Floor plan

PPlPP 2016
March 12-16, 2016
Barcelona, Spain

Principles and Practice of Parallel Programming

Technical Program

<table>
<thead>
<tr>
<th>Mon 14</th>
<th>Tue 15</th>
<th>Wed 16</th>
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<tbody>
<tr>
<td>8:00</td>
<td>Opening (Girona+Tarragona-Lleida)</td>
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<td>8:30</td>
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<td>Keynote II: Keshav Pingali (U of Texas, Austin) (Girona+Tarragona-Lleida)</td>
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<td>8:30</td>
<td>Keynote I: Madan Musuvathi (Microsoft) (Girona+Tarragona-Lleida)</td>
<td>Keynote III: Avinash Sodani (Intel) (Girona+Tarragona-Lleida)</td>
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<td>9:30</td>
<td>Coffee Break (Catalunya Hall + Mezzanine)</td>
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<td>9:30</td>
<td>Applications (Mallorca+Menorca)</td>
<td>Shared-memory data structures (Mallorca+Menorca)</td>
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<td>10:00</td>
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<td>Consistency models (Mallorca+Menorca)</td>
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<td>10:00</td>
<td>Lang. Impl. and DSL (Mallorca+Menorca)</td>
<td>Optimistic concurrency (Mallorca+Menorca)</td>
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<td>11:15</td>
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<td>Performance analysis (Mallorca+Menorca)</td>
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<td>11:30</td>
<td>Lunch (Güell+Batlle)</td>
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<td>12:00</td>
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<td>Closing (Mallorca+Menorca)</td>
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<td>14:20</td>
<td>Algorithms (Mallorca+Menorca)</td>
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<td>15:00</td>
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<td>Looking (Mallorca+Menorca)</td>
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<td>16:00</td>
<td>GPUs and scheduling (Mallorca+Menorca)</td>
<td>Excursion: Panoramic tour of Barcelona</td>
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<td>16:20</td>
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<td>18:00</td>
<td>Artifact Evaluation Meeting (Mallorca+Menorca)</td>
<td>Gala Dinner (Les Drassanes Reials)</td>
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<td>20:00</td>
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<td>22:00</td>
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Reception and Posters
The reception and poster session will be held in Hall Mezzanine on Sunday Mar 13 from 18:00 to 20:00.
Detailed conference program

Monday March 14th

Opening Session (8:00am-8:30am), Joint Session with HPCA and CGO, Salon Girona+Tarragona+Lleida

Keynote: Madan Musuvathi (Microsoft) (8:30am-9:00am. Salon Girona+Tarragona+Lleida)
Chair: Tim Harris (Oracle)

Applications (10:00am-11:15am. Salon Mallorca+Menorca)
Chair: Albert Cohen (Intel)
- Coarse Grain Parallelization of Deep Neural Networks, Marc Gonzalez Tallada.
- High Performance Model Based Image Reconstruction, Xiao Wang, Amir Sabne, Sherman Kins, Anand Raghunathan, Charles Bouman, Samuel Midkiff
- Exploiting Accelerators for Efficient High Dimensional Similarity Search, Sandeep Agrawal, Christopher Michael Der, Alvin R. Lebeck

Language Implementations & DSL (11:35am)
Chair: Lawrence Rauchwerger (Texas A&M Austin)

Gunrock: A High Performance Graph Processing Library on the GPU, Yuechao Pan, Yuduo Wu, Andrew Riffel, John D. Owens
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Algorithms (14:20-16:00. Salon Mallorca+Menorca)
Chair: Lawrence Rauchwerger (Texas Ad&M Austin)
- Articulation Point Guided Redundancy Elimination for Betweenness Centrality, Lei Wang, Fan Yang, Liangli Zhuang, Huimin Cui, Fang Lv, Xiaobing Feng
- Multi-Core On-The-Fly SCC Decomposition, Vincent Bloemen, Alfons Laarman, Jao van de Poel
- A High-Performance Parallel Algorithm for Nonnegative Matrix Factorization, Ramakrishnan Kannan, Grey Ballard, Haesun Park

