



PDP 2015

23rd Euromicro International Conference on
Parallel, Distributed and Network-based Processing
Turku, Finland March 4-6, 2015

CONFERENCE PROGRAM

Wednesday 4th March 2015

8:30 Registration

9:30 Opening

10:00 Keynote 1

[Chair: Masoud Daneshtalab] [Room: Kustaa & Juhana]

Prof. Jesus Carretero, University Carlos III of Madrid, Spain
Will future ultrascale computing systems be sustainable?

11:00 Coffee break

Distributed and Network-based Computing 1

[Chair: Wim Vanderbauwhede] [Room: Kustaa]

11:30 Heterogeneous Acceleration of Volumetric JPEG2000

Jan G. Cornelis, Jan Lemeire, Tim Bruylants and Peter Schelkens.

12:00 Locality vs. Balance: Exploring Data Mapping Policies on NUMA Systems

Matthias Diener, Eduardo Cruz and Philippe Navaux.

12:30 (SHORT) On the impact of energy-efficient strategies in HPC clusters

Fábio Rossi, Miguel Xavier, Yuri Monti and César De Rose.

12:45 (SHORT) Row Tables: Design Choices to Exploit Bank Locality in Multiprogram Workloads
Paula Navarro, Vicent Selfa, Crispin Gómez, María E. Gómez and Julio Sahuquillo.

Models and Tools 1

[Chair: Thomas Canhao Xu] [Room: Juhana]

11:30 Extending a Peer-based Coordination Model with Composable Design Patterns
Eva Kühn, Stefan Craß and Gerald Schermann.

12:00 Application-Agnostic Framework for Improving the Energy Efficiency of Multiple HPC Subsystems
Ghislain Landry Tsafack Chetsa, Laurent Lefevre, Jean-Marc Pierson, Patricia Stolf and Georges Da Costa.

12:30 Selecting points of interest in traces using patterns of events
François Trahay, Elisabeth Brunet, Mohamed Mosli Bouksiaa and Jianwei Liao.

Special Session on High Performance Computing in Modelling and Simulation 1

[Chair: Donato D'Ambrosio] [Room: Pietari]

11:30 Color and Edge Directivity Descriptor on GPGPU
Chryssanthi Iakovidou, Loukas Bampis, Savvas Chatzichristofis, Yiannis Boutalis and Angelos Amanatiadis.

12:00 Human and fire detection from high altitude UAV images
Themistoklis Giitsidis, Evangelos Karakasis, Antonios Gasteratos and Georgios Ch. Sirakoulis.

12:30 (SHORT) CUDA dynamic active thread list strategy to accelerate debris flow simulations
Giuseppe Filippone, William Spataro, Donato D'Ambrosio, Davide Spataro, Davide Marocco and Giuseppe Andrea Trunfio.

Special Session on On-Chip Parallel and Network-Based Systems 1

[Chair: Hamid Sarbazi-Azad] [Room: Kristiina]

11:30 DeFrag: Defragmentation for Efficient Runtime Resource Allocation in NoC-based Many-core Systems
Jim Ng, Xiaohang Wang, Amit Kumar Singh and Terrence Mak.

12:00 Dynamic Guaranteed Service Communication on Best-Effort Networks-on-Chip
Peter Munk, Matthias Freier, Jan Richling and Jian-Jia Chen.

12:30 (SHORT) Concentration and its Impact on Mesh and Torus-based NoC Performance
Samia Loucif

12:45 (SHORT) A Network-Level Solution for Fault Detection, Masking, and Tolerance in NoCs
Xiaofan Zhang, Masoumeh Ebrahimi, Letian Huang, Guangjun Li and Axel Jantsch.

13:00 Lunch

Parallel Computing 1

[Chair: Johan Lilius] [Room: Kustaa]

- 14:00 Energy driven adaptivity in stream parallel computations
Daniele De Sensi, Marco Danelutto and Massimo Torquati.
- 14:30 Vector Implementation of Gaussian Elimination over GF(2): Exploring the Design-Space of Strassen's Algorithm as a Case Study
Enric Morancho.
- 15:00 Enhancing and Evaluating the Configuration Capability of a Skeleton for Irregular Computations
Carlos Hugo González Vázquez and Basilio B. Fraguera.

