

CURRICULUM VITAE

Loris MARCHAL

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POSITIONS

- **CNRS researcher (2007-present)**, at the LIP laboratory, located in the ENS Lyon (École Normale Supérieure de Lyon) school, in the “ROMA” common CNRS - INRIA - ENS-Lyon research project (Resource Optimization: Models, Algorithms, and scheduling). This is a full time permanent researcher position.
- **Visitor Assistant (September 2006 – January 2007)** in the ACIS laboratory of the **University of Florida** in Gainesville, USA.

EDUCATION

- **Habilitation thesis (HDR)** from the *École Normale Supérieure de Lyon* defended in March 2018, entitled “Memory and data aware scheduling”. Referees: Ümit V. ÇATALYÜREK, Cynthia A. PHILLIPS and Denis TRYSTRAM.
- **Ph.D. (Doctorat)** from the *École Normale Supérieure de Lyon* defended in October 2006, entitled “Communications collectives et ordonnancement en régime permanent sur plates-formes hétérogènes” (Collective communications and steady-state scheduling on heterogeneous platforms) and prepared under the supervision of Olivier BEAUMONT and Yves ROBERT. Referees: Pierre FRAIGNAUD and Alix MUNIER-KORDON.
- **Master (DEA)** of computer science from *École Normale Supérieure de Lyon*, June 2003. Research work under the supervision of Yves Robert and entitled “Pipelined collective communications on heterogeneous platforms”.
- Student, *École Normale Supérieure de Lyon*, 2000-2004.

RECENT FUNDED PROJECTS

ANR Project Rescue (2010-2014), 4 years. The main objective of this project is to develop new algorithmic techniques and software tools to solve the *exascale resilience problem*. Solving this problem implies a departure from current approaches, and calls for yet-to-be-discovered algorithms, protocols and software tools. I am a member of this project.

ANR Project Solhar (2013-2017), 4 years. This project aims at studying and designing algorithms and parallel programming models for implementing direct methods for the solution of sparse linear systems on emerging computers equipped with accelerators. I am a member of this project and responsible for the “scheduling” workpackage.

ANR Project Solharis (2019-2023), 4 years. This project is a follow-up of the previous Solhar project, dedicated more specifically to large-scale and heterogeneous platforms: our objectives is to design algorithms and implementation of direct methods, based on task-based runtimes, that can fully take

advantage of distributed memory platforms. Again, I am a member of this project and responsible for the “scheduling” workpackage.

SCIENTIFIC ANIMATION AND RESEARCH MANAGEMENT

- **Co-leader of the ROMA research team** at the LIP laboratory, together with Frédéric Vivien (since 10/2018).
- **Program committee chair** of the HeteroPar 2016 workshop, co-organized with EuroPar 2016 in Grenoble, France
- **Conference program committees:** ICPADS’2009, ISPDC’2009, HeteroPar’2010, ICNC’2010, HCW’2011, ICPP’2011, IPDPS’2011, ICPP’2012, IPDPS’2012, IPDPS’2013, ICPP’2013, IPDPS’2014, IPDPS’2015, IPDPS’2016, IPDPS’2017, SC’2017, IPDPS’2018.
- **Referee** for international journals: Transactions on Computer (IEEE), Transactions on Parallel and Distributed Systems (IEEE), Distributed Computing (Springer), Future Generation of Computer Systems (Elsevier), Parallel Computing (Elsevier), Journal of Parallel and Distributed Computing (Elsevier), International Journal of Foundations of Computer Science (World Scientific) and for many international conferences.
- **Selection committees for assistant professors** (Comités de Sélection de Maîtres de Conférences) at University of Besançon (France) in 2012, at Polytech Tours (France) in 2013, and at University of Bordeaux 1 (France) in 2016.
- **Workshop organization** Workshop on “Scheduling for large-scale systems” , May 18–21, 2008, in Aussois, France, with 36 invited researchers for <http://graal.ens-lyon.fr/~lmarchal/aussois/>. Member of the organization committee of this workshop series, whose next venue is the 9th, in Lyon <http://scheduling2014.sciencesconf.org/>, July 1–4, 2014.
- **Examiner for the competitive selection of ENS students**, in 2010, 2011 and 2012. Co-responsible of the practical examination in algorithms and programming, which is part of the competitive selection of the students of the three *Écoles Normales Supérieures* (Paris-Saclay, Lyon, and Paris).
- **Member of the Scientific Council** of the ENSMM school (École Nationale Supérieure de Mécanique et des Microtechniques, Besançon, France), 2014–2017.
- **Responsible of the competitive selection of ENS Lyon Student for Computer Science**, starting in September 2017. In charge of coordinating and co-organizing the computer science exams for the selection of the three *Écoles Normales Supérieures* (Paris-Saclay, Lyon, and Paris).
- **Editor** of a special issue of the Parallel Computing journal (Elsevier), following the 2008 “Scheduling for large-scale systems” workshop, with Frédéric Vivien.
- **Editor** of a special issue of the Parallel Computing journal (Elsevier) focused on heterogeneous computing, following both HeteroPar’2016 and HCW 2016, with Erik Saule (HCW’2016 chair) and Oliver Sinnen.
- **Member of the scientific council** of the “Complexity and Algorithms” workgroup of the CNRS research group “Informatique Mathématique” (since 03/2018).

