Euro-Par 2010

30th August - 3rd September
Ischia - Naples, ITALY

Euro-Par 2010
16th European Conference on Parallel and Distributed Computing

Program
## Contents

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Dear Friends and Colleagues,

Welcome to Ischia for the 16th European Conference on Parallel and Distributed Computing (Euro-Par 2010) and the co-located Workshops.

In this booklet you shall find the Conference Program, all the Workshops Programs and general information on the logistics of the Conference and the social events.

We wish you a productive Conference and a pleasant stay on Ischia Island.

Ischia, August 2010

Euro-Par 2010 co-chairs
Domenico Talia
Pasqua D’Ambra
Mario Rosario Guarracino
General Information

Registration
The Registration Desk shall be open from 08:30 Monday 30th August onwards.

Lecture Rooms
The paper presentations will take place at the Congress Center of the Hotel Continental Terme, Ischia. There will be signs indicating the location of the lecture rooms. Please ask for assistance and directions at the Registration Desk.
The contributed talks will last 30 minutes including questions. Chairs are required to keep the session on schedule. Papers should be presented in the order in which they are listed in the program for the convenience of attendees who may wish to switch rooms mid-session to hear particular papers. In the case of a no-show, please use the extra time for a break or a discussion so that the remaining papers stay on schedule.

Presentation Instructions
The lecture rooms will be equipped with a PC and a video projector. The session chairs should obtain copies of the talks on USB sticks before the session starts. Presenters must deliver the files with the presentation in PDF format on a USB memory stick to the session chair before each session begins in each room.

Internet
Wireless Internet connection is freely available at the Congress Center.

Lunches and Coffee Breaks
Lunches will be served in the Restaurant of the Hotel Continental Terme. Please bring your lunch ticket with you. In case you shall need lunch tickets for an accompanying person, you shall be able to purchase them at the Registration Desk.
Coffee Breaks will be served at the Olympic Bar terrace of the Hotel Continental Terme.

Social Events
The Conference includes two social events:
• A Welcome Reception on Tuesday 31st August, at 20:30 at the Olympic Bar of the Hotel Continental Terme.
• A Conference Dinner on Thursday 2nd September, at 21:00 at the “Ristorante del Parco” of the Hotel Continental Terme.
Please bring your ticket with you. In case you shall need tickets for an accompanying person, you shall be able to purchase them at the Registration Desk.
### Workshops Schedule

#### Monday, August 30th

<table>
<thead>
<tr>
<th>Time</th>
<th>Workshops</th>
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<tbody>
<tr>
<td>09:30-11:00</td>
<td>HPCF, HETEROPAR, XtremOS, HIBB, PROPER</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:30-13:00</td>
<td>HPCF, HETEROPAR, XtremOS, HIBB, PROPER</td>
</tr>
<tr>
<td>13:00-14:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:30-16:00</td>
<td>HPCF, UCHPC, HETEROPAR, XtremOS, CCPI, PROPER</td>
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<tr>
<td>16:00-16:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>16:30-18:00</td>
<td>HPCF, UCHPC, HETEROPAR, XtremOS, CCPI, PROPER</td>
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</table>

#### Tuesday, August 31st

<table>
<thead>
<tr>
<th>Time</th>
<th>Workshops</th>
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</thead>
<tbody>
<tr>
<td>09:30-11:00</td>
<td>VHPC, HPPC, CoreGrid, GECON</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:30-13:00</td>
<td>VHPC, HPPC, CoreGrid, GECON</td>
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<tr>
<td>13:00-15:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>15:30-17:00</td>
<td>VHPC, HPPC, CoreGrid, GECON</td>
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<tr>
<td>17:00-17:30</td>
<td>Coffee Break</td>
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<tr>
<td>17:30-19:00</td>
<td>VHPC, HPPC, CoreGrid, GECON</td>
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<tr>
<td>20:30</td>
<td>Welcome Reception</td>
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</tbody>
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# Conference Schedule

## Wednesday, September 1st

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09:30-11:00</td>
<td>Conference Opening &amp; Keynote 1</td>
</tr>
<tr>
<td>11:00-11:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:30-13:00</td>
<td>Session A1, A2, A3, A4</td>
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<tr>
<td>13:00-14:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:30-16:00</td>
<td>Session B1, B2, B3, B4</td>
</tr>
<tr>
<td>16:00-16:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>16:30-18:00</td>
<td>Session C1, C2, C3, C4</td>
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## Thursday, September 2nd

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09:30-11:00</td>
<td>Keynote 2 and Achievement Award Ceremony</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee Break</td>
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<tr>
<td>11:30-13:00</td>
<td>Session D1, D2, D3, D4</td>
</tr>
<tr>
<td>13:00-14:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:30-16:00</td>
<td>Session E1, E2, E3, E4</td>
</tr>
<tr>
<td>16:00-16:30</td>
<td>Coffee Break</td>
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<tr>
<td>16:30-18:00</td>
<td>Distinguished Papers Session</td>
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<tr>
<td>18:30-20:00</td>
<td>Industrial Session</td>
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<tr>
<td>21:00</td>
<td>Social Dinner</td>
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## Friday, September 3rd

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09:30-11:00</td>
<td>Session F1, F2, F3, F4</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:30-13:30</td>
<td>Session G1, G2, G3, G4</td>
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<tr>
<td>13:30-14:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:30-15:45</td>
<td>Keynote 3 &amp; Conference Closing</td>
</tr>
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</table>
Workshops

1. The Third Workshop on Productivity and Performance Tools for HPC Application Development (PROPER 2010)

2. XtreemOS Summit 2010 (XtreemOS 2010)

3. The First Workshop on High-Performance Bioinformatics and Biomedicine (HiBB)

4. Workshop on High-Performance Computing applied to Finance (HPCF 2010)

5. Workshop on Algorithms, Models and Tools for Parallel Computing on Heterogeneous Platforms (HeteroPar 2010)

6. The Third Workshop on UnConventional High-Performance Computing (UCHPC 2010)


8. CoreGrid/ERCIM Workshop (CoreGrid 2010)


10. The 4th Workshop on Highly Parallel Processing on a Chip (HPPC 2010)

11. The 5th Workshop on Virtualization in High-Performance Cluster and Grid Computing (VHPC 2010)
09:30 - 09:35  Workshop Opening  
A. Knüpfer