Systems and Architectures 1

[Chair: Julio Sahuquillo] [Room: Juhana]

- 14:00 pioman: a pthread-based Multithreaded Communication Engine
Alexandre Denis.
- 14:30 Progression of MPI non-blocking collective operations using Hyper-Threading
Masahiro Miwa and Kohta Nakashima.
- 15:00 (SHORT) Optimized Core-links for Low-latency NoCs
Ryuta Kawano, Seiichi Tade, Ikki Fujiwara, Hiroki Matsutani, Hideharu Amano and Michihiro Koibuchi.
- 15:15 (SHORT) Channel Interface: a Primitive Model for Memory Efficient Communication
Takeshi Nanri, Takeshi Soga, Yuichiro Ajima, Yoshiyuki Morie, Hiroaki Honda, Taizo Kobayoshi, Toshiya Takami and Shinji Sumimoto.

Special Session on Energy-Aware Computing

[Chair: Tim Süß] [Room: Pietari]

- 14:00 A green perspective on structured parallel programming
Marco Danelutto, Peter Kilpatrick and Massimo Torquati.
- 14:30 Multi-Kernel Auto-Tuning on GPUs: Performance and Energy-Aware Optimization
João Guerreiro, Aleksandar Ilic, Nuno Roma and Pedro Tomás.
- 15:00 (SHORT) Mutual Influence of Application- and Platform-Level Adaptations on Energy-Efficient Computing

Kateryna Rybina, Waltenege Dargie, Somayeh Malakuti and René Schöne.

Special Session on Formal Approaches to Parallel and Distributed Systems 1

[Chair: Mads Dam] [Room: Kristiina]

- 14:00 System-level State Equality Detection for the Formal Dynamic Verification of Legacy Distributed Applications
Marion Guthmuller, Martin Quinson and Gabriel Corona.
- 14:30 Automatic Distributed Code Generation from Formal Models of Asynchronous Concurrent Processes
Hugues Evrard and Frederic Lang.
- 15:00 Causal-Consistent Reversibility in a Tuple-Based Language
Elena Giachino, Ivan Lanese, Claudio Antares Mezzina and Francesco Tiezzi.

15:30 Coffee break

Advanced Algorithms and Applications 1

[Chair: Wim Vanderbauwhede] [Room: Kustaa]

- 16:00 An Efficient Algorithm for Communication-Based Task Mapping
Eduardo H. M. Cruz, Matthias Diener, Laércio L. Pilla and Philippe O. A. Navaux.
- 16:30 Bit-flip aware control-flow error detection
Ghazaleh Nazarian, Diego Gonçalves Rodrigues, Alvaro Moreira, Luigi Carro and Georgi Gaydadjiev.
- 17:00 I/O optimization in the checkpointing of OpenMP parallel applications
Nuria Losada, María J. Martín, Gabriel Rodríguez and Patricia González.

Big Data 1

[Chair: Leonidas Tsiopoulos] [Room: Juhana]

- 16:00 A Performance Isolation Analysis of Disk-intensive Workloads on Container-based Clouds
Miguel Xavier, Israel De Oliveira, Fabio Rossi, Robson Dos Passos, Kassiano Matteussi and Cesar De Rose.
- 16:30 Reliability Analysis of Highly Redundant Distributed Storage Systems with Dynamic Refuging
Hiroaki Akutsu, Kazunori Ueda, Takeru Chiba, Tomohiro Kawaguchi and Norio Shimozone.
- 17:00 (SHORT) Using Active Data to Provide Smart Data Surveillance to E-Science Users
Anthony Simonet, Kyle Chard, Gilles Fedak and Ian Foster.

- 17:15 (SHORT) A Hadoop-Based Framework for Large-Scale Landmine Detection Using Ubiquitous Big Satellite Imaging Data
Sahar Elkazzaz and Ahmed El Mahdy.