GPUs and Scheduling (16:20-18:00. Salon Mallorca+Menorca)
Chair: Christophe Dubach (University of Edinburgh)
- Gunrock: A High-Performance Graph Processing Library on the GPU, Yangzhao Wang, Andrew Davidson, Yuechao Pan, Yuduo Wu, Andy Riffel, John D. Owens
- GPU MultiSplt, Saman Askarmazi, Andrew Davidson, Ulrich Meyer, John D. Owens
- Keep Calm and React with Foresight: Strategies for Low-Latency and Energy-Efficient Elastic Data Stream Processing, Tiziano De Matteis, Gabriele Mencagli
- Work Stealing for Interactive Services to Meet Target Latency, Jing Li, Kunal Agrawal, Sameh Elnikety, Yuxiong He, T-Ting Angelina Lee, Chenyang Lu, Kathryn S McKinley

Artifact Evaluation Meeting (18:00-18:30. Salon Mallorca+Menorca)

Tuesday March 15th

Keynote: Keshav Pingali (UT Austin) (8:30am-9:30am. Salon Girona+Tarragona+Lleida)
Chair: José Martinez (Cornell University)

Shared-memory data structures (10:00am-11:15am. Salon Mallorca+Menorca)
Chair: Yossi Lev (Oracle)
- Adding Approximate Counters, Guy L. Steele Jr., Jean-Baptiste Tristan
- A Wait-Free Queue as Fast as Fetch-and-Add, Chaoran Yang, John Mellor-C rummey

Optimistic Concurrency (11:35am-12:50. Salon Mallorca+Menorca)
Chair: Milind Chabbi (Rice University)
- Optimistic Concurrency with OPTIK, Rachid Guerraoui, Vasileios Trigonakis
- Refined Transactional Lock Elision, Dave Dice, Alex Kogan, Yossi Lev
- Drinking from Both Glasses: Combining Pessimistic and Optimistic Tracking of Cross-Thread Dependencies, Man Cao, Minja Zhang, Aritra Sengupta, Michael Bond

Locking (14:20-15:35. Salon Mallorca+Menorca)
Chair: Michael Scott (University of Rochester)
- Be My Guest - MCS Lock Now Welcome Guests, Tianzheng Wang, Milind Chabbi, Hideaki Kimura
- Contention-Conscious, Locality-Preserving Locks, Milind Chabbi, John Mellor-Crummey
- DomLock: A New Multi-Granularity Locking Technique for Hierarchies, Saurabh Kalikar, Rupesh Nastre

Panoramic Tour of Barcelona (15:45-20:00)
Gala Dinner, Les Drassan Reials (20:00-22:00)

Wednesday March 16th

Keynote: Avinash Sodani (Intel) (8:30am-9:30am. Salon Girona+Tarragona+Lleida)
Chair: Fabrice Rastello (INRIA)

Consistency Models (10:00am-11:15am. Salon Mallorca+Menorca)
Chair: Jim Larus (EPFL)
- Benchmarking Weak Memory Models, Carl Ritson, Scott Owens
- The Virtues of Conflict: Analysing Modern Concurrency, Ganesh Narayanswamy, Saurabh Joshi, Daniel Kroening
- Causal Consistency: Beyond Memory, Matthias Perrin, Achour Mostefaoui, Claude Jard

Performance Analysis and Debugging (11:35am-12:50. Salon Mallorca+Menorca)
Chair: Martin Schulz (Lawrence Livermore National Laboratory)
- ESTIMA: Extrapolating Scalability of In-Memory Applications, Georgios Chatzopoulos, Aleksandar Dragojevic, Rachid Guerraoui
- Grain Graphs: OpenMP Performance Analysis Made Easy, Ananya Muddukrishna, Peter A. Jonsson, Artur Podobas, Mats Broström
- Production-guided Concurrency Debugging, Nuno Machado, Brandon Lucia, Luis Rodrigues

Closing Session (12:50-13:00), Salon Mallorca+Menorca