

# Journals

Yves Robert

Laboratoire LIP, UMR CNRS–ENS Lyon–INRIA 5668  
Ecole Normale Supérieure de Lyon  
69364 LYON Cedex 07, France  
e-mail: Yves.Robert@ens-lyon.fr

## References

- [1] Yves Robert. Regular incomplete factorizations of real positive definite matrices. *Linear Algebra and its Applications*, 48:105–117, 1982.
- [2] Michel Cosnard and Yves Robert. Complexité de la factorisation QR en parallèle. *C. R. Acad. Sc. Paris, série I*, 297:137–139, 1983.
- [3] Yves Robert and Maurice Tchuente. Calcul en temps linéaire d’une plus longue sous-suite commune à deux chaînes sur une architecture systolique. *C. R. Acad. Sc. Paris, série I*, 299:269–271, 1984.
- [4] Yves Robert and Maurice Tchuente. Connection-graph and iteration-graph of monotone boolean functions. *Discrete Applied Mathematics*, 11:245–253, 1985.
- [5] Yves Robert and Maurice Tchuente. A systolic array for the longest common subsequence problem. *Information Processing Letters*, 21:191–198, 1985.
- [6] Yves Robert. Block LU decomposition of a band matrix on a systolic array. *Intern. Journal Computer Math.*, 17:295–315, 1985.
- [7] Yves Robert and Maurice Tchuente. Réseaux systoliques pour des problèmes de mots. *RAIRO Informatique Théorique*, 19(2):107–123, 1985.
- [8] Yves Robert and Maurice Tchuente. Reconnaissance de langages en temps réel sur une architecture parallèle spécialisée. *C. R. Acad. Sc. Paris, série I*, 300:363–368, 1985.
- [9] Yves Robert and Maurice Tchuente. Résolution systolique de systèmes linéaires denses. *RAIRO Modélisation et Analyse Numérique*, 19(2):315–326, 1985.
- [10] Michel Cosnard, Yves Robert, and Denis Trystram. Comparaison des méthodes parallèles de diagonalisation pour la résolution de systèmes linéaires denses. *C. R. Acad. Sc. Paris, série I*, 301:781–784, 1985.
- [11] Yves Robert and Maurice Tchuente. An efficient systolic array for the 1d convolution problem. *Journal of VLSI and Computer Systems*, 1(4):398–407, 1986.
- [12] Michel Cosnard, Jean-Michel Muller, and Yves Robert. Parallel QR decomposition of a rectangular matrix. *Numerische Mathematik*, 48:239–249, 1986.
- [13] Yves Robert and Denis Trystram. Un réseau systolique orthogonal pour le problème du chemin algébrique. *C. R. Acad. Sc. Paris, série I*, 302:241–244, 1986.

- [14] Michel Cosnard and Yves Robert. Complexity of parallel QR factorization. *Journal of the A.C.M.*, 33(4):712–723, 1986.
- [15] Mounir Marrakchi and Yves Robert. Un algorithme parallèle pour la méthode de Gauss. *C. R. Acad. Sc. Paris, série I*, 303:425–430, 1986.
- [16] Michel Cosnard and Yves Robert. Algorithmique parallèle: une étude de complexité. *Technique et Science Informatiques*, 6(2):115–125, 1987.
- [17] Pierre Comon and Yves Robert. A systolic array for computing  $BA^{-1}$ . *IEEE Trans. ASSP*, 35(6):717–723, 1987.
- [18] Pierre Comon, Yves Robert, and Denis Trystram. Architecture systolique de systèmes adaptatifs. *Traitement du Signal*, 4(1):73–85, 1987.
- [19] Yves Robert and Maurice Tchuente. Parallel solution of band triangular systems on vlsi arrays with limited fan-out. *The Journal of Systems and Software*, 1(2):155–163, 1986.
- [20] Yves Robert and Denis Trystram. An orthogonal systolic array for the algebraic path problem. *Computing*, 39:187–199, 1987.
