Vitæ

Positions

Aug. 2016 - Now	**PostDoc - Research assistant**, Georgia Institute of Technology
Feb. 2016 - Aug. 2016	**PostDoc - Research assistant**, The Ohio State University
2012 - 2015	**PhD Student**, ENS Lyon - LIP, ROMA team
2009 - 2012	**Élève normalien**, ENS Lyon

Education

2012 - 2015 **PhD in Computer Science**, ENS Lyon

Title: *Memory-aware Algorithms and Scheduling Techniques for Matrix Computattions*

Defended on November 25th 2015 at ENS Lyon

Jury:

Examiners

Oliver Sinnen	Senior lecturer at Auckland University, New Zealand
Denis Trystram	Full Professor at Institut National Polytechnique de Grenoble, France

Thesis referees

Luc Giraud	Research Director INRIA Bordeaux
Pierre Manneback	Full Professor at Université de Mons, Belgium

PhD supervisors

Loris Marchal	Assistant Professor at ENS Lyon
Yves Rober	Full Professor at ENS Lyon

2010 - 2012 **Master's degree in Theoretical Computer Science**, ENS Lyon, Lyon, France
+5 month Internship with Marc Baboulin @Université Paris-Sud, France et University of Tennessee, USA
"Butterfly transformations to solve linear systems"
+5 month Internship with Yves Robert @Ecole Normale de Lyon, France et University of Tennessee, USA
"Mixing LU and QR factorisation to solve linear systems"

2009 - 2010 **Bachelor in Theoretical Computer Science**, ENS Lyon, Lyon, France
+2 month Internship with Charles-Edmont Bichot @Ecole Centrale de Lyon, France
"Genetic algorithms for graph partitioning problems"

2007 - 2009 **Preparatory lectures for Bachelor (Mathematics, Physics and Computer Science)**, Lycée Les Lazaristes, Lyon, France

List of publications

Papers in international journals

[J1] Marc Baboulin, Jack Dongarra, Julien Herrmann, and Stanimire Tomov. Accelerating linear system solutions using randomization techniques. *ACM Transactions on Mathematical Software (TOMS)*, 39(2):8, 2013.

[J2] Julien Herrmann, Loris Marchal, and Yves Robert. Memory-aware tree traversals with pre-assigned tasks. *Journal of Parallel and Distributed Computing (JPDC)*, 75:53–66, 2015.

[J3] Julien Herrmann, George Bosilca, Thomas Hérault, Loris Marchal, Yves Robert, and Jack Dongarra. Assessing the cost of redistribution followed by a computational kernel: complexity and performance results. *Parallel Computing*, 2015.

[J4] Mathieu Faverge, Julien Herrmann, Julien Langou, Bradley Lowery, Yves Robert, and Jack Dongarra. Mixing LU and QR factorization algorithms to design high-performance dense linear algebra solvers. *Journal of Parallel and Distributed Computing (JPDC)*, 85C:32–46, 2015.

[J5] Guillaume Aupy, Julien Herrmann, Paul Hovland, and Yves Robert. Optimal multistage algorithm for adjoint computation. *SIAM J. Scientific Computing*, 38(3), 2016.

[J6] Guillaume Aupy and Julien Herrmann. Periodicity in optimal hierarchical checkpointing schemes for adjoint computations. *Optimization Methods and Software*, 32(3):594–624, 2017.

Papers in international conferences

[C1] Julien Herrmann, Loris Marchal, and Yves Robert. Model and complexity results for tree traversals on hybrid platforms. In *Proc. of Euro-Par Parallel Processing*, pages 647–658. Springer, 2013.

[C2] Julien Herrmann, Loris Marchal, and Yves Robert. Memory-aware list scheduling for hybrid platforms. In *Workshop on Advances in Parallel and Distributed Computational Models (APDCM)*, 2014.

[C3] Mathieu Faverge, Julien Herrmann, Julien Langou, Bradley Lowery, Yves Robert, and Jack Dongarra. Designing LU-QR hybrid solvers for performance and stability. In *Proc. of IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2014.

[C4] Thomas Herault, Julien Herrmann, Loris Marchal, and Yves Robert. Determining the optimal redistribution for a given data partition. In *Proc. of IEEE International Symposium on Parallel and Distributed Computing (ISPDC)*, pages 95–102. IEEE, 2014.

[C5] 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 *Proc. of Heterogeneity in Computing Workshop (HCW)*, 2015.

[C6] Henri Casanova, Julien Herrmann, and Yves Robert. Computing the expected makespan of task graphs in the presence of silent errors. In *45th International Conference on Parallel Processing Workshops, ICPP Workshops 2016, Philadelphia, PA, USA, August 16-19, 2016*, pages 141–150, 2016.

[C7] Julien Herrmann, Zachary L. Witter, Nakul Patel, Jonathan Kho, Daniel A. Janies, and Ümit V. Çatalyürek. Visual analytics on the spread of pathogens. In *Proceedings of the 7th ACM International Conference on Bioinformatics, Computational Biology, and Health Informatics, BCB 2016, Seattle, WA, USA, October 2-5, 2016*, pages 519–520, 2016.

[C8] Julien Herrmann, Jonathan Kho, Bora Uçar, Kamer Kaya, and Ümit V. Çatalyürek. Acyclic partitioning of large directed acyclic graphs. In *Proceedings of the 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, CCGRID 2017, Madrid, Spain, May 14-17, 2017*, pages 371–380, 2017.

Research reports

[RR1] Julien Herrmann, Loris Marchal, and Yves Robert. Memory-aware list scheduling for hybrid platforms. Research Report RR-8461, INRIA, February 2014.

[RR2] Julien Herrmann, Loris Marchal, and Yves Robert. Tree traversals with task-memory affinities. Research Report RR-8226, INRIA, February 2013.

[RR3] Thomas Hérault, Julien Herrmann, Loris Marchal, and Yves Robert. Determining the optimal redistribution. Research Report RR-8499, INRIA, March 2014.

[RR4] Guillaume Aupy, Julien Herrmann, Paul Hovland, and Yves Robert. Optimal Multistage Algorithm for Adjoint Computation. Research Report RR-8721, INRIA, April 2014.

Posters

[P1] Julien Herrmann, Zachary L. Witter, Nakul Patel, Jonathan Kho, Daniel A. Janies, and Ümit V. Çatalyürek. PDG framework: Visual analytics on the spread of pathogens. In *Proceedings of the 7th ACM International Conference on Bioinformatics, Computational Biology, and Health Informatics (BCB), October 2016*, 2016.