09:35 - 10:30  Preparing and Evaluating a Petascale Computer: Analytical Performance Modeling and Application Simulation on Blue Waters  
*Invited talk: T. Höfler*

10:30 - 11:00  TAUmon: Scalable Online Performance Data Analysis in TAU  
A. Morris, C. W. Lee and A. D. Malony

11:00 - 11:30  COFFEE BREAK

11:30 - 12:00  The VampirTrace Plugin Counter. Interface: Introduction and Examples  
R. Schöne, R. Tschüter, T. Ilsche and D. Hackenberg

12:00 - 12:30  Scalable/Guided Performance. Analysis Combining Profile and Trace Tools  
J. Gimenez, H. Wen, B. Mohr, J. Labarta, D. Klepacki and F. Voigtländer

12:30 - 13:00  An approach to visualize remote socket traffic on the Intel Nehalem-EX  
C. Iwainsky, T. Reichstein, C. Dahnken, D. an Mey, C. Terboven, A. Semin and C. Bischof

13:00 - 14:30  LUNCH

14:30 - 15:00  Automatic MPI to AMPI. Program Transformation using Photran  

15:00 - 15:30  High-Performance Parallel Computations using Python as High-Level Language  
S. Masini and P. Bientinesi

15:30  Closing Remarks
09:30 – 09:35  Summit Opening  
C. Morin (INRIA), J. Giralt (BSC)

Tutorial

09:35 - 11:00  Easing Application Execution in Grids with XtreemOS Operating System (part 1/2)  
C. Morin (INRIA), J. Giralt (BSC)

11:00 - 11:30  COFFEE BREAK

11:30 - 13:00  Easing Application Execution in Grids with XtreemOS Operating System (part 2/2)  
Y. Jégou (INRIA), T. Kielmann (VUA)

13:00 - 14:30  LUNCH

14:30 - 15:40  XtreemOS demos (demonstration of XtreemOS functionalities, demonstration of real applications (scientific applications))  
Y. Jégou (INRIA), B. MacLarnon (SAP)

15:40 - 16:00  Open testbed presentation  
Y. Jégou (INRIA)

16:00 - 16:30  COFFEE BREAK

16:30 - 17:15  Presentations of experimental results: computing challenge using XtreemOS  
Presenters: C. Morin (INRIA), T. Kielmann (VUA)  
Participants: A. Parra, Exequiel Sepulveda & Felipe Lema (ALGES lab, Universidad de Chile) – S. R. Hasan (Université de Franche-Comté, France) – E. Carlini, Sebnem Erturk & Giacomo Righetti (University of Pisa, Italy)

17:15 - 17:45  Open discussions

17:45  Closing Remarks
## High Performance Bioinformatics

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30 - 09:50</td>
<td>StochKit-FF: Efficient Systems Biology on Multicore Architectures</td>
<td>M. Aldinucci, A. Bracciali, P. Lio’, A. Sorathiya, M. Torquati</td>
</tr>
<tr>
<td>09:50 - 10:10</td>
<td>ProtTest-HPC: Fast Selection of Best- t Models of Protein Evolution</td>
<td>D. Darriba, G.L. Taboada, R. Doallo, D. Posada</td>
</tr>
<tr>
<td>10:10 - 10:30</td>
<td>Gridifying the TINKER Conformer Generator application for gLite Grid</td>
<td>A. Kertesz, F. Otvos and P. Kacsuk</td>
</tr>
<tr>
<td>10:30 - 10:50</td>
<td>On the Scalability of Multi-Criteria Protein Structure Comparison in the Grid</td>
<td>G. Folino, A.A. Shah, and N. Krasnogor</td>
</tr>
<tr>
<td>10:50 - 11:30</td>
<td>COFFEE BREAK</td>
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</tbody>
</table>

## High Performance Biomedicine

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:30 - 11:50</td>
<td>Real-time electron tomography based on GPU computing</td>
<td>J.A. Martinez, F. Vlazquez, E.M. Garzon, and J.J. Fernandez</td>
</tr>
<tr>
<td>11:50 - 12:10</td>
<td>Hybrid Parallel Simulations of Fluid Flows in Complex Geometries: Application to the Human Lungs</td>
<td>M.J. Krause, T. Gengenbach, V. Heuveline</td>
</tr>
<tr>
<td>12:10 - 12:30</td>
<td>Parallel implementation of a computational model of the human immune system</td>
<td>A.B. Pigozzo, M. Lobosco, and R.W. dos Santos</td>
</tr>
<tr>
<td>12:30 - 12:50</td>
<td>Parallel pre-processing of Affymetrix microarray data using APT</td>
<td>P.H Guzzi, and M. Cannataro</td>
</tr>
<tr>
<td>12:50-13:00</td>
<td>Closing Remarks</td>
<td></td>
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<tr>
<td>13:00</td>
<td>LUNCH</td>
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</table>
09:30 - 09:40  Workshop opening
Chair: F. Perla

09:40 - 10:30  Applications of distributed and parallel computing in the Solvency II framework
Invited speakers: G. Castellani, L. Passalacqua - Sapienza University of Rome

Paper Session 1
Chair: L. Passalacqua

10:30 - 11:00  A fast and stable Heston model calibration on the GPU
M. Aichinger, A. Binder, J. Fürst, and C. Kletzmayr

11:00 - 11:30  COFFEE BREAK

11:30 - 12:00  High performance computing and economic scenario generation: integrating expert forecasts into plane price modeling as an example
E.M. Fayssal, H. Houssam, W. Sebastian

12:00 - 12:30  Use of HPC-techniques for large-scale data migration
J. Dünnebier, V. Mihaylov, R. Glettler, V. Maiborn, H. Wolff

12:30 - 13:00  Wavelet techniques for option pricing on advanced architectures
S. Corsaro, D. Marazzina, Z. Marino