- [21] Michel Cosnard, Yves Robert, and Denis Trystram. Parallel solution of dense linear systems by diagonalization methods. *Intern. Journal Computer Math.*, 22:249–270, 1987.
- [22] Michel Cosnard, Mounir Marrakchi, Yves Robert, and Denis Trystram. Parallel Gaussian elimination on a MIMD computer. *Parallel Computing*, 6:275–296, 1988.
- [23] Michel Cosnard and Yves Robert. Systolic Givens factorization of dense rectangular matrices. *Intern. Journal Computer Math.*, 25:287–298, 1988.
- [24] Jean-Claude König, Yves Robert, and Denis Trystram. Optimalité d’une classe d’algorithmes d’ordonnancement pour la méthode de Gauss en parallèle. *C. R. Acad. Sc. Paris, série I*, 306:295–298, 1988.
- [25] Giuseppe Radicati, Yves Robert, and Piero Sguazzero. Block algorithms for linear algebra on the IBM 3090 vector multiprocessor. *Supercomputer*, 23(1):15–25, 1988.
- [26] Yves Robert and Denis Trystram. Comments on scheduling parallel iterative methods on multiprocessors systems. *Parallel Computing*, 7:253–255, 1988.
- [27] Giuseppe Radicati, Yves Robert, and Piero Sguazzero. Dense linear systems solvers FORTRAN solvers on the IBM 3090 vector multiprocessor. *Parallel Computing*, 8:377–384, 1988.
- [28] Giuseppe Radicati, Yves Robert, and Piero Sguazzero. Designing linear algebra algorithms on the IBM 3090 vector multiprocessor with a hierarchical memory system. *Calcolo*, 25(1-2):153–167, 1988.
- [29] Giuseppe Radicati, Yves Robert, and Sauro Succi. Iterative algorithms for the solution of nonsymmetric systems in the modelling of weak plasma turbulence. *Journal of Computational Physics*, 80(2):489–497, 1989.
- [30] Paolo Carnevali, Giuseppe Radicati, Yves Robert, and Piero Sguazzero. Efficient fortran implementation of the Gaussian elimination and Householder reduction algorithms on the IBM 3090 vector multiprocessor. *RAIRO Modélisation et Analyse Numérique*, 23(1):63–86, 1989.
- [31] Sauro Succi, Giuseppe Radicati, Yves Robert, Kurt Appert, and Jan Vaclavik. Finite element modelling of weak plasma turbulence. *Computer Methods in Applied Mechanics and Engineering*, 75(1–3):543 – 556, 1989.

- [32] Bertrand Hochet, Patrice Quinton, and Yves Robert. Systolic solution of linear systems over  $GF(p)$  with partial pivoting. *IEEE Trans. Computers*, 38(9):1321–1324, 1989.
- [33] Michel Cosnard, Yves Robert, and Bernard Tourancheau. Evaluating speedups on distributed memory architectures. *Parallel Computing*, 10:247–253, 1989.
- [34] Yves Robert, Bernard Tourancheau, and Gilles Villard. Algorithmes de Gauss et de Jordan sur un anneau de processeurs. *C. R. Acad. Sc. Paris, série I*, 309:403–406, 1989.
- [35] Yves Robert, Bernard Tourancheau, and Gilles Villard. Data allocation strategies for the Gauss and Jordan algorithms on a ring of processors. *Information Processing Letters*, 31:21–29, 1989.
- [36] Yves Robert and Denis Trystram. Optimal scheduling algorithms for parallel Gaussian elimination. *Theoretical Computer Science*, 64:159–173, 1989.
- [37] Yves Robert and Bernard Tourancheau. Block Gaussian elimination on a hypercube vector multiprocessor. *Revista de Matematicas Aplicadas*, 10:49–69, 1989.
- [38] Giuseppe Radicati and Yves Robert. Parallel conjugate gradient-like algorithms for solving nonsymmetric linear systems on a vector multiprocessor. *Parallel Computing*, 11:223–239, 1989.
- [39] Mounir Marrakchi and Yves Robert. Optimal algorithms for Gaussian elimination on a MIMD computer. *Parallel Computing*, 12:183–194, 1989.