SUPERVISION

PhD candidates

- **Mathias Jacquelin (2008–2011)**. Thesis defended in July 2011 on memory-aware algorithms. Co-advised with Yves Robert. Mathias Jacquelin was a research scientist at Lawrence Berkeley National Laboratory (USA) until Nov. 2019 and then moved to work with the Cerebras company (Los Altos, USA).
- **Julien Herrmann (2012–2015)**. Thesis defended in November 2015 on numerical algorithms for very large-scale platforms. Co-advised with Yves Robert. Julien Herrmann is now a postdoctoral fellow at Inria Bordeaux (France).
- **Bertrand Simon (2015–2018)**. Thesis defended in July 2018 on task graph scheduling under limited memory. Co-advised with Frédéric Vivien. Bertrand is now a postdoctoral fellow at the university of Bremen (Germany)
- **Changjiang Gou (2016–)**. Thesis on communication- and memory-aware graph scheduling. Co-advised with Anne Benoit.
- **Yishu Du (2019–)**. Thesis on resilience for numerical methods. Co-advised with Yves Robert.

Post-doc researchers

- Adrien RÉMI: “Sparse factorisation of non-symmetric matrices using elimination trees”, co-advised with Bora Uçar, started in April 2017.

Master students

- Veronika REHN (ENS Lyon, France): “Scheduling and data redistribution strategies on star platforms”, Mar. – Jun. 2006, with Yves Robert and Frédéric Vivien.
- Javier CELAYA ALASTRUÉ (University of Zaragoza, Spain): “A Fair Distributed Scheduler for Bag-of-tasks Applications on Desktop Grids”, April – July 2009.
- Thomas LAMBERT (ENS Lyon, France): “Memory allocation for different classes of DAGs” (Feb. – Jun. 2012) and “On Variants of the Hierarchical Bin Packing Problem” (Feb. – Jun. 2013), co-advised with Bora Uçar.
- Bertrand SIMON (ENS Lyon, France): “Scheduling trees of malleable tasks under memory constraints” (Feb. – Jul. 2014), co-advised with Frédéric Vivien.
- Anthony DUGOIS (Univ. Bourgogne France-Comté, France): “Scheduling requests for distributed databases” (May – July 2019), co-advised with Louis-Claude Canon.

Bachelor students

- Tudor DAVID (Cluj University, Romania): “Steady-state scheduling on a heterogeneous processor: the Cell BE”, Jun. – Aug. 2009.
- Clément BRASSEUR (ENS Lyon, France): “Tree traversal under memory constraints” (June – July 2015), co-advised with Guillaume Aupy.
- Hanna NAGY (Cluj University, Romania): “Task graph scheduling with bounded memory” (June – Sept. 2017), co-advised with Bertrand Simon and Frédéric Vivien.
- Dorel BUTACIU (Cluj University, Romania): “Task scheduling on hybrid platforms” (June – Sept. 2017), co-advised with Louis-Claude Canon and Frédéric Vivien.
- Gabriel BATHIE (ENS Lyon, France): “Memory-aware scheduling for the StarPU runtime”, co-advised with Samuel Thibault and Yves Robert.