13:00 - 14:30  LUNCH

14:30 - 15:30  Massively parallel asset and liability management
Invited speaker: A. Grothey – School of Mathematics, University of Edinburgh, UK

Paper Session 2
Chair: M. Guarracino

15:30 - 16:00  A stock market decision support system with an hybrid evolutionary algorithm for many-core graphics processors
P. Lipinski

16:00 - 16:30  COFFEE BREAK

16:30 - 17:00  Numerical methods for the Lévy Libor model
A. Papapantoleon, D. Skovmand

17:00 - 17:30  Measuring default risk in a parallel ALM software for life insurance portfolios
S. Corsaro, L. Cutillo, Z. Marino, F. Perla, P. Zanetti

17:30 - 17:40  Closing Remarks
10:00 - 11:00  Skeletons for distributed heterogeneous architectures
            M. Danelutto

11:00 - 11:30  COFFEE BREAK

11:30 - 12:00  General approaches, from compilation to execution middleware
            Accurate emulation of CPU performance
            T. Buchert, L. Nussbaum, and J. Gustedt

12:00 - 12:30  Case Studies in Automatic GPGPU code generation with llc
            R. Reyes and F. de Sande

12:30 - 13:00  On the Evaluation of JavaSymphony for Homogeneous and
            Heterogeneous Multi-core Clusters
            M. Aleem, R. Prodan, and T. Fahringer

13:00 - 14:30  LUNCH

14:30 - 15:00  Iterative Algorithms
            MAHEVE: An Efficient Reliable Mapping of Asynchronous
            Iterative Applications on Volatile and Heterogeneous
            Environments.
            R. Couturier, Da. Laiymani, and S. Miquée

15:00 - 15:30  Dynamic Load Balancing of Parallel Computational Iterative
            Routines on Platforms with Memory Heterogeneity
            D. Clarke, A. Lastovetsky and V. Rychkov

15:30 - 16:00  Case studies
            Dealing with Heterogeneity for Mapping MMOFPS in
            Distributed Systems
            I. Barri, J. Rius, C. Roig and F. Giné

16:00 - 16:30  COFFEE BREAK

16:30 - 17:00  Case studies (continued)
            Max-Plus Algebra and Discrete Event Simulation on Parallel
            Hierarchal Heterogeneous Platforms
            B. Becker and A. Lastovetsky

17:00  Closing Remarks
Accelerator Usage for Applications

14:30 - 14:40 Welcome from the organizers
   A. Hast, J. Weidendorfer

14:40 - 15:00 Iterative solution of linear systems in electromagnetics (and not only): Experiences with CUDA
   D. De Donno, A. Esposito, G. Monti, L. Tarricone

15:00 - 15:20 Distributed Computation of Feature-Detectors for Medical Image Processing on GPGPU and Cell Processors
   P. Zinterhof

15:20 - 15:40 Preliminary Investigation of Optimizing Molecular Dynamics Simulation on Godson-T Many-core Processor
   L. Peng, G. Tan, R. K. Kalia, A. Nakano, P. Vashishta, D. Fan, N. Sun

15:40 - 16:00 Real-time Stopped Object Detection by Neural Dual Background Modeling
   G. Gemignani, L. Maddalena, A. Petrosino

16:00 - 16:30 COFFEE BREAK

Accelerator Usage Infrastructure

16:30 - 16:50 GPU-to-CPU Callbacks
   J. A. Stuart, M. Cox, J. D. Owens

16:50 - 17:10 Static GPU workgroups and an improved scan Algorithm
   J. Breitbart

Speeding up Algorithms with Accelerators

17:10 - 17:30 Streaming-Oriented Parallelization of Domain-Independent Irregular Kernels
   J. L. Blanco

17:30 - 17:50 Scalable Multi-Coloring Preconditioning for Multi-core CPUs and GPUs
   V. Heuveline, D. Lukarski, J. Weiss

17:50 - 18:10 Peak Performance Model for a Custom Precision Floating-Point Dot Product on FPGAs
   B. Lesser, M. Mücke, W. N. Gansterer

18:10 Closing Remarks
14:30 - 15:00  The Cloud@Home Project: Towards a New Enhanced Computing Paradigm

15:00 - 15:30  Cloud based mediation and access of health care data in the @neurIST project
  M. Koehler, S. Benkner, G. Engelbrecht, and S. Wood

15:30 - 16:00  Building a Mosaic of Clouds
  D. Petcu, B. di Martino, R. Cossu, P. Goncalves, T. Mahr and M. Loichate

16:00 - 16:30  COFFEE BREAK

16:30 - 16:50  Cloud@Home: Performance Management Components
  U. Villano, R. Aversa, B. Di Martino, M. Rak, S. Venticinque, A. Cuomo, A. Puliafito, D. Bruneo, S. Di Stefano

16:50 - 17:10  A Cloud Agency for SLA Negotiation and Management
  S. Venticinque, R. Aversa, B. Di Martino, D. Petcu, M. Rak

17:10 - 17:30  Running business applications in the Cloud: a use case perspective
  C. Ragusa, A. Puliafito

17:30 - 17:50  Minimizing technical complexities in emerging cloud computing platforms
  A. Menychtas, G. Kousiouris, D. Kyriazis, T. Varvarigou

18:00  Closing Remarks
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>09:30 - 09:40</td>
<td>Introduction</td>
</tr>
<tr>
<td>09:40 - 10:10</td>
<td>EGI: The European Grid Infrastructure - Future Challenges</td>
</tr>
<tr>
<td>10:10 - 10:35</td>
<td>A framework for autonomic management of multiple non-functional concerns</td>
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<tr>
<td>10:35 - 11:00</td>
<td>Adaptive instantiation of service workflows using a chemical approach</td>
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<tr>
<td>11:00 - 11:30</td>
<td>COFFEE BREAK</td>
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<tr>
<td>11:30 - 12:00</td>
<td>Position paper: R. Yahyapour</td>
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<tr>
<td>12:00 - 12:30</td>
<td>Position Paper: V. Getov</td>
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<tr>
<td>12:30 - 13:00</td>
<td>Discussion: Future Direction of Coregrid</td>
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<tr>
<td>13:00 - 15:30</td>
<td>LUNCH</td>
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<tr>
<td>15:30 - 15:55</td>
<td>Multi-level Brokering Solution for Interoperating Service and Desktop</td>
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<td></td>
<td>Grids</td>
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<td>15:55 - 16:20</td>
<td>Software Licenses as Mobile Objects in Distributed Computing Environments</td>
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<tr>
<td>16:20 - 17:30</td>
<td>Actor-driven Workflow Execution in Distributed Environments.</td>
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<tr>
<td>17:00 - 17:30</td>
<td>COFFEE BREAK</td>
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<tr>
<td>17:30 - 17:55</td>
<td>First Class Futures: Specification and implementation of Update Strategies</td>
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</tbody>
</table>