- [40] Abdelhamid Benaini and Yves Robert. An even faster systolic array for matrix multiplication. *Parallel Computing*, 12:249–254, 1989.
- [41] Serge Miguet and Yves Robert. Path planning on a ring of processors. *Intern. Journal Computer Math*, 32:61–74, 1990.
- [42] Pierre Fraigniaud, Serge Miguet, and Yves Robert. Scattering on on a ring of processors. *Parallel Computing*, 13:377–383, 1990.
- [43] Michel Cosnard, Jean Duprat, and Yves Robert. Systolic triangularization over finite fields. *J. Parallel and Distributed Computing*, 9:252–260, 1990.
- [44] Abdelhamid Benaini and Yves Robert. A modular systolic linear array for Gaussian elimination. *Intern. Journal Computer Math*, 36:105–118, 1990.
- [45] Ken Grigg, Serge Miguet, and Yves Robert. Symmetric matrix-vector product on a ring of processors. *Information Processing Letters*, 35:239–248, 1990.
- [46] Abdelhamid Benaini and Yves Robert. Spacetime-minimal systolic arrays for Gaussian elimination and the algebraic path problem. *Parallel Computing*, 15:211–225, 1990.
- [47] Pierre Comon, Yves Robert, and Denis Trystram. Systolic implementation of adaptive solution to normal equations. *Computer Vision, Graphics, Image Processing*, 52:402–408, 1990.
- [48] Abdelhamid Benaini, Patrice Quinton, Yves Robert, Yannick Saouter, and Bernard Tourancheau. Synthesis of a new systolic architecture for the algebraic path problem. *Science of Computer Programming*, 15:135–158, 1990.
- [49] Serge Miguet and Yves Robert. Parallélisation d’algorithmes de balayage d’image sur un anneau de processeurs. *Technique et Science Informatiques*, 10(4):287–296, 1991.
- [50] Tanguy Risset and Yves Robert. Synthesis of processor arrays for the algebraic path problem: unifying old results and deriving new architectures. *Parallel Processing Letters*, 1(1):19–28, 1991.

- [51] Patrice Quinton and Yves Robert. Systolic convolution of arithmetic functions. *Theoretical Computer Science*, 95:207–229, 1992.
- [52] Alain Darté, Leonid Khachiyan, and Yves Robert. Linear scheduling is nearly optimal. *Parallel Processing Letters*, 1(2):73–81, 1991.
- [53] Serge Miguet and Yves Robert. Reduction operations on a reconfigurable network of processors. *IEEE Trans. Parallel Distributed Systems*, 3(4):500–505, 1992.
- [54] Yves Robert and Siang W. Song. Revisiting cycle shrinking. *Parallel Computing*, 18:481–496, 1992.
- [55] Jian-Jin Li, Serge Miguet, and Yves Robert. Implementation of the Z-buffer algorithm on a reconfigurable network of processors. *Int. J. Pattern Recognition and Artificial Intelligence*, 6(2-3):417–436, 1992.
- [56] Alain Darté and Yves Robert. Constructive methods for scheduling uniform loop nests. *IEEE Trans. Parallel Distributed Systems*, 5(8):814–822, 1994.
- [57] Alain Darté and Yves Robert. Mapping uniform loop nests onto distributed memory architectures. *Parallel Computing*, 20:679–710, 1994.
- [58] Alain Darté and Yves Robert. On the alignment problem. *Parallel Processing Letters*, 4(3):259–270, 1994.
- [59] Pierre Boulet, Alain Darté, Tanguy Risset, and Yves Robert. (pen)-ultimate tiling? *Integration, the VLSI Journal*, 17:33–51, 1994.
- [60] Alain Darté and Yves Robert. Affine-by-statement scheduling of uniform and affine loop nests over parametric domains. *J. Parallel and Distributed Computing*, 29:43–59, 1995.