Special Session on High Performance Computing in Modelling and Simulation 2
[Chair: William Spataro] [Room: Pietari]

- 16:00 Evaluating the Performance Impact of Communication Imbalance in Sparse Matrix-Vector Multiplication
Gladys Utrera, Marisa Gil and Xavier Martorell.
- 16:30 Strategies for parallelizing Swarm Intelligence Algorithms
Franco Cicirelli, Gianluigi Folino, Agostino Forestiero, Andrea Giordano and Carlo Mastroianni.
- 17:00 (SHORT) Load Balance Strategies for DEVS Approximated Parallel and Distributed Discrete-Event Simulations
Alonso Inostrosa Psijas, Roberto Solar, Veronica Gil Costa and Mauricio Marin.
- 17:15 (SHORT) Parallel implementation of fuzzified pattern matching algorithm on GPU
Shima Soroushnia, Masoud Daneshtalab, Tapio Pahikkala and Juha Plosila.

Special Session on On-Chip Parallel and Network-Based Systems 2
[Chair: Samira Sayed Salehi] [Room: Kristiina]

- 16:00 Multicast On-Chip Traffic Analysis Targeting Manycore NoC Design
Sergi Abadal, Albert Mestres, Raul Martínez, Eduard Alarcón and Albert Cabellos-Aparicio.
- 16:30 Fault Tolerant Routing for Hierarchically Organized Networks-on-Chip
Gert Schley and Martin Radetzki.
- 17:00 (SHORT) Implementing MVC Decoding on Homogeneous NoCs: Circuit Switching versus Wormhole Switching
Ning Ma, Zhuo Zou, Zhonghai Lu and Li-Rong Zheng.
- 17:15 (SHORT) An Adaptive, Low Restrictive and Fault Resilient Routing Algorithm for 3D Network-on-Chip
Ronak Salamat, Masoumeh Ebrahimi and Nader Bagherzadeh.

Thursday 5th March 2015

Special Session on On-Chip Parallel and Network-Based Systems 3

[Chair: Masoumeh Ebrahimi] [Room: Pietari]

- 9:00 MACRON: The NoC-based Many-Core Parallel Processing Platform and its Applications in 4G Communication Systems
Xiang Ling, Yi-Ou Chen, Zhiliang Yu, Shihua Chen, Xiaodong Wang and Gui Liang.
- 9:30 Preprocessing of Scenarios for Fast and Efficient Routing Reconfiguration in Fault-Tolerant NoCs
Jarbas Silveira and César Marcon.

Special Session on Cloud Computing on Infrastructure as a Service and its Applications 1

[Chair: Peter Kilpatrick] [Room: Kristiina]

- 9:00 A Scheduling Strategy Based on Redundancy of Service Requests on IaaS Providers
Cristiano Vieira, Luiz F. Bittencourt and Edmundo Madeira.
- 9:30 Cost-Efficient, Utility-Based Caching of Expensive Computations in the Cloud
Benjamin Byholm, Fareed Ahmed Jokhio, Adnan Ashraf, Sebastien Lafond, Johan Lilius and Ivan Porres.

Special Session on System Management for Energy Efficient Parallel Applications and Platforms 1

[Chair: Sebastien Lafond] [Room: Eerik]

- 9:00 Accurate Energy Modelling for Many-Core Static Schedules
Simon Holmbacka, Jörg Keller, Patrick Eitschberger and Johan Lilius.
- 9:30 DVFS for HPC: Higher, Faster, Greener
Georges Da Costa and Jean-Marc Pierson.

Special Session on Security in Parallel, Distributed and Network-Based Computing 1

[Chair: Igor Kotenko] [Room: Katariina]

- 9:00 Design of integrated vulnerabilities database for computer networks security analysis
Andrey Fedorchenko, Igor Kotenko and Andrey Chechulin.
- 9:30 Countermeasure selection in SIEM systems based on the integrated complex of security metrics
Igor Kotenko and Elena Doynikova.