16 Euro-Par 2010
Tuesday, August 31st
CoreGrid 2010
Room: Pithecusa

09:30 - 09:40  Introduction
 F. Desprez

09:40 - 10:10  EGI: The European Grid Infrastructure - Future Challenges
 S. Newhouse

10:10 - 10:35  A framework for autonomic management of multiple non-functional concerns
 M. Aldinucci, M. Danelutto, P. Kilpatrick, V. Xhagjika

10:35 - 11:00  Adaptive instantiation of service workflows using a chemical approach
 C. Di Napoli, M. Giordano, Z. N’emeth, N. Tonellotto

11:00 - 11:30  COFFEE BREAK

11:30 - 12:00  Position paper: R. Yahyapour

12:00 - 12:30  Position Paper: V. Getov

12:30 - 13:00  Discussion: Future Direction of Coregrid

13:00 - 15:30  LUNCH

15:30 - 15:55  Multi-level Brokering Solution for Interoperating Service and Desktop Grids
 A. Kertesz, Z. Farkas and P. Kacsuk

15:55 - 16:20  Software Licenses as Mobile Objects in Distributed Computing Environments

16:20 - 17:30  Actor-driven Workflow Execution in Distributed Environments.
 S. Skorupa, F. Berretz, V. Sander, A. Belloum and M. Bubak

17:00 - 17:30  COFFEE BREAK

17:30 - 17:55  First Class Futures: Specification and implementation of Update Strategies
 L. Henri, M. Uzair Khan, N. Ranaldo, and E. Zimeo
   S. Ostermann, K. Plankensteiner, R. Prodan, and T. Fahringer

18:20-18:45  Dynamic Service Configurations for SLA Negotiation
   I. ul Haq, K. Koer, E. Schikuta

18:45  Closing Remarks
09:15 - 09:30  Welcome

Session A: Service Evaluation and Trust

09:30 - 10:00  Technology Transfer of Dynamic IT Outsourcing Requires Security Measures in SLAs  
F. Dickmann, M. Brodhun, J. Falkner, T. A. Knoch, U. Sax

10:00 - 10:30  Service Selection Decision Support in the Internet of Services  
K. Tserpes, F. Aisopos, D. Kyriazis, T. Varvarigou

10:30 - 11:00  Resource-Level QoS Metric for CPU-Based Guarantees in Cloud Providers  
Í. Goiri, F. Julià, J.O. Fitó, M. Macías, J. Guita

11:00 - 11:30  COFFEE BREAK

Session B: Service Pricing and Software Licenses

11:30 - 12:00  A Framework for Building Intelligent SLA Negotiation Strategies under Time Constraints  
G.C. Silaghi, L.D. Serban, and C.M. Litan

12:00 - 12:30  Agent-Based Simulations of the Software Market under Different Pricing Schemes for Software-as-a-Service and Perpetual Software  
J. Rohitratan, J. Altmann

12:30 - 13:00  SLA-Based Management of Software Licenses as Web Service Resources in Distributed Environments  

13:00 - 14:30  LUNCH

14:30 - 15:30  Round Table Discussion  
Discussion of trends Challenges in the area of economics of Clouds Invitation to Future Generation of Computer Systems Journal, Springer

Session C: Work in Progress on Adoption of Grid and Cloud Services

15:30 - 16:00  IaaS Adoption Determinants in Enterprises  
C. Heinle, J. Strebcl
16:00 - 16:30  ETSI CLOUD – Initial Standardization Requirements for Cloud Services  
  
K. Oberle, M. Fisher

16:30 - 17:00  Approaching the Internalization Challenge of Grid Technologies into e-Society by e-Human “Grid” Ecology  
  
T.A. Knoch, V. Baumgärtner, F.G. Grosveld, K. Egger

17:00 - 17:30  COFFEE BREAK

**Session D: Work in Progress on Value Chains and Service Level Agreements**

17:30 - 18:00  Towards a Generic Value Network for Cloud Computing  
  
M. Böhm, G. Koleva, S. Leimeister, C. Riedl, H. Krcmar

18:00 - 18:30  SLA as a Complementary Currency in Peer-2-Peer Markets  
  
I. Petri, O. Rana, G.C. Silaghi

18:30 - 19:00  SLA Validation in Layered Cloud Infrastructures  
  
I. Ul Haq, I. Brandic, É. Schikuta

19:00  Closing Remarks
Models and memory organizations

09:30 - 09:35  Opening remarks  
J.L. Träff and M. Forsell, University of Vienna, VTT

09:35 - 10:35  Keynote - The Massively Parallel Computing Model GCA -  
R. Hoffmann, T. University of Darmstadt

10:35 - 11:00  Low-Overhead Organizations for the Directory in Future Many-Core CMPs  
A. Ros and M.E. Acacio, Technical University of Valencia, University of Murcia

11:00 - 11:30  COFFEE BREAK

Programming multicores

11:30 - 11:55  A Work Stealing Algorithm for Parallel Loops on Shared Cache Multicores  
M. Tchiboukdjian, V. Danjean, T. Gautier, F. Le Mentec and B. Raffin, CNRS - CEA/DAM, DIF, Grenoble University, INRIA

11:55 - 12:20  Resource-agnostic programming for many-core microgrids  
T. Bernard, C. Grelck, M. Hicks, C. Jesshope and R. Poss, University of Amsterdam

12:20 - 12:45  Programming Heterogeneous Multicore Systems using Threading Building Blocks  