TEACHING

- **Scheduling for computing systems**, master 2 course, École Normale Supérieure de Lyon, in 2008, 2011, 2012 and 2013 (24h of lectures for each session). <http://perso.ens-lyon.fr/loris.marchal/scheduling/>
- **Data-Aware Algorithms**, master 2 course, École Normale Supérieure de Lyon, in 2019 (30h of lectures for each session). <http://perso.ens-lyon.fr/loris.marchal/data-aware-algorithms.html>
- Practicals for **Introduction to programming**, bachelor course, University Lyon 1, in 2016 (24h).
- Tutorials for **Complexity and decidability**, master course, University Lyon 1, in 2017 and 2018 (16h each year).
- Practicals for **Compilation**, bachelor course, University Lyon 1, in 2019 (14h).
- Practicals for **Operating Systems**, bachelor course, University Lyon 1, in 2019 and 2020 (12h each year).

PUBLICATIONS (SORTED BY TYPE AND PUBLICATION DATE)

International journals

- [J1] Olivier Beaumont, Arnaud Legrand, Loris Marchal, and Yves Robert. Scheduling strategies for mixed data and task parallelism on heterogeneous clusters. *Parallel Processing Letters*, 13(2):225–244, 2003.
- [J2] Arnaud Legrand, Loris Marchal, and Yves Robert. Optimizing the steady-state throughput of scatter and reduce operations on heterogeneous platforms. *J. Parallel and Distributed Computing*, 65(12):1497–1514, 2005.
- [J3] Olivier Beaumont, Arnaud Legrand, Loris Marchal, and Yves Robert. Steady-state scheduling on heterogeneous clusters. *Int. J. of Foundations of Computer Science*, 16(2):163–194, 2005.
- [J4] Olivier Beaumont, Arnaud Legrand, Loris Marchal, and Yves Robert. Pipelining broadcasts on heterogeneous platforms. *IEEE Trans. Parallel Distributed Systems*, 16(4):300–313, 2005.
- [J5] Loris Marchal, Yang Yang, Henri Casanova, and Yves Robert. Steady-state scheduling of multiple divisible load applications on wide-area distributed computing platforms. *Int. Journal of High Performance Computing Applications*, 20(3):365–381, 2006.
- [J6] Olivier Beaumont, Loris Marchal, and Yves Robert. Complexity results for collective communications on heterogeneous platforms. *Int. Journal of High Performance Computing Applications*, 20(1):5–17, 2006.
- [J7] Loris Marchal, Veronika Rehn, Yves Robert, and Frédéric Vivien. Scheduling algorithms for data redistribution and load-balancing on master-slave platforms. *Parallel Processing Letters*, 17(1):61–77, 2007.
- [J8] Olivier Beaumont, Larry Carter, Jeanne Ferrante, Arnaud Legrand, Loris Marchal, and Yves Robert. Centralized versus distributed schedulers for multiple bag-of-task applications. *IEEE Trans. Parallel Distributed Systems*, 19(5):698–709, 2008.
- [J9] Anne Benoit, Loris Marchal, Jean-François Pineau, Yves Robert, and Frédéric Vivien. Scheduling concurrent bag-of-tasks applications on heterogeneous platforms. *IEEE Transactions on Computers*, 59(2):202–217, 2010.
- [J10] Sékou Diakité, Loris Marchal, Jean-Marc Nicod, and Laurent Philippe. Practical steady-state scheduling for tree-shaped task graphs. *Parallel Processing Letters*, 21(4):397–412, 2011.

