

High Performance Computing in Complex Environments (HPCEE) Workshop

In conjunction with IEEE Cluster 2010, Heraklion, Greece

September 20th, 2010

PRELIMINARY AGENDA:

08:30-09:00

Opening Remarks (Emmanuel Jeannot)

SESSION 1: Parallel Algorithms (Chair: Emmanuel Jeannot)

09:00-09:30

Michael Hofmann, Gudula Ruenger, Paul Gibbon and Robert Speck. Parallel Sorting Algorithms for Optimizing Particle Simulations

09:30-10:00

Remigijus Paulavičius, Julius Žilinskas and Andreas Grothey. Investigation of selection strategies in parallel branch and bound algorithm with simplicial partitions

10:00-10:30

Algirdas Lančinskas, Pilar M. Ortigosa and Julius Žilinskas. Investigation of Parallel Particle Swarm Optimization Algorithm With Reduction of the Search Area

10:30-11:00 COFFEE BREAK

SESSION 2: Grid and cloud computing (Chair: Mark Baker)

11:00-11:30

Aleksandr Igumenov, Krzysztof Kurowski, Mikolaj Mackowiak and Julius Zilinskas. Optimization of topology of truss structures using grid computing

11:30-12:00

Dana Petcu. Identifying Cloud Computing Usage Patterns

12:00-12:30

J.L. Vazquez-Poletti, J. Perhac, J. Ryan and A.C. Elster. THOR: A Transparent Heterogenous Open Resource framework

12:30-14:00 LUNCH BREAK

SESSION 3: Algorithm optimizations (Chair: Frédéric Suter)

14:00-14:30

Thorvald Natvig and Anne C. Elster. Run-Time Optimization of MPI Sends, Receives and File I/O

14:30-15:00

Natalia Kalinnik, Matthias Korch and Thomas Rauber. Applicability of Dynamic Selection of Implementation Variants of Sequential Iterated Runge-Kutta Methods

15:00-15:30 COFFEE BREAK

SESSION 4: Applications (Chair: Anne Elster)

15:30-16:00

Sidi Ahmed Mahmoudi, Fabian Lecron, Pierre Manneback, Mohammed Benjelloun and Saïd Mahmoudi. GPU-Based Segmentation of Cervical Vertebra in X-Ray Images

16:00-16:30

Sergio Sanchez and Antonio Plaza. GPU Implementation of the Pixel Purity Index Algorithm for Hyperspectral Image Analysis

16:30-17:00 BREAK

SESSION 5: ComplexHPC

17:00-17:20

Helen Karatza. Performance of Scheduling Strategies in Computational Grids and Clouds

17:20:17:40

Vladimir Getov. Component-based Methodology for High Development Productivity of Complex Applications

17:40-18:00

Rizos Sakellariou. Research activities at the University of Manchester related to ComplexHPC.

18:00-18:20

Andrea Clematis, Daniele D'Agostino, Antonella Galizia, Alfonso Quarati, Antonio Parodi, Nicola Rebora, Marina Morando, Dieter Kranzlmüller, Michael Schiffers, Selecting High Performance Computing and High Throughput Computing Capabilities for Hydro Meteo Research e-infrastructures