- [61] Vincent Bouchitte, Pierre Boulet, Alain Darté, and Yves Robert. Evaluating array expressions on massively parallel machines with communication/computation overlap. *Int. J. Supercomputer Applications and High Performance Computing*, 9(3):205–219, 1995.
- [62] Alain Darté, Michèle Dion, and Yves Robert. A characterization of one-to-one modular mappings. *Parallel Processing Letters*, 5:145–157, 1996.
- [63] Michèle Dion, Tanguy Risset, and Yves Robert. Resource-constrained scheduling of partitioned algorithms on processor arrays. *Integration, the VLSI Journal*, 20:139–159, 1996.
- [64] Michèle Dion and Yves Robert. Mapping affine loop nests. *Parallel Computing*, 22(10):1373–1397, 1996.
- [65] Michèle Dion, Cyril Randriamaro, and Yves Robert. Compiling affine nested loops: how to optimize the residual communications after the alignment phase? *J. Parallel and Distributed Computing*, 38(2):176–187, 1996.
- [66] Alain Darté, Frédéric Desprez, Jean-Christophe Mignot, and Yves Robert. TransTOOL: A restructuring tool for the parallelization of applications using High Performance Fortran. *Journal of the Brazilian Computer Society*, 3(2):5–15, 1996.
- [67] Pierre-Yves Calland, Alain Darté, Yves Robert, and Frédéric Vivien. Plugging anti and output dependence removal techniques into loop parallelization algorithms. *Parallel Computing*, 23(1-2):251–266, 1997.
- [68] Pierre-Yves Calland, Alain Darté, and Yves Robert. Circuit retiming applied to decomposed software pipelining. *IEEE Trans. Parallel Distributed Systems*, 9(1):24–35, 1998.

- [69] Frédéric Desprez, Jack Dongarra, Antoine Petitet, Cyril Randriamaro, and Yves Robert. Scheduling block-cyclic array redistribution. *IEEE Trans. Parallel Distributed Systems*, 9(2):192–205, 1998.
- [70] Frédéric Desprez, Jack Dongarra, Fabrice Rastello, and Yves Robert. Determining the idle time of a tiling: new results. *Journal of Information Science and Engineering*, 14:167–190, 1998.
- [71] Pierre-Yves Calland, Alain Darte, Yves Robert, and Frédéric Vivien. On the removal of anti- and output-dependences. *Int. J. Parallel Programming*, 26(3):285–312, 1998.
- [72] Pierre-Yves Calland, Anne Mignotte, Olivier Peyran, Yves Robert, and Frédéric Vivien. Retiming DAGs. *IEEE Trans. on computer-aided design of integrated circuits and systems*, 17(12):1319–1325, 1998.
- [73] Christophe Barberet, Lionel Brunie, Frédéric Desprez, Gilles Lebourgeois, Raymond Namyst, Yves Robert, Stéphane Ubeda, and Karine Van Heumen. Technology transfer within the ProHPC at ENS Lyon. *Future Generation Computer Systems (FGCS)*, 15:309–321, 1999.
- [74] Pierre-Yves Calland, Jack Dongarra, and Yves Robert. Tiling on systems with communication/computation overlap. *Concurrency: Practice and Experience*, 11(3):139–153, 1999.
- [75] Pierre Boulet, Jack Dongarra, Yves Robert, and Frédéric Vivien. Static tiling for heterogeneous computing platforms. *Parallel Computing*, 25:547–568, 1999.
- [76] Pierre Boulet, Jack Dongarra, Fabrice Rastello, Yves Robert, and Frédéric Vivien. Algorithmic issues on heterogeneous computing platforms. *Parallel Processing Letters*, 9(2):197–213, 1999.
- [77] Vincent Boudet, Fabrice Rastello, and Yves Robert. Alignment and distribution is not (always) NP-hard. *J. Parallel and Distributed Computing*, 61:501–519, 2001.
- [78] Olivier Beaumont, Arnaud Legrand, Fabrice Rastello, and Yves Robert. Static LU decomposition on heterogeneous platforms. *Int. Journal of High Performance Computing Applications*, 15(3):310–323, 2001.