- [J11] Tudor David, Mathias Jacquelin, and Loris Marchal. Scheduling streaming applications on a complex multicore platform. *Concurrency and Computation: Practice and Experience*, 24(15):1726–1750, 2012.
- [J12] Anne Benoit, Louis-Claude Canon, and Loris Marchal. Non-clairvoyant reduction algorithms for heterogeneous platforms. *Concurrency and Computation: Practice and Experience*, 27(6):1612–1624, 2015.
- [J13] Julien Herrmann, Loris Marchal, and Yves Robert. Memory-aware tree traversals with pre-assigned tasks. *J. Parallel Distrib. Comput.*, 75:53–66, 2015.
- [J14] Thomas Lambert, Loris Marchal, and Bora Uçar. Comments on the hierarchically structured bin packing problem. *Information Processing Letters*, 115(2):306–309, 2015.
- [J15] Lionel Eyraud-Dubois, Loris Marchal, Oliver Sinnen, and Frédéric Vivien. Parallel scheduling of task trees with limited memory. *ACM Transactions on Parallel Computing*, 2(2):36, July 2015.
- [J16] Julien Herrmann, George Bosilca, Thomas Héroult, Loris Marchal, Yves Robert, and Jack Dongarra. Assessing the cost of redistribution followed by a computational kernel: Complexity and performance results. *Parallel Computing*, 52:20, 2016.
- [J17] Enver Kayaaslan, Thomas Lambert, Loris Marchal, and Bora Uçar. Scheduling series-parallel task graphs to minimize peak memory. *Theoretical Computer Science*, 2017.
- [J18] Loris Marchal, Bertrand Simon, Oliver Sinnen, and Frédéric Vivien. Malleable task-graph scheduling with a practical speed-up model. *IEEE Trans. Parallel Distrib. Syst.*, 29(6):1357–1370, 2018.
- [J19] Loris Marchal, Bertrand Simon, and Frédéric Vivien. Limiting the memory footprint when dynamically scheduling DAGs on shared-memory platforms. *Journal of Parallel and Distributed Computing*, 128:30–42, 2019.
- [J20] Louis-Claude Canon, Loris Marchal, Bertrand Simon, and Frédéric Vivien. Online Scheduling of Task Graphs on Heterogeneous Platforms. *IEEE Transactions on Parallel and Distributed Systems*, pages 1–12, 2019.
- [J21] Olivier Beaumont, Thomas Lambert, Loris Marchal, and Bastien Thomas. Performance Analysis and Optimality Results for Data-Locality Aware Tasks Scheduling with Replicated Inputs. *Future Generation Computer Systems*, pages 1–28, October 2019.

Book chapters

- [B1] Olivier Beaumont and Loris Marchal. Steady-state scheduling. In *Introduction to Scheduling*, pages 159–186. Chapman and Hall/CRC Press, 2009.
- [B2] Anne Benoit, Loris Marchal, Yves Robert, and Frédéric Vivien. Algorithms and scheduling techniques for clusters and grids. In Wolfgang Gentzsch, Lucio Grandinetti, and Gerhard Joubert, editors, *Advances in Parallel Computing, vol.18: High Speed and Large Scale Scientific Computing*, pages 27–51. IOS Press, 2009.
- [B3] Anne Benoit, Loris Marchal, Yves Robert, Bora Uçar, and Frédéric Vivien. Scheduling for large-scale systems. In Teofilo F. Gonzalez, Jorge Diaz-Herrera, and Allen Tucker, editors, *Computing Handbook, Third Edition: Computer Science and Software Engineering*, pages 59: 1–33. CRC Press, 2014.

International conference proceedings

- [C1] Henri Casanova, Arnaud Legrand, and Loris Marchal. Scheduling distributed applications: the simgrid simulation framework. In *IEEE International Symposium on Cluster Computing and the Grid (CCGrid)*, pages 138–145, 2003.