10:00 Keynote 2

[Chair: Ville Leppänen] [Room: Kustaa & Juhana]

Adj. Prof. Martti Forsell, VTT and Oulu University, Finland

REPLICA - Addressing the performance and programmability problems of CMPs with a high throughput architecture and strong model of computation

11:00 Coffee break

Distributed and Network-based Computing 2

[Chair: Ville Leppänen] [Room: Kustaa]

11:30 A Monitoring System for Runtime Adaptations of Streaming Applications

Manuel Selva, Lionel Morel, Kevin Marquet and Stephane Frenot.

12:00 A weighted fat-tree routing algorithm for efficient load-balancing in InfiniBand enterprise clusters

Feroz Zahid, Ernst Gunnar Gran, Bartosz Bogdański, Bjørn Dag Johnsen and Tor Skeie.

12:30 (SHORT) Marching Band: Fault Tolerance with Replicable Message Delivery Order

Arkadiusz Danilecki.

12:45 (SHORT) XORAdap: A HoL-blocking aware adaptive routing algorithm

Roberto Peñaranda, Crispin Gomez Requena, Maria Gomez and Pedro Lopez.

Parallel Computing 2

[Chair: Basilio B. Fraguela] [Room: Juhana]

11:30 Focusing on the Number of Tasks, Not Threads

Ashkan Tousimojarad and Wim Vanderbauwhede.

12:00 Performance Evaluation of Parallel HEVC Strategies

Georgios Georgakarakos, Leonidas Tsiopoulos, Johan Lillius, Joakim Haldin and Ulf Falk.

12:30 (SHORT) An Hybrid Parallel Implementation of Model Selection for Support Vector Machines

Giuseppe Ripepi, Andrea Clematis and Daniele D'Agostino.

12:45 (SHORT) Methodologies and performance metrics to evaluate multiprogram workloads

Vicent Selfa, Julio Sahuquillo, Crispin Gomez, María E. Gómez and Paula Navarro.

Special Session on Formal Approaches to Parallel and Distributed Systems 2

[Chair: Peter Kilpatrick] [Room: Pietari]

11:30 SyLVaaS: System Level Formal Verification as a Service

Toni Mancini, Federico Mari, Igor Melatti and Enrico Tronci.

12:00 Revisiting Concurrent Separation Logic and Operational Semantics
Pedro Soares, Simão Melo de Sousa and António Ravara.

12:30 (SHORT) pNets: an Expressive Model for Parameterised Networks of Processes
Ludovic Henrio, Eric Madelaine and Min Zhang.

Special Session on GPU Computing and Hybrid Computing 1

[Chair: Yiannis Cotronis] [Room: Kristiina]

11:30 Lattice Boltzmann Simulations at Petascale on Multi-GPU Systems with Asynchronous Data Transfer
Fredrik Robertsén, Jan Westerholm and Keijo Mattila.

12:00 A Generic and High Efficient Parallel Variant of Boruvka's Algorithm
Cristiano Rafael Da Silva Sousa, Artur Mariano and Alberto Proença.

12:30 Execution of dataflow process networks on OpenCL platforms
Wictor Lund, Sudeep Kanur, Johan Ersfolk, Leonidas Tsiopoulos, Johan Lilius, Joakim Haldin and Ulf Falk.

13:00 Lunch

Advanced Algorithms and Applications 2

[Chair: Basilio B. Fraguela] [Room: Kustaa]

14:00 An Efficient Implementation of Ant Colony Optimization on GPU for the Satisfiability Problem
Hassan Youness, Aziza Ibraheim, Mohammed Moness and Muhammad Osama.

14:30 Algorithms for Mapping Parallel Processes onto Grid and Torus Architectures
Roland Glantz, Henning Meyerhenke and Alexander Noe.

15:00 (SHORT) Parallel implementations of the Particle Filter algorithm for Android mobile devices
Alejandro Acosta and Francisco Almeida.

15:15 (SHORT) Efficient Lock-Free Work-stealing Iterators for Data-Parallel Collections
Aleksandar Prokopec, Dmitry Petrashko and Martin Odersky.

Models and Tools 2

[Chair: Tim Süß] [Room: Juhana]

14:00 RaceChecker: Efficient Identification of Harmful Data Races
Kai Lu, Zhendong Wu, Xiaoping Wang, Chen Chen and Xu Zhou.