- [79] Olivier Beaumont, Vincent Boudet, Fabrice Rastello, and Yves Robert. Matrix multiplication on heterogeneous platforms. *IEEE Trans. Parallel Distributed Systems*, 12(10):1033–1051, 2001.
- [80] Olivier Beaumont, Vincent Boudet, Antoine Petitet, Fabrice Rastello, and Yves Robert. A proposal for a heterogeneous cluster ScaLAPACK (dense linear solvers). *IEEE Trans. Computers*, 50(10):1052–1070, 2001.
- [81] Olivier Beaumont, Arnaud Legrand, Fabrice Rastello, and Yves Robert. Dense linear algebra kernels on heterogeneous platforms: redistribution issues. *Parallel Computing*, 28:155–185, 2002.
- [82] Fabrice Rastello and Yves Robert. Automatic partitioning of parallel loops with parallelepiped-shaped tiles. *IEEE Trans. Parallel Distributed Systems*, 13(5):460–470, 2002.
- [83] Olivier Beaumont, Vincent Boudet, Fabrice Rastello, and Yves Robert. Partitioning a square into rectangles: NP-completeness and approximation algorithms. *Algorithmica*, 34:217–239, 2002.
- [84] Olivier Beaumont, Arnaud Legrand, and Yves Robert. Static scheduling strategies for heterogeneous systems. *Computing and Informatics*, 21:413–430, 2002.
- [85] Olivier Beaumont, Arnaud Legrand, and Yves Robert. The master-slave paradigm with heterogeneous processors. *IEEE Trans. Parallel Distributed Systems*, 14(9):897–908, 2003.
- [86] Olivier Beaumont, Arnaud Legrand, and Yves Robert. Scheduling divisible workloads on heterogeneous platforms. *Parallel Computing*, 29:1121–1152, 2003.

- [87] 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.
- [88] Cyril Banino, Olivier Beaumont, Larry Carter, Jeanne Ferrante, Arnaud Legrand, and Yves Robert. Scheduling strategies for master-slave tasking on heterogeneous processor platforms. *IEEE Trans. Parallel Distributed Systems*, 15(4):319–330, 2004.
- [89] Arnaud Legrand, Hélène Renard, Yves Robert, and Frédéric Vivien. Mapping and load-balancing iterative computations on heterogeneous clusters with shared links. *IEEE Trans. Parallel Distributed Systems*, 15(6):546–558, 2004.
- [90] Olivier Beaumont, Henri Casanova, Arnaud Legrand, Yves Robert, and Yang Yang. Scheduling divisible loads on star and tree networks: results and open problems. *IEEE Trans. Parallel Distributed Systems*, 16(3):207–218, 2005.
- [91] Olivier Beaumont, Arnaud Legrand, Loris Marchal, and Yves Robert. Pipelining broadcasts on heterogeneous platforms. *IEEE Trans. Parallel Distributed Systems*, 16(4):300–313, 2005.
- [92] 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.
- [93] 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.
- [94] Arnaud Giersch, Yves Robert, and Frédéric Vivien. Scheduling tasks sharing files on heterogeneous master-slave platforms. *Journal of Systems Architecture*, 52(2):88–104, 2006.
- [95] Hélène Renard, Yves Robert, and Frédéric Vivien. Data redistribution algorithms for heterogeneous processor rings. *Int. Journal of High Performance Computing Applications*, 20(1):31–43, 2006.
- [96] 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.
- [97] 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.
- [98] 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.
- [99] 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.
- [100] Jean-François Pineau, Yves Robert, and Frédéric Vivien. The impact of heterogeneity on master-slave scheduling. *Parallel Computing*, 34(3):158–176, 2008.
- [101] Anne Benoit and Yves Robert. Mapping pipeline skeletons onto heterogeneous platforms. *J. Parallel and Distributed Computing*, 68(6):790–808, 2008.
- [102] Matthieu Gallet, Yves Robert, and Frédéric Vivien. Comments on “design and performance evaluation of load distribution strategies for multiple loads on heterogeneous linear daisy chain networks”. *J. Parallel and Distributed Computing*, 68(7):1021–1031, 2008.