- [C2] Olivier Beaumont, Arnaud Legrand, Loris Marchal, and Yves Robert. Complexity results and heuristics for pipelined multicast operations on heterogeneous platforms. In *International Conference on Parallel Processing (ICPP)*, pages 267–274, 2004.
- [C3] Olivier Beaumont, Arnaud Legrand, Loris Marchal, and Yves Robert. Pipelining broadcasts on heterogeneous platforms. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2004.
- [C4] Olivier Beaumont, Loris Marchal, and Yves Robert. Scheduling divisible loads with return messages on heterogeneous master-worker platforms. In *International Conference on High Performance Computing (HiPC)*, pages 498–507, 2005.
- [C5] Loris Marchal, Pascale Primet, Yves Robert, and Jingdi Zeng. Optimizing network resource sharing in grids. In *IEEE Global Telecommunications Conference (GlobeCom)*, 2005.
- [C6] Olivier Beaumont, Loris Marchal, and Yves Robert. Broadcast trees for heterogeneous platforms. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2005.
- [C7] Loris Marchal, Yang Yang, Henri Casanova, and Yves Robert. A realistic network/application model for scheduling divisible loads on large-scale platforms. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2005.
- [C8] Olivier Beaumont, Arnaud Legrand, Loris Marchal, and Yves Robert. Independent and divisible tasks scheduling on heterogeneous star-shaped platforms with limited memory. In *13th Euromicro Conference on Parallel, Distributed and Network-based Processing (PDP)*, pages 179–186, 2005.
- [C9] Loris Marchal, Pascale Primet, Yves Robert, and Jingdi Zeng. Optimal bandwidth sharing in grid environment. In *15th International Symposium on High Performance Distributed Computing (HPDC)*, pages 144–155, 2006.
- [C10] Olivier Beaumont, Larry Carter, Jeanne Ferrante, Arnaud Legrand, Loris Marchal, and Yves Robert. Centralized versus distributed schedulers for multiple bag-of-task applications. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2006.
- [C11] Olivier Beaumont, Anne-Marie Kermarrec, Loris Marchal, and Etienne Rivière. Voronet: A scalable object network based on voronoi tessellations. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2007.
- [C12] Loris Marchal, Veronika Rehn, Yves Robert, and Frédéric Vivien. Scheduling and data redistribution strategies on star platforms. In *15th Euromicro Conference on Parallel, Distributed and Network-based Processing (PDP)*, pages 288–295, 2007.
- [C13] Matthieu Gallet, Loris Marchal, and Frédéric Vivien. Allocating series of workflows on computing grids. In *14th IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, pages 48–55, 2008.
- [C14] Matthieu Gallet, Loris Marchal, and Frédéric Vivien. Efficient scheduling of task graph collections on heterogeneous resources. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2009.
- [C15] Sékou Diakité, Loris Marchal, Jean-Marc Nicod, and Laurent Philippe. Steady-state for batches of identical task graphs. In *15th International Euro-Par Conference*, pages 203–215, 2009.
- [C16] Mathias Jacquelin, Loris Marchal, and Yves Robert. Complexity analysis and performance evaluation of matrix product on multicore architectures. In *International Conference on Parallel Processing (ICPP)*, pages 196–203, 2009.