13:00 - 15:30  LUNCH

Applications and optimizations

15:30 - 15:55  Fine-grained parallelization of a Vlasov-Poisson application on GPU  
G. Latu, CEA, IRFM

15:55 - 16:20  Highly Parallel Implementation of Harris Corner Detector on CSX SIMD Architecture  
F. Hosseini, A. Fijany and J. Fontaine, Italian Institute of Technology

16:20 - 16:45  Static Speculation as Post-Link Optimization for the Grid Alu Processor  
R. Jahr, B. Shehan, S. Uhrig and T. Ungerer, University of Augsburg

17:00 - 17:30  COFFEE BREAK
Networks and clouds

17:30 - 17:55  A Multi-Level Routing Scheme and Router Architecture to support Hierarchical Routing in Large Network on Chip Platforms
   R. Holsmark, S. Kumar and M. Palesi, Jönköping University, University of Catania

   J. Held, Tera-Scale Computing Research, Intel

18:55 - 19:00  Closing Remarks
   J. Larsson T. and M. Forsell, University of Vienna, VTT
09:30 - 10:00  The Effect of Multi-core on HPC Applications in Virtualized Systems.
J. Han, J. Ahn, C. Kim, Y. Kwon, Y. Choi and J. Huh (Korea Advanced Institute of Science and Technology, Korea)

10:00 - 10:30  Proposal of Virtual Network Configuration Acquisition Function for Data Center Operations and Management System
H. Okita (Hitchai Ltd., Japan)

10:30 - 11:00  Building an Operator CDN the virtual way
H. Puthalath (Ericsson, Sweden)

11:00 - 11:30  COFFEE BREAK

11:30 - 12:00  Security and Performance Trade-off in PerfCloud
M. Rak (Second University of Naples, Italy); U. Villano, V. Casola, A. Cuomo (University of Sannio, Italy)

12:00 - 12:30  A Distributed and Collaborative Dynamic Load Balancer for Virtual Machine.
J. Rouzaud-Cornabas (ENSI de Bourges -Laboratoire d’Informatique Fondamentale d’Orléans, France)

12:30 - 13:00  Towards GPGPU assisted computing in virtualized environments
T. Schmitt, A. Weggerle, C. Himpel, P. Schulthess (Universität Ulm, Germany)

13:00 - 15:30  LUNCH

15:30 - 16:00  Providing Performance Guarantees to Virtual Machines using Real-Time Scheduling
T. Cucinotta, D. Giani, D. Faggioli, F. Checconi (Scuola Superiore Sant’Anna, Italy)

16:00 - 16:30  Exploring I/O Virtualization Data-paths for MPI Applications in a Cluster of VMs: A Networking Perspective
A. Nanos, G. Goumas; N. Koziris (School of Electrical and Computer Engineering National Technical University of Athens, Greece)

C. Kemp, CIO Ames Research Center and Lead Nebula Cloud Platform (NASA, USA)

17:20 - 17:30  COFFEE BREAK
17:30 - 18:00  A Survey Analysis of Memory Elasticity Techniques  
A. Baruchi, E. Midorikawa (University of Sao Paulo, Brazil)

18:00 - 18:30  Vistas: towards Behavioural Cloud Control  
A. Wood (University of York, United Kingdom)

18:30 - 19:00  Closing Remarks
Euro-Par 2010 Topics

1. Support Tools and Environments
2. Performance Prediction and Evaluation
3. Scheduling and Load-Balancing
4. High Performance Architectures and Compilers
5. Parallel and Distributed Data Management
6. Grid, Cluster and Cloud Computing
7. Peer to Peer Computing
8. Distributed Systems and Algorithms
9. Parallel and Distributed Programming
10. Parallel Numerical Algorithms
11. Multicore and Manycore Programming
12. Theory and Algorithms for Parallel Computation
13. High Performance Networks
14. Mobile and Ubiquitous Computing
Euro-Par 2010 Conference Program

Wednesday, September 1st, 09:30, Conference Opening  Room: Pithecusa

Wednesday, September 1st, 10:00-11:00
Keynote 1  Chair: D. Talia  Room: Pithecusa

Innovation in Cloud Computing Architectures
Prof. Ignacio M. Llorente - Universidad Complutense de Madrid

Wednesday, September 1st, 11:30-13:00, Paper Session A1
Topic 1  Chair: E. Jeannot  Room: Nitrodi A

1. Starsscheck: A Tool to Find Errors in Task-Based Parallel Programs
   Paul Carpenter, Alex Ramirez and Eduard Ayguade

2. Automated Tuning in Parallel Sorting on Multi-Core Architectures
   Haibo Lin, Chao Li, Qian Wang, Yi Zhao, Ninghe Pan, Xiaotong Zhuang and Ling Shao

3. Estimating and Exploiting Potential Parallelism by Source-Level Dependence Profiling
   Jonathan Mak, Karl-Filip Faxén, Sverker Janson and Alan Mycroft

Wednesday, September 1st, 11:30-13:00, Paper Session A2
Topic 3  Chair: R. Yahyapour  Room: Primavera

1. A Fast 5/2 Approximation Algorithm for Hierarchical Scheduling
   Marin Bougeret, Pierre- Françoise Dutot, Klaus Jansen, Christina Otte and Denis Trystram

2. Non-Clairvoyant Scheduling of Multiple Bag-of-Tasks Applications
   Henri Casanova, Matthieu Gallet and Frédéric Vivien

3. Extremal Optimization Approach Applied to Initial Mapping of Distributed Java Programs
   Ivanoe De Falco, Eryk Laskowski, Richard Olejnik, Umberto Scafuri, Ernesto Tarantino and Marek Tudruj

Wednesday, September 1st, 11:30-13:00, Paper Session A3
Topic 11  Chair: J. Larsson Traff  Room: Pithecusa

1. JavaSymphony: A Programming and Execution Environment for Parallel and Distributed Many-Core Architectures
   Muhammad Aleem, Radu Prodan and Thomas Fahringer