- [103] Anne Benoit, Veronika Rehn-Sonigo, and Yves Robert. Replica placement and access policies in tree networks. *IEEE Trans. Parallel Distributed Systems*, 19(12):1614–1627, 2008.
- [104] Jack Dongarra, Jean-François Pineau, Yves Robert, Zhiao Shi, and Frédéric Vivien. Revisiting matrix product on master-worker platforms. *International Journal of Foundations of Computer Science*, 19(6):1317–1336, 2008.
- [105] Anne Benoit, Mourad Hakem, and Yves Robert. Contention awareness and fault tolerant scheduling for precedence constrained tasks in heterogeneous systems. *Parallel Computing*, 35(2):83–108, 2009.
- [106] Anne Benoit, Harald Kosch, Veronika Rehn-Sonigo, and Yves Robert. Multi-criteria scheduling of pipeline workflows (and application to the JPEG encoder). *Int. Journal of High Performance Computing Applications*, 23(2):171–187, 2009.
- [107] Anne Benoit, Eric Thierry, and Yves Robert. On the complexity of mapping linear chain applications onto heterogeneous platforms. *Parallel Processing Letters*, 19(3):383–397, 2009.
- [108] 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.
- [109] Anne Benoit and Yves Robert. Complexity results for throughput and latency optimization of replicated and data-parallel workflows. *Algorithmica*, 57(4):689–724, 2010.
- [110] Anne Benoit, Mourad Hakem, and Yves Robert. Multi-criteria scheduling of precedence task graphs on heterogeneous platforms. *The Computer Journal*, 53(6):772–785, 2010.
- [111] Anne Benoit, Yves Robert, Arnold Rosenberg, and Frédéric Vivien. Static worksharing strategies for heterogeneous computers with unrecoverable interruptions. *Parallel Computing*, 37:365–378, 2011.
- [112] Jean-François Pineau, Yves Robert, and Frédéric Vivien. Energy-aware scheduling of bag-of-tasks applications on master-worker platforms. *Concurrency and Computation: Practice and Experience*, 23(2):145–157, 2011.
- [113] Anne Benoit, Henri Casanova, Veronika Rehn-Sonigo, and Yves Robert. Resource allocation strategies for constructive in-network stream processing. *International Journal of Foundations of Computer Science*, 22(3):621–638, 2011.
- [114] Kunal Agrawal, Anne Benoit, Fanny Dufossé, and Yves Robert. Mapping filtering streaming applications. *Algorithmica*, 62(1):258–308, 2012.
- [115] Anne Benoit, Henri Casanova, Veronika Rehn-Sonigo, and Yves Robert. Resource allocation strategies for multiple concurrent in-network stream processing applications. *Parallel Computing*, 37:331–348, 2011.
- [116] Anne Benoit, Hinde Lilia Bouziane, and Yves Robert. Optimizing the reliability of streaming applications under throughput constraints. *Int. J. Parallel Programming*, 39:584–614, 2011.
- [117] Franck Cappello, Henri Casanova, and Yves Robert. Preventive migration vs. preventive checkpointing for extreme scale supercomputers. *Parallel Processing Letters*, 21(2):111–132, 2011.
- [118] Anne Benoit, Paul Renaud-Goud, and Yves Robert. Models and complexity results for performance and energy optimization of concurrent streaming applications. *Int. Journal of High Performance Computing Applications*, 25(3):261–273, 2011.
- [119] Anne Benoit, Louis-Claude Canon, Emmanuel Jeannot, and Yves Robert. Reliability of task graph schedules with transient and fail-stop failures: complexity and algorithms. *Journal of Scheduling*, 15(5):615–627, 2012.

- [120] Patrick Amestoy, Iain S. Duff, Jean-Yves L'Excellent, Yves Robert, François Henry Rouet, and Bora Uçar. On computing inverse entries of a sparse matrix in an out-of-core environment. *SIAM Journal on Scientific Computing (SISC)*, 34(4):A1975–A1999, 2012.