- [C17] Javier Celaya and Loris Marchal. A fair decentralized scheduler for bag-of-tasks applications on desktop grids. In *10th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGRID)*, pages 538–541, 2010.
- [C18] Anne Benoit, Loris Marchal, Oliver Sinnen, and Yves Robert. Mapping pipelined applications with replication to increase throughput and reliability. In *22nd International Symposium on Parallel and Distributed Computing (SBAC-PAD)*, 2010.
- [C19] Mathias Jacquelin, Loris Marchal, Yves Robert, and Bora Uçar. On optimal tree traversals for sparse matrix factorization. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, pages 556–567, 2011.
- [C20] Franck Cappello, Mathias Jacquelin, Loris Marchal, Yves Robert, and Marc Snir. Comparing archival policies for BlueWaters. In *International Conference on High Performance Computing (HiPC'2011)*, 2011.
- [C21] Olivier Beaumont, Nicolas Bonichon, Lionel Eyraud-Dubois, and Loris Marchal. Minimizing weighted mean completion time for malleable tasks scheduling. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, pages 273–284, 2012.
- [C22] Loris Marchal, Oliver Sinnen, and Frédéric Vivien. Scheduling tree-shaped task graphs to minimize memory and makespan. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, pages 839–850, 2013.
- [C23] Julien Herrmann, Loris Marchal, and Yves Robert. Model and complexity results for tree traversals on hybrid platforms. In *19th International Euro-Par Conference*, pages 647–658, 2013.
- [C24] Olivier Beaumont, Hubert Larchevêque, and Loris Marchal. Non linear divisible loads: There is no free lunch. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, pages 863–873, 2013.
- [C25] Thomas Héroult, Julien Herrmann, Loris Marchal, and Yves Robert. Determining the optimal redistribution for a given data partition. In *IEEE 13th International Symposium on Parallel and Distributed Computing, (ISPDC)*, pages 95–102, 2014.
- [C26] Olivier Beaumont and Loris Marchal. Analysis of dynamic scheduling strategies for matrix multiplication on heterogeneous platforms. In *23rd International ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC)*, pages 141–152, 2014.
- [C27] Abdou Guermouche, Loris Marchal, Bertrand Simon, and Frédéric Vivien. Scheduling Trees of Malleable Tasks for Sparse Linear Algebra. In *International European Conference on Parallel and Distributed Computing (Euro-Par 2015)*, 2015.
- [C28] Guillaume Aupy, Clément Brasseur, and Loris Marchal. Dynamic Memory-Aware Task-Tree Scheduling. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2017.
- [C29] Louis-Claude Canon, Loris Marchal, and Frédéric Vivien. Low-Cost Approximation Algorithms for Scheduling Independent Tasks on Hybrid Platforms. In *International European Conference on Parallel and Distributed Computing (Euro-Par 2017)*, 2017.
- [C30] Anne Benoit, Changjiang Gou, and Loris Marchal. Memory-aware tree partitioning on homogeneous platforms. In *26th Euromicro International Conference on Parallel, Distributed and Network-based Processing (PDP)*, 2018. Short paper.
- [C31] Loris Marchal, Hanna Nagy, Bertrand Simon, and Frédéric Vivien. Parallel scheduling of DAGs under memory constraints. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2018.

- [C32] Louis-Claude Canon, Loris Marchal, Bertrand Simon, and Frédéric Vivien. Online scheduling of task graphs on hybrid platforms. In *International European Conference on Parallel and Distributed Computing (Euro-Par 2018)*, pages 192–204, 2018.
- [C33] Changjiang Gou, Anne Benoit, Mingsong Chen, Loris Marchal, and Tongquan Wei. Reliability-aware energy optimization for throughput-constrained applications on MPSoC. In *ICPADS - 24th International Conference on Parallel and Distributed Systems*, pages 1–10, Sentosa, Singapore, December 2018. IEEE.

