

# Preface

Euro-Par is an annual, international conference on European ground, covering all aspects of parallel and distributed processing, ranging from theory to practice, from small to the largest parallel and distributed systems and infrastructures, from fundamental computational problems to full-fledged applications, from architecture, compiler, language and interface design and implementation to tools, support infrastructures, and application performance aspects. Euro-Par has a unique organization into topics capturing all these different aspects and has proven an excellent forum for focused technical discussions within a large, broad, and diverse audience. The Euro-Par conference itself is complemented by a workshop program, where workshops dedicated to more specialized themes, to cross-cutting issues, and to upcoming trends and paradigms can be easily and conveniently organized with little administrative overhead. The Euro-Par topics are relatively stable but have evolved over the years to adequately reflect the state of the field, often in reaction to thematic developments initiated by previous workshops.

Euro-Par's ambition is to be the first choice for presenting solid (European) research in all areas of parallel and distributed computing as covered by the Euro-Par topics. The target audience includes researchers, scientists and students from universities, academic research institutions, research laboratories, development centers, and also companies and industrial organizations with an often vital interest in parallel and distributed computing. With its wide spectrum, Euro-Par fosters interaction between different people and personalities and between different areas and approaches in parallel and distributed computing.

Euro-Par 2015 was the 21th conference in the Euro-Par series, and was organized in Vienna, Austria, by the Vienna University of Technology (TU Wien), Faculty of Informatics, Research Group for Parallel Computing. Previous Euro-Par conferences took place in Stockholm (1995), Lyon (1996), Passau (1997), Southampton (1998), Toulouse (1999), Munich (2000), Manchester (2001), Paderborn (2002), Klagenfurt (2003), Pisa (2004), Lisbon (2005), Dresden (2006), Rennes (2007), Las Palmas (2008), Delft (2009), Ischia (2010), Bordeaux (2011), Rhodes (2012), Aachen (2013), and Porto (2014). In 2016, the conference will be held in Grenoble. General information on the Euro-Par conference series and organization is available at <http://www.europar.org>.

Euro-Par 2015 was organized into 13 topics, each with its own topic Program Committee consisting of a global chair, a local chair, and at least two additional members. Topics that received a larger number of submissions had additional members, such that each topic member had the responsibility to solicit reviews for about five papers. With this organization, the aim of Euro-Par is that each submitted paper receives at least four reviews, that each paper is actually reviewed by at least one topic committee member, and that papers receive reviews from different communities and groups. For Euro-Par 2015, topic committee members hailed from 17 different countries.

The Euro-Par 2015 Call-for-Papers attracted 190 full-paper submissions, representing 37 countries. The topic committees made sure that all papers were reviewed

according to the Euro-Par standards. A total of 772 paper reviews were collected over an eight-week review period, giving an average of 4.1 review reports per paper. Based on the reviews and discussions among the reviewers and topic committee members, 51 papers were selected for presentation at the conference. Of the 51 accepted papers, two were accepted with distinction. Topic 11 attracted few papers and unfortunately none could be accepted. The accepted papers represent contributions from 21 countries from all continents, resulting in an acceptance rate of 27 %. The final decisions on acceptance or rejection of the submitted papers were made at a general Program Committee meeting with physical presence of the conference co-chairs, the local (in some cases global) chairs of the topics, and additional representatives from the Euro-Par Steering Committee. An effort was made to handle potential conflicts of interest at this large meeting in a proper way.

The conference program was organized into parallel sessions roughly following the topics. The two distinguished papers that were presented at separate sessions were:

- Shahar Timnat, Maurice Herlihy and Erez Petrank: “A Practical Transactional Memory Interface”.
- Leyuan Wang, Sean Baxter and John Owens: “Fast Parallel Suffix Array on the GPU”.

In addition to the paper presentations, Euro-Par 2015 was very pleased to present three renowned invited speakers who gave keynote presentations on new developments and perspectives in their respective areas. These were:

- Michel Raynal (IRISA, University of Rennes, France),
- Mateo Valero (UPC Barcelona, Spain), and
- Christian Scheideler (University of Paderborn, Germany).

The program also included a panel discussion on “The Future of Parallel, Distributed and High-Performance Computing, in Europe”, which was moderated by Raffaele Tripiccione, University of Ferrara, Italy, and took place before the conference dinner.

The workshop program of Euro-Par 2015 on the Monday and Tuesday before the main conference included the following workshops:

1. Big Data management in Clouds (BigDataCloud)
2. Parallel and Distributed Computing Education for Undergraduate Students (Euro-EDUPAR)
3. Algorithms, Models, and Tools for Parallel Computing on Heterogeneous Platforms (HeteroPar)
4. Large-Scale Distributed Virtual Environments (LSDVE)
5. On-chip Memory Hierarchies and Interconnects: Organization, management and implementation (OMHI)
6. Parallel and Distributed Agent-Based Simulations (PADABS)
7. Performance Engineering for Large-scale Graph Analytics (PELGA)
8. Reproducibility in Parallel computing (REPPAR)
9. Resiliency in high-performance computing with clouds, grids, and clusters (Resilience)
10. Runtime and Operating Systems for the Many-core Era (ROME)

11. UnConventional High-Performance Computing (UCHPC)
12. Virtualization in High-Performance Cloud Computing (VHPC)

Workshop papers will be published in a separate, post-conference proceedings volume.

The success and relevance of Euro-Par are first and foremost due to the researchers, who submit their contributions to the conference. We hereby warmly thank all contributors of submitted papers, and hope that also those whose contributions were not accepted for presentation this time will feel encouraged by the feedback to continue their work and consider Euro-Par in the future as a relevant venue. Reviewing papers, preparing feedback, and partaking in the discussions is a serious and considerable effort. We expressly thank all topic committee members and all reviewers for their work, especially all topic chairs for always being available and overseeing the reviewing process.

Euro-Par is largely financed by the participants' fees. A small number of institutional and industrial sponsors contributed to the conference, and we deeply thank them all. These contributions are essential for maintaining the modest conference fees, which are a significant factor in making it possible for students to attend the conference. Their names and logos appear on the Euro-Par 2015 website at <http://www.europar2015.org>. We point out that sponsors have no influence on the conference program or any other aspects of the Euro-Par organization.

This year, 15 special student scholarships consisting in free registrations for the conference and workshops were available and financed by the Euro-Par fund. There was a lot of interest in these scholarships, and we thank the Euro-Par Steering Committee for facilitating this support.

Euro-Par is a large conference and its organization depends on the work of many individuals and organizations. We thank all members of the local organization team, especially Christine Kamper and Margret Steinbuch. Vienna University of Technology (TU Wien) provided lecture halls and seminar rooms at reasonable costs, and supported us with the logistics. We are grateful for that. The Euro-Par Steering Committee, especially the chair Christian Lengauer and the vice-chair Luc Bougé, provided reliable guidance and support throughout the whole organizational phase going back to 2013. We acknowledge the trust put in us to organize the 2015 edition of Euro-Par.

Lastly, we thank all participants who attended the conference and the workshops and contributed to a productive meeting. It was a pleasure to organize and host Euro-Par 2015 in Vienna. We hope that everybody enjoyed the technical program, the social events, and the city of Vienna.

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