14:30 Cost Estimation of Parallel Constrained Producer-Consumer Algorithms
Tariq Kamal, Ali Butt, Keith Bisset and Madhav Marathe.

15:00 (SHORT) On the Quality of Implementation of the C++11 Thread Support Library
Peter Thoman, Philipp Gschwandtner and Thomas Fahringer.

15:15 (SHORT) NanoCheckpoints: A Task-based Asynchronous Dataflow Framework for Efficient and Scalable Checkpoint/Restart
Omer Subasi, Francisco Javier Arias Moreno, Osman Unsal, Jesus Labarta and Adrian Cristal.

Special Session on On-Chip Parallel and Network-Based Systems 4

[Chair: Nader Bagherzadeh] [Room: Pietari]

14:00 (SHORT) Modeling an improved modified type in metallic quantum-dot fixed cell for nano structure implementation
Samira Sayedsalehi and Arman Roohi.

14:15 (SHORT) Derivation of Parallel and Resilient Programs from Simulink Models
Sergey Ostroumov, Pontus Boström and Marina Waldén.

14:30 (SHORT) Dynamic Application Mapping Algorithm for Wireless Network-on-Chip
Amin Rezaei, Masoud Daneshtalab, Danella Zhao, Farshad Safaei, Xiaohang Wang, and Masoumeh Ebrahimi.

14:45 (SHORT) A Clustered GALS NoC Architecture with Communication-aware Mapping
Kazem Cheshmi, Siamak Mohammadi, Daniel Versick, Djamshid Tavangarian and Jelena Trajkovic.

Special Session on GPU Computing and Hybrid Computing 2

[Chair: Yiannis Cotronis] [Room: Kristiina]

14:00 Optimality of Fundamental Parallel Algorithms on the Hierarchical Memory Machine, with GPU implementation
Koji Nakano and Yasuaki Ito.

14:30 An application of GPU parallel computing to power flow calculation in HVDC networks
Przemyslaw Blaskiewicz, Marcin Zawada, Przemysław Balcerek and Pawel Dawidowski.

15:00 Fast Implementation of General Matrix-Vector Multiplication (GEMV) on Kepler GPUs
Daichi Mukunoki, Toshiyuki Imamura and Daisuke Takahashi.

15:30 Coffee break

Systems and Architectures 2

[Chair: Hamid Sarbazi-Azad] [Room: Kustaa]

16:00 The Tag Filter Cache: An Energy-Efficient Approach
Joan J. Valls, Julio Sahuquillo, Alberto Ros and Maria E. Gómez.

- 16:30 TFluxSCC: Exploiting Performance on Future Many-core Systems through Data-Flow
Andreas Diavastos, Giannos Stylianou and Pedro Trancoso.
- 17:00 (SHORT) Efficient implementation of a fast approximate viewshed algorithm on SIMD architectures
Jesús Carabaño Bravo, Tapani Sarjakoski and Jan Westerholm.
- 17:15 (SHORT) A High-Performance Media Streaming Architecture based on KVM
Woo-Yeong Jeong, Youngjae Lee and Jin-Soo Kim.

Big Data 2

[Chair: Masoumeh Ebrahimi] [Room: Juhana]

- 16:00 Solutions for Processing K Nearest Neighbor Joins for Big Data on MapReduce
Ge Song, Justine Rochas, Fabrice Huet and Frederic Magoules.
- 16:30 Experiences of using Cassandra for molecular dynamics simulations
Roger Hernandez, Cesare Cugnasco, Yolanda Becerra, Jordi Torres and Eduard Ayguade.
- 17:00 (SHORT) Exploiting Local Clouds in the Internet of Everything Environment
Francisco Javier Nieto and Sergio García.

Special Session on Multi-Core and Many-Core systems for Embedded Computing 1

[Chair: Thomas Canhao Xu] [Room: Pietari]

- 16:00 Ctherm: An Integrated Framework for Thermal-Functional Co-Simulation of Systems-on-Chip
Sumeet S. Kumar, Amir Zjajo and Rene Van Leuken.
- 16:30 Embedded Hypervisor Xvisor: A comparative analysis
Mai Daftedar, Anup Patel and Mohamed Shalan.
- 17:00 (SHORT) Simultaneous Optimisation of Task Mapping and Priority Assignment for Real-Time Embedded Networks-on-Chip
M. Norazizi Sham Mohd Sayuti and Leandro Indrusiak.
- 17:15 (SHORT) A formal specification and prototyping language for multi-core system management
Alexei Iliasov.