International workshop proceedings

- [W1] Arnaud Legrand, Loris Marchal, and Yves Robert. Optimizing the steady-state throughput of scatter and reduce operations on heterogeneous platforms. In *6th Workshop on Advances in Parallel and Distributed Computational Models (APDCM, workshop of IPDPS)*, 2004.
- [W2] Olivier Beaumont, Arnaud Legrand, Loris Marchal, and Yves Robert. Steady-state scheduling on heterogeneous clusters: why and how? In *6th Workshop on Advances in Parallel and Distributed Computational Models (APDCM, workshop of IPDPS)*, 2004.
- [W3] Olivier Beaumont, Arnaud Legrand, Loris Marchal, and Yves Robert. Assessing the impact and limits of steady-state scheduling for mixed task and data parallelism on heterogeneous platforms. In *HeteroPar (workshop of Euro-Par)*, pages 296–302, 2004.
- [W4] Olivier Beaumont, Loris Marchal, Veronika Rehn, and Yves Robert. FIFO scheduling of divisible loads with return messages under the one-port model. In *15th Heterogeneous Computing Workshop (HCW, workshop of IPDPS)*, 2006.
- [W5] Jack DiGiovanna, Loris Marchal, Prapaporn Rattanatamrong, Ming Zhao, Shalom Darmanjian, Babak Mahmoudi, Justin Sanchez, José Príncipe, Linda Hermer-Vazquez, Renato Figueiredo, and José Fortes. Towards real-time distributed signal modeling for brain machine interfaces. In *Proceedings of Dynamic Data Driven Application Systems (workshop of ICCS)*, volume 4487 of *LNCIS*, pages 964–971, 2007.
- [W6] Anne Benoit, Loris Marchal, Jean-François Pineau, Yves Robert, and Frédéric Vivien. Offline and online scheduling of concurrent bags-of-tasks on heterogeneous platforms. In *10th Workshop on Advances in Parallel and Distributed Computational Models (APDCM, workshop of IPDPS)*, 2008.
- [W7] Anne Benoit, Loris Marchal, Jean-François Pineau, Yves Robert, and Frédéric Vivien. Resource-aware allocation strategies for divisible loads on large-scale systems. In *18th Heterogeneity in Computing Workshop (HCW, workshop of IPDPS)*, 2009.
- [W8] Matthieu Gallet, Mathias Jacquelin, and Loris Marchal. Scheduling complex streaming applications on the cell processor. In *Workshop on Multithreaded Architectures and Applications (MTAAP, workshop of IPDPS)*, 2010.
- [W9] Anne Benoit, Louis-Claude Canon, and Loris Marchal. Non-clairvoyant reduction algorithms for heterogeneous platforms. In *HeteroPar (workshop of Euro-Par)*, pages 270–279, 2013.
- [W10] Julien Herrmann, Loris Marchal, and Yves Robert. Memory-aware list scheduling for hybrid platforms. In *23rd Heterogeneity in Computing Workshop (HCW, workshop of IPDPS)*, pages 689–698, 2014.
- [W11] Emmanuel Agullo, Olivier Beaumont, Lionel Eyraud-Dubois, Julien Herrmann, Suraj Kumar, Loris Marchal, and Samuel Thibault. Bridging the Gap between Performance and Bounds of Cholesky Factorization on Heterogeneous Platforms. In *24th Heterogeneity in Computing Workshop (HCW, workshop of IPDPS)*, 2015.

- [W12] Fouad Hanna, Loris Marchal, Jean-Marc Nicod, Laurent Philippe, Veronika Rehn-Sonigo, and Hala Sabbah. Minimizing Rental Cost for Multiple Recipe Applications in the Cloud. In *25th Heterogeneity in Computing Workshop (HCW, workshop of IPDPS)*, pages 28–37, 2016.
- [W13] Loris Marchal, Samuel Mccauley, Bertrand Simon, and Frédéric Vivien. Minimizing I/Os in Out-of-Core Task Tree Scheduling. In *19th Workshop on Advances in Parallel and Distributed Computational Models (APDCM, workshop of IPDPS)*, 2017.
- [W14] Olivier Beaumont, Thomas Lambert, Loris Marchal, and Bastien Thomas. Data-locality aware dynamic schedulers for independent tasks with replicated inputs. In *International workshop on the Convergence of Extreme Scale Computing and Big Data Analysis (CEBDA, workshop of IPDPS)*, pages 1206–1213, 2018.

Theses

- [O1] Loris Marchal. *Communications collectives et ordonnancement en régime permanent sur plates-formes hétérogènes*. PhD thesis, École Normale Supérieure de Lyon, France, October 2006.
- [O2] Loris Marchal. *Memory and data aware scheduling*. Habilitation à diriger des recherches, École Normale Supérieure de Lyon, March 2018. Available online at: <https://hal.inria.fr/tel-01934712/file/HDR-Loris-Marchal.pdf>.

Research reports (non published elsewhere yet)

- [R1] Loris Marchal, Samuel Mccauley, Bertrand Simon, and Frédéric Vivien. Minimizing I/Os in Out-of-Core Task Tree Scheduling. Research Report RR-9025, INRIA, February 2017. Submitted to Journal of Scheduling.