2. Scalable Producer-Consumer Pools based on Elimination-Diffraction Trees
   Yehuda Afek, Guy Korland, Maria Natanzon and Nir Shavit

3. Productivity and Performance: Improving Consumability of Hardware Transactional Memory through a Real-World Case Study
   Huayong Wang, Yi Ge, Yanqi Wang and Yao Zou
Wednesday, September 1st, 11:30-13:00, Paper Session A4
Topic 8   Chair: G. Schmid   Room: Nitrodi C
1. Improving Message Logging Protocols Scalability through Distributed Event Logging
   Thomas Ropars and Christine Morin
2. Value-Based Sequential Consistency for Set Objects in Dynamic Distributed Systems
   Roberto Baldoni, Silvia Bonomi and Michel Raynal
3. Robust Self-Stabilizing Construction of Bounded Size Weight-Based Clusters
   Colette Johnen and Fouzi Mekhaldi

Wednesday, September 1st, 14:30-16:00, Paper Session B1
Topic 6   Chair: F. Desprez   Room: Primavera
1. Deployment of a Hierarchical Middleware
   Eddy Caron, Benjamin Depardon and Frederic Desprez
2. Toward Real-Time, Many-Task Applications on Large Distributed Systems
   Sangho Yi, Derrick Kondo and David Anderson
3. Scheduling Scientific Workflows to Meet Soft Deadlines in the Absence of Failure Models
   Kassian Plankensteiner, Radu Prodan and Thomas Fahringer

Wednesday, September 1st, 14:30-16:00, Paper Session B2
Topic 10   Chair: D. di Serafinno   Room: Nitrodi A
1. Scalability and Locality of Extrapolation Methods for Distributed-Memory Architectures
   Matthias Korch, Thomas Rauber and Carsten Scholtes
2. CFD Parallel Simulation using Getfem++ and Mumps
   Michel Fournié, Nicolas Renon, Yves Renard and Daniel Ruiz
3. Aggregation AMG for Distributed Systems Suffering from Large Message Numbers
   Maximilian Emans

Wednesday, September 1st, 14:30-16:00, Paper Session B3
Topic 11   Chair: B. Di Martino   Room: Pithecusa
1. Exploiting Fine-Grained Parallelism on Cell Processors
   Ralf Hoffmann, Andreas Prell and Thomas Rauber
2. Optimized On-Chip-Pipelined Mergesort on the Cell/B.E.
   Rikard Hultén, Christoph W. Kessler and Jörg Keller
3. Near-Optimal Placement of MPI Processes on Hierarchical NUMA Architectures
   Emmanuel Jeannot and Guillaume Mercier
Wednesday, September 1st, 14:30-16:00, Paper Session B4
Topic 5 – 7 Chair: R. Sakellariou Room: Nitrodi C

1. Federated Enactment of Workflow Patterns
   Gagarine Yaikhom, Chee Sun Liew, Liangxiu Han, Jano van Hemert, Malcolm Atkinson and Amy Krause
2. A Distributed Approach to Detect Outliers in Very Large Data Sets
   Fabrizio Angiulli, Stefano Basta, Stefano Lodi and Claudio Sartori
3. Overlay Management for Fully Distributed User-Based Collaborative Filtering
   Róbert Ormándi, István Hegedüs and Mark Jelasity

Wednesday, September 1st, 16:30-18:00, Paper Session C1
Topic 9 Chair: S. Gorlatch Room: Pithecusa

1. Transactional Mutex Locks
   Luke Dalessandro, Dave Dice, Michael Scott, Nir Shavit and Michael Spear
2. Exceptions for Algorithmic Skeletons
   Mario Leyton, Ludovic Henrio and José M. Piquer
3. Generators-of-Generators Library with Optimization Capabilities in Fortress
   Kento Emoto, Zhenjiang Hu, Kazuhiko Kakehi, Kiminori Matsuzaki and Masato Takeichi

Wednesday, September 1st, 16:30-18:00, Paper Session C2
Topic 2 Chair: M. Cannataro Room: Primavera

1. A Model for Space-Correlated Failures in Large-Scale Distributed Systems
   Matthieu Gallet, Nezih Yigitbasi, Bahman Javadi, Derrick Kondo, Alexandru Iosup and Dick Epema
2. Architecture Exploration for Efficient Data Transfer and Storage in Data-Parallel Applications
   Rosilde Corvino, Abdoulaye Gamatié and Pierre Boulet
3. jitSim: A Simulator for Predicting Scalability of Parallel Applications in Presence of OS Jitter
   Vijay Mann and Pradipta De

Wednesday, September 1st, 16:30-18:00, Paper Session C3
Topic 13 Chair: J. Flich Room: Nitrodi A

1. An Efficient Strategy for Reducing Head-Of-Line Blocking in Fat-Trees
   Jesus Escudero-Sahuquillo, Pedro Javier García, Francisco J. Quiles and Jose Duato
2. A First Approach to King Topologies for On-Chip Networks
   Esteban Stafford, Jose L. Bosque, Carmen Martínez, Fernando Vallejo, Ramon Beivide and Cristobal Camarero
3. Optimizing Matrix Transpose on Torus Interconnects
   Venkatesan T. Chakaravarthy, Nikhil Jain and Yogish Sabharwal
Wednesday, September 1st, 16:30-18:00, Paper Session C4
Topic 7  Chair: P. Trunfio  Room: Nitrodi C

1. Dynamic Publish/Subscribe to Meet Subscriber-defined Delay and Bandwidth Constraints
   Muhammad Adnan Tariq, Gerald Koch and Boris Koldehofe

2. Combining Hilbert SFC and Bruijn Graphs for Searching Computing Markets in a P2P System
   Damia Castellà, Hector Blanco, Francesc Giné and Francesc Solsona

3. Sampling Bias in BitTorrent Measurements
   Boxun Zhang, Alexandru Iosup, Johan Pouwelse, Dick Epema and Henk Sips
Thursday, September 2\textsuperscript{nd}, 09:30-10.30

Keynote 2  Chair: P. D’Ambra  
Room: Pithecusa

Impact of Architecture and Technology for Extreme Scale on Software and Algorithm Design  