Special Session on Advances in High-Performance Bioinformatics, Systems and Synthetic Biology 1

[Chair: Daniele D'Agostino] [Room: Kristiina]

- 16:00 Parallel Exploration of the Nuclear Chromosome Conformation with NuChart-II
Fabio Tordini, Ivan Merelli, Maurizio Drocco, Claudia Misale, Luciano Milanese, Pietro Liò and Marco Aldinucci.

16:30 Memory-Optimised Parallel Processing of Hi-C Data

Maurizio Drocco, Claudia Misale, Guilherme Peretti Pezzi, Fabio Tordini and Marco Aldinucci.

Friday 6th March 2015

Special Session on Parallel Computing for Neural System & e-Infrastructures for Hydro Meteorological Research

[Chair: Masoumeh Ebrahimi] [Room: Eerik]

- 9:00 FIST: A Framework to Interleave Spiking neural networks on CGRAs
Syed Mohammad Asad Hassan Jafri, Masoud Daneshtalab, Ahmed Hemani, Tuan Nguyen Gia, Hannu Tenhunen, Juha Plosila and Serrgei Dytckov.
- 9:30 (SHORT) Lightweight ICT Approaches to Hydro-Meteorological Data Issues
Alfonso Quarati, Andrea Clematis, Giacomo Paschina, Tatiana Bedrina and Antonio Parodi.

Special Session on Cloud Computing on Infrastructure as a Service and its Applications 2

[Chair: Leonidas Tsiopoulos] [Room: Katariina]

- 9:00 Design of a Cloud Service Middleware to Utilize Free Minutes of Public Cloud Resources
Sunirmal Khatua and Nandini Mukherjee.
- 9:30 (SHORT) Optimizing OLAP cube construction by improving data placement policy on Hadoop clusters
Arres Billel.

Special Session on System Management for Energy Efficient Parallel Applications and Platforms 2

[Chair: Jean-Marc Pierson] [Room: Kristiina]

- 9:00 Energy-Efficient Task Scheduling in Manycore Processors with Frequency Scaling Overhead
Patrick Eitschberger and Jörg Keller.
- 9:30 (SHORT) Energy-Aware Migration of Virtual Machines Driven by Predictive Data Mining Models
Albino Altomare, Eugenio Cesario and Domenico Talia.
- 9:45 (SHORT) Energy Measurement Library (EML) usage and overhead analysis
Alberto Cabrera, Francisco Almeida, Javier Arteaga and Vicente Blanco.

Special Session on Security in Parallel, Distributed and Network-Based Computing 2

[Chair: Igor Kottenko] [Room: Pietari]

- 9:00 Enabling Secure Communication Over Existing Peer-to-Peer Frameworks
Andreas Reiter.
- 9:30 (SHORT) Design and Development of a Facebook Application to Raise Privacy Awareness
Gianpiero Costantino and Daniele Sgandurra.

10:00 Keynote 3

[Chair: Johan Lilius] [Room: Kustaa & Juhana]

Perttu Ranta-aho, F-Secure, Finland

A Platform for Supporting Data Analysis for Information Security Services

11:00 Coffee break

Special Session on GPU Computing and Hybrid Computing 3

[Chair: Peter Kilpatrick] [Room: Kustaa]

11:30 A practical performance model for compute and memory bound GPU kernels
Elias Konstantinidis and Yiannis Cotronis.

12:00 (SHORT) Revealing Potential Performance Improvements By Utilizing Hybrid Work-Sharing For Resource-Intensive Seismic Applications
Patrick Siegl, Rainer Buchty and Mladen Berekovic.

12:15 (SHORT) A flexible and portable large-scale DGEMM library for Linpack on next-generation multi-GPU systems
David Rohr and Volker Lindenstruth.

