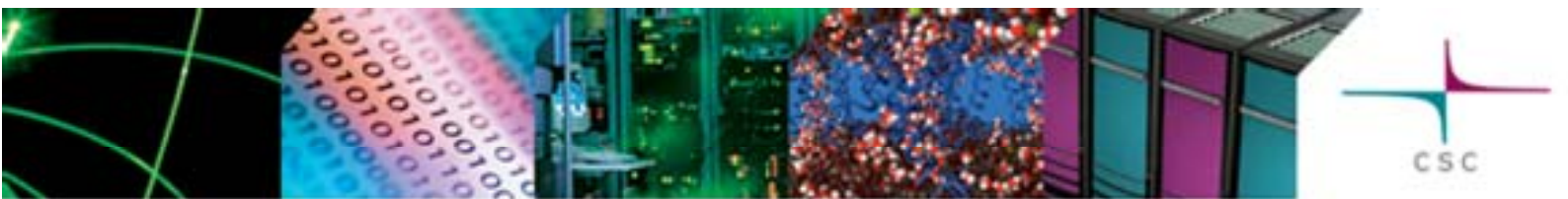
17:00 – 18:50 PRACE User Forum

Chair: **Ana Bela Dias**

20:00

Conference Dinner at [Restaurant Sipuli](#)



**THURSDAY, APRIL 14****9:00 – 11:00 “Challenges in Computational Science 2”**Chair: **Klaus Schilling**09:00 **Hannu Kurki-Suonio** – Space Research

Lecturer, Department of Physics, University of Helsinki, Finland

*PLANCK Space Mission of ESA*09:30 **Thierry Poinso** – Engineering

Research Director, Institut de Mécanique des Fluides de Toulouse (IMFT), National Center for Scientific Research (CNRS), France

*What we will learn on turbulent combustion from simulations on the Exascale level*10:00 **Giovanni Aloisio** – Climate Research

Division Head, Scientific Computing and Operations (SCO), Euro-Mediterranean Centre for Climate Change Ltd (CMCC) and Professor, Engineering Faculty, University of Salento, Italy

Sandro Fiore

Scientist, Scientific Computing and Operations (SCO), Euro-Mediterranean Centre for Climate Change Ltd (CMCC), Italy

*Climate change challenges at exascale*10:30 **Alejandro Muramatsu** – Materials Science

Professor, Institute for Theoretical Physics III, 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**11:20 **Stefan Heinzl**

Director, Rechenzentrum Garching (RZG), Germany

Hermann Lederer

Deputy Director, Rechenzentrum Garching (RZG), Germany

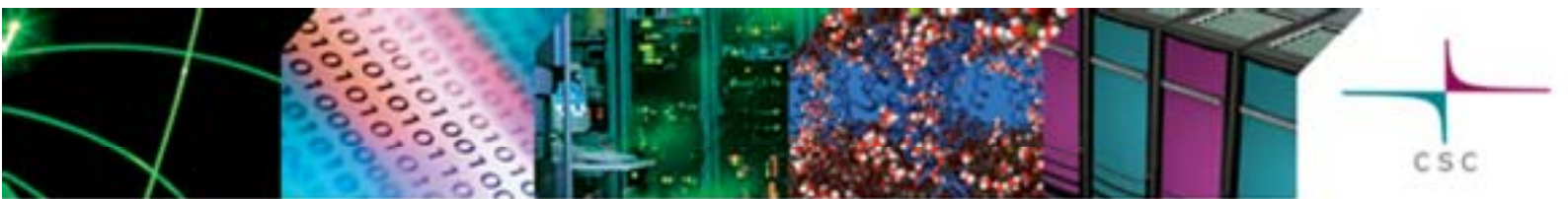
*DEISA - Resumé*11:35 **John Towns**, USA

Senior Associate Director, National Center for Supercomputing Applications (NCSA), University of Illinois at Urbana-Champaign (UIUC) and Chair, TeraGrid, USA

*eXtreme Digital***11:50 – 13:05 “Extreme Computing 1”**Chair: **Alison Kennedy**11:50 **Ilpo Vattulainen** – Biophysics

Professor, Department of Physics, Tampere University of Technology, Finland

Physics of biological systems - Trafficking of cholesterol



- 12:15 **Koen Hillewaert** – Engineering
CFD Research Engineer, Cenaero ASBL, Belgium
Convergence analysis of higher-order discontinuous Galerkin method for the direct numerical simulation of transitional flows
- 12:40 **Francesco Luigi Gervasio** – Life Sciences
Group Leader, Computational Biophysics Group, Spanish National Cancer Research Centre, Spain
Combining computer simulations and experiments to study complex biological phenomena
- 13:05 – 14:15 Lunch break**
- 14:15 – 15:55 “Extreme Computing 2”**
Chair: **Hermann Lederer**
- 14:15 **Peter Coveney** – Turbulence
Professor, Physical Chemistry and Director, Centre for Computational Science, University College London (UCL), UK
Parallel space-time approach to turbulence
- 14:40 **Constantia Alexandrou** – Nuclear Physics
Professor, the Cyprus Institute, University of Cyprus, Cyprus
Understanding the Strong Interactions via large scale simulations
- 15:05 **Sergei Ivanov** - Chemistry
Research Associate, Center for Theoretical Chemistry, University of Bochum, Germany
Path Integral QM/MM Simulations of Quantum Effects in Proteins
- 15:30 **Florian Janoschek** – Bio-Engineering
PhD Student, Department of Applied Physics, Eindhoven University of Technology, the Netherlands
Large Scale High Resolution Blood Flow Simulations
- 15:55 Concluding remarks**
- 16:00 End of Symposium, Farewell Coffee**