Prof. Jack Dongarra - University of Tennessee, Oak Ridge National Laboratory, University of Manchester

Thursday, September 2\textsuperscript{nd}, 10:30-11:00

Achievement Award Ceremony  
Room: Pithecusa

Chairs: C. Lengauer, D. Talia

Thursday, September 2\textsuperscript{nd}, 11:30-13:00, Paper Session D1

Topic 1  Chair: G. Spezzano  
Room: Primavera

1. Source-to-Source Optimization of CUDA C for GPU Accelerated Cardiac Cell Modeling  
Fred Lionetti, Andrew McCulloch and Scott Baden

2. Efficient Graph Partitioning Algorithms for Collaborative Grid Workflow Developer Environments  
Gergely Sipos and Peter Kacsuk

3. Profile-Driven Selective Program Loading  
Tugrul Ince and Jeffrey Hollingsworth

Thursday, September 2\textsuperscript{nd}, 11:30-13:00, Paper Session D2

Topic 3  Chair: R. Perego  
Room: Pithecusa

1. A Delay-Based Dynamic Load Balancing Method and Its Stability Analysis and Simulation  
Qingyang Meng, Jianzhong Qiao and Shukuan Lin

2. Code Scheduling for Optimizing Parallelism and Data Locality  
Taylan Yemliha, Mahmut Kandemir, Ozcan Ozturk, Emre Kultursay and Sai Prashanth Muralidhara

3. Hierarchical Work-Stealing  
Jean-Noel Quintin and Frédéric Wagner

Thursday, September 2\textsuperscript{nd}, 11:30-13:00, Paper Session D3

Topic 4  Chair: M. Danelutto  
Room: Nitrodi A

1. Power-Efficient Spilling Techniques for Chip Multiprocessors  
Enric Herrero, Jose Gonzalez and Ramon Canal

2. Scalable Object-Aware Hardware Transactional Memory (SOHTM)  
Behram Khan, Mikel Lujan, Ian Watson and Matthew J. Horsnell

3. Efficient Address Mapping of Shared Cache for On-Chip Many-Core Architecture  
Fenglong Song, Zhiyong Liu, Dongrui Fan, Junchao Zhang and Lei Yu
Thursday, September 2nd, 11:30-13:00, Paper Session D4
Topic 14   Chair: G. De Pietro   Room: Nitrodi C
1. cTrust: Trust Aggregation in Cyclic Mobile Ad Hoc Networks
   Huanyu Zhao, Xin Yang and Xiaolin Li
2. Maximizing Growth Codes Utility in Large-scale Wireless Sensor Networks
   Yao Zhao, Xin Wang, Jin Zhao and Xiangyang Xue
3. Caching Dynamic Information in Vehicular Ad-Hoc Networks
   Nicholas Loulloudes, George Pallis and Marios D. Dikaiakos

Thursday, September 2nd, 14:30-16:00, Paper Session E1
Topic 8   Chair: G. Schmid   Room: Nitrodi C
1. Adaptive Conflict Unit Size for Distributed Optimistic Synchronization
   Kim-Thomas Rehmann, Marc-Florian Mueller and Michael Schoettner
2. Frame Allocation Algorithms for Multi-Threaded Network Cameras
   Jose Piquer and Javier Bustos-Jiménez
3. Scalable Distributed Simulation of Large Dense Crowds Using the RTF Middleware
   Sergey Gorlatch, Ole Scharf, Felix Blanke, Christoph Hemker, Sebastian Westerheide, Tobias Priebs, Christoph Bartenhagen, Alexander Ploss, Frank Glinka, and Dominik Meilaender

Thursday, September 2nd, 14:30-16:00, Paper Session E2
Topic 11   Chair: B. Di Martino   Room: Pithecusa
1. Parallel Enumeration of Shortest Lattice Vectors
   Özgür Dagdelen and Michael Schneider
2. A Parallel GPU Algorithm for Mutual Information based 3D Nonrigid Image Registration
   Vaibhav Saxena, Jonathan Rohrer and Leiguang Gong
3. Multi-GPU and Multi-CPU Parallelization for Interactive Physics Simulations
   Everton Hermann, Bruno Raffin, Françoise Faure, Thierry Gautier and Jérémie Allard

Thursday, September 2nd, 14:30-16:00, Paper Session E3
Topic 3   Chair: D. Epema   Room: Primavera
1. Optimum Diffusion for Load Balancing in Mesh Networks
   George Markomanolis and Nikolaos Missirlis
2. A Dynamic, Distributed, Hierarchical Load Balancing for HLA-based Simulations on Large-Scale Environments
   Robson De Grande and Azzedine Boukerche
Thursday, September 2nd, 14:30-16:00, Paper Session E4
Topic 9 – 1 Chair: T. Kielmann Room: Nitrodi A
1. User Transparent Task Parallel Multimedia Content Analysis
   Timo van Kessel, Niels Drost and Frank J. Seinstra
2. Parallel Simulation for Parameter Estimation of Optical Tissue Properties
   Mihai Duta, Jeyarajan Thiayagalingam, Anne Trefethen, Ayush Goyal, Vicente
   Grau and Nic Smith
3. Characterizing the Impact of Using Spare-Cores on Application
   Performance
   Jose C. Sancho, Darren Kerbyson and Michael Lang

Thursday, September 2nd, 16:30-18:00, Distinguished Papers Session
Chair: R. Perrot Room: Pithecusa
1. Long DNA Sequence Comparison on Multicore Architectures
   Friman Sánchez, Felipe Cabarcas, Alex Ramirez and Mateo Valero
2. The x-Wait-freedom Progress Condition
   Michel Raynal and Damien Imbs
3. Adaptive Fault Tolerance for Many-Core based Space-Borne Computing
   Mark James, Paul Springer and Hans Zima

Thursday, September 2nd, 18:30-20:00, Industrial Session
Chair: P. D’Ambra Room: Pithecusa
1. When Benchmarking Makes the Difference: Simulation of Pump and Probe
   Experiments, a Practical Case
   Piero Altoè, HPC Specialist (EMEA) at E4 Computer Engineering
2. IBM Solutions for HPC Looking at Large Scale Infrastructures
   Marco Briscolini, Senior Consultant, IBM Italy
3. HPC Clusters and Solutions
   Alberto Galli, HPC Consultant at HP
Friday, September 3rd, 09:30-11:00, Paper Session F1
Topic 6  Chair: P. Trunfio  Room: Primavera