12:30 (SHORT) Real-time Simulation of Radiological Images Using CUDA Technology
Elena Gianaria and Elena Gallio.

Special Session on Multi-Core and Many-Core systems for Embedded Computing 2

[Chair: Thomas Canhao Xu] [Room: Juhana]

11:30 Generalized Extraction of Real-Time Parameters for Homogeneous Synchronous Dataflow Graphs
Hazem Ismail Ali, Benny Akesson and Luis Miguel Pinho.

12:00 (SHORT) A Hybrid Algorithm based on Self-Timed and Periodic Scheduling for Embedded Streaming Applications
Xuan Khanh Do, Dkhil Ep.Jemal Amira, Stephane Louise and Christine Rochange.

12:15 (SHORT) Impact of Data Sharing on Co-Running Embedded Applications in Multi-Core System
Anna Korotaeva and Wolfgang Nebel.

12:30 (SHORT) Portable Framework for Real-Time Parallel Image Processing on High Performance Embedded Platforms
Clemens Eisserer.

Special Session on Advances in High-Performance Bioinformatics, Systems and Synthetic Biology 2

[Chair: Claudia Misale] [Room: Pietari]

- 11:30 Integrating Data-intensive Computing Systems with Biological Data Processing Frameworks
Edvard Pedersen, Inge Alexander Raknes, Martin Ernstsen and Lars Ailo Bongo.
- 12:00 (SHORT) Towards Parallel Large-scale Genomic Prediction by Coupling Sparse and Dense Matrix Algebra
Arne De Coninck, Drosos Kourounis, Fabio Verbosio, Olaf Schenk, Bernard De Baets, Steven Maenhout and Jan Fostier.

Special Session on Security in Parallel, Distributed and Network-Based Computing 3

[Chair: Igor Kotenko] [Room: Kristiina]

- 11:30 A Formal Model of Policy Reconciliation
Cataldo Basile, Antonio Lioy, Christian Pitscheider and Shilong Zhao.
- 12:00 (SHORT) Iterative Selection of Cost-Effective Countermeasures for Intelligent Threat Agents
Fabrizio Baiardi, Federico Tonelli, Alessandro Bertolini and Roberto Bertolotti.
- 12:15 (SHORT) Review of the mobile malware mitigation approaches
Anastasia Skovoroda and Dennis Gamayunov.

13:00 Lunch

14:00 Work in Progress

[Chair: Wim Vanderbauwhede] [Room: Kustaa]

- 14:00 Implementing Reliable Broadcast in Anonymous Distributed Systems with Fair Lossy Channels
Jian Tang; Mikel Larrea, Sergio Arévalo, Ernesto Jiménez
- 14:10 Designing and Evaluating Fault-tolerant Leader Election Algorithms
Mikel Larrea, Christian Fernández-Campusano, Roberto Cortinas, Jian Tang
- 14:20 Revisiting MPI and OpenMP for Heterogeneous HPC Platforms
Gladys Utrera, Marisa Gil, Xavier Martorell
- 14:30 Programming Models Performance Based on their Memory Errors Vulnerability
Isil Oz; Gladys Utrera, Marisa Gil, Xavier Martorell
- 14:40 The Design of Advanced Communication to Reduce Memory Usage for Exa-scale Systems
Shinji Sumimoto, Yuichiro Ajima, Kazushige Saga, Takafumi Nose, Naoyuki Shida; Takeshi Nanri

14:50 TLM Design Space Exploration for a Hardware CFDP Transmission Accelerator
Sören Michalik, Rolf Meyer, Sönke Michalik, Patrick Siegl, Mladen Berekovic, Fossati

15:00 Putting Provers on the Cloud
Alexei Iliasov, D. Adjepon-Yamoah, P. Stankaitis, Alexander Romanovsky

15:10 Towards a Design Theory of Region-Adherent Algorithms
Dilshod Rahmatov, Oliver Theel

15:20 Reconfigurable and Adaptable Computational Resources on the Abstract Level
Jozef Cernak, Marek Kocan, Eva Cernáková

15:30 Coffee break