1. A GPGPU Transparent Virtualization Component for High-performance Computing Clouds  
   Giulio Giunta, Raffaele Montella, Giuseppe Agrillo and Giuseppe Coviello
   Mathijs den Burger, Ceriel Jacobs, Thilo Kielmann, Andre Merzky, Ole Weidner and Hartmut Kaiser
3. User-centric, Heuristic Optimization of Service Composition in Clouds  
   Kevin Kofler, Irfan Ul Haq and Erich Schikuta

Friday, September 3rd, 09:30-11:00, Paper Session F2
Topic 10  Chair: M. Vajtersic  Room: Nitrodi A

1. A Parallel Implementation of the Jacobi-Davidson Eigensolver and its Application in a Plasma Turbulence Code  
   Eloy Romero and Jose E. Roman
2. Scheduling Parallel Eigenvalue Computations in a Quantum Chemistry Code  
   Martin Roderus, Anca Berariu, Hans-Joachim Bungartz, Sven Krüger, Alexei Matveev and Notker Rösch
3. Scalable Parallelization Strategies to Accelerate NuFFT Data Translation on Multicores  
   Yuanrui Zhang, Jun Liu, Emre Kultursay, Mahmut Kandemir, Nikos Pitsianis and Xiaobai Sun

Friday, September 3rd, 09:30-11:00, Paper Session F3
Topic 11  Chair: D. Trystram  Room: Pithecusa

1. Maestro: Data Orchestration and Tuning for OpenCL Devices  
   Kyle Spafford, Jeremy Meredith and Jeffrey Vetter
2. Multithreaded Geant4: Semi-Automatic Transformation into Scalable Thread-Parallel Software  
   Xin Dong, Gene Cooperman and John Apostolakis
3. Parallel Exact Time Series Motif Discovery  
   Ankur Narang and Souvik Bhattacherjee

Friday, September 3rd, 09:30-11:00, Paper Session F4
Topic 7 - 4  Chair: P. Diniz  Room: Nitrodi C

1. A Formal Credit-Based Incentive Model for Sharing Computer Resources  
   Josep Rius, Ignasi Barri, Fernando Cores and Francesc Solsona
2. Thread Owned Block Cache: Managing Latency in Many-Core Architecture  
   Fenglong Song, Zhiyong Liu, Dongrui Fan, Lei Yu and Shibin Tang
3. Extending the Cell SPE with Energy Efficient Branch Prediction  
   Briejer Martijn, Cor Meenderinck and Ben Juurlink
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Friday, September 3rd, 11:30-13:30, Paper Session G1
Topic 6 – 2 Chair: J. Cunha Room: Primavera

1. A Distributed Market Framework for Large-scale Resource Sharing
   Marian Mihailescu and Yong-Meng Teo
2. Using Network Information to Perform Meta-scheduling in Advance in Grids
   Luis Tomàs, Agustín Caminero, Carmen Carrion and Blanca Caminero
3. pCFS vs. PVFS: Comparing a Highly-Available Symmetrical Parallel Cluster File System with an Asymmetrical Parallel File System
   Paulo Lopes and Pedro Medeiros
4. Comparing Scalability Prediction Strategies on an SMP of CMPs
   Karan Singh, Matthew Curtis-Maury, Sally McKee, Filip Blagojevic, Dimitrios Nikolopoulos, Bronis de Supinski and Martin Schulz

Friday, September 3rd, 11:30-13:30, Paper Session G2
Topic 12 Chair: C. Scholtes Room: Nitrodi A

1. Analysis of Multi-Organization Scheduling Algorithms
   Johanne Cohen, Daniel Cordeiro, Denis Trystram and Frédéric Wagner
2. Area-Maximizing Schedules for Series-Parallel DAGs
   Gennaro Cordasco and Arnold L. Rosenberg
3. Parallel Selection by Regular Sampling
   Alexander Tiskin
4. Ants in Parking Lots
   Arnold L. Rosenberg

Friday, September 3rd, 11:30-13:30, Paper Session G3
Topic 11 Chair: E. Cesario Room: Pithecusa

1. Optimized Dense Matrix Multiplication on a Many-Core Architecture
   Elkin García, Ioannis E. Venetis, Rishi Khan and Guang R. Gao
2. A Language-Based Tuning Mechanism for Task and Pipeline Parallelism
   Frank Otto, Christoph A. Schaefer, Matthias Dempe and Walter F. Tichy
3. A Study of a Software Cache Implementation of the OpenMP Memory Model for Multicore and Manycore Architectures
   Chen Chen, Joseph B. Manzano, Ge Gan, Guang R. Gao and Vivek Sarkar
4. Programming CUDA-based GPUs to Simulate Two-Layer Shallow Water Flows
   Marc de la Asunción, Jose M. Mantas and Manuel J. Castro

Friday, September 3rd, 11:30-13:30, Paper Session G4
Topic 14 Chair: G. De Pietro Room: Nitrodi C

1. On Deploying Tree Structured Agent Applications in Networked Embedded Systems
   Nikos Tziritas, Thanasis Loukopoulos, Spyros Lalis and Petros Lampsas
2. Meaningful Metrics for Evaluating Eventual Consistency  
   João Barreto and Paulo Ferreira

3. @Flood: Auto-Tunable Flooding for Wireless Ad Hoc Networks  
   José Mocito, Luís Rodrigues and Hugo Miranda

4. Collaborative Cellular-based Location System  
   David Navalho and Nuno Preguiça

Friday, September 3rd, 14:30-15.30  
Keynote 3  Chair: M.R. Guarracino  Room: Pithecusa

Computational Epidemiology: a New Paradigm in the Fight against Infectious Diseases  
Dr. Vittoria Colizza  - ISI Foundation

Friday, September 3rd, 15:30-15.45,  
Conference Closing  Room: Pithecusa