- [121] Guillaume Aupy, Anne Benoit, Fanny Dufossé, and Yves Robert. Reclaiming the energy of a schedule: models and algorithms. *Concurrency and Computation: Practice and Experience*, 25:1505–1523, 2013.
- [122] Sushil K. Prasad, Anshul Gupta, Krishna Kant, Andrew Lumsdaine, David A. Padua, Yves Robert, Arnold L. Rosenberg, Alan Sussman, and Charles C. Weems. Toward a core undergraduates curriculum in parallel and distributed computing. *Computer Education (China)*, pages 76–90, 2012.
- [123] Sushil K. Prasad, Anshul Gupta, Krishna Kant, Andrew Lumsdaine, David A. Padua, Yves Robert, Arnold L. Rosenberg, Alan Sussman, and Charles C. Weems. Literacy for all in parallel and distributed computing: guidelines for an undergraduate core curriculum. *CSI Journal of Computing*, 1(2), 2012.
- [124] Anne Benoit, Umit Catalyurek, Yves Robert, and Erik Saule. A survey of pipelined workflow scheduling: models and algorithms. *ACM Computing Surveys*, 45(4):50:1–36, 2013.
- [125] Anne Benoit, Yves Robert, Arnold Rosenberg, and Frédéric Vivien. Static strategies for worksharing with unrecoverable interruption. *Theory of Computing Systems*, 53(3):386–423, 2013.
- [126] Jack Dongarra, Mathieu Faverge, Thomas Héroult, Mathias Jacquelin, Julien Langou, and Yves Robert. Hierarchical QR factorization algorithms for multi-core cluster systems. *Parallel Computing*, 39(4-5):212–232, 2013.
- [127] Anne Benoit, Fanny Dufossé, Alain Girault, and Yves Robert. Reliability and performance optimization of pipelined real-time systems. *J. Parallel and Distributed Computing*, 73(6):851–865, 2013.
- [128] Anne Benoit, Matthieu Gallet, Bruno Gaujal, and Yves Robert. Computing the throughput of probabilistic and replicated streaming applications. *Algorithmica*, 69(4):925–957, 2014.
- [129] Anne Benoit, Paul Renaud-Goud, Rami Melhem, and Yves Robert. Assessing the performance of energy-aware mappings. *Parallel Processing Letters*, 23(2), 2013.
- [130] George Bosilca, Aurélien Bouteiller, Elisabeth Brunet, Franck Cappello, Jack Dongarra, Amina Guermouche, Thomas Héroult, Yves Robert, Frédéric Vivien, and Dounia Zaidouni. Unified model for assessing checkpointing protocols at extreme-scale. *Concurrency and Computation: Practice and Experience*, 26(17):925–957, 2014.
- [131] Henri Casanova, Marin Bougeret, Yves Robert, Frédéric Vivien, and Dounia Zaidouni. Using group replication for resilience on exascale systems. *Int. Journal of High Performance Computing Applications*, 28(2):210–224, 2014.
- [132] Guillaume Aupy, Yves Robert, Frédéric Vivien, and Dounia Zaidouni. Checkpointing algorithms and fault prediction. *J. Parallel and Distributed Computing*, 74(2):2048–2064, 2014.
- [133] Jack Dongarra, Thomas Héroult, and Yves Robert. Performance and reliability trade-offs for the double checkpointing algorithm. *Int. J. of Networking and Computing*, 4(1):23–41, 2014.
- [134] Henri Casanova, Fanny Dufossé, Yves Robert, and Frédéric Vivien. Mapping applications on volatile resources. *Int. Journal of High Performance Computing Applications*, 29(1):73–91, 2015.
- [135] Julien Herrmann, Loris Marchal, and Yves Robert. Memory-aware tree traversals with pre-assigned tasks. *J. Parallel and Distributed Computing*, 75:53–66, 2015.
- [136] Guillaume Aupy, Anne Benoit, Matthieu Journault, and Yves Robert. Power-aware replica placement in tree networks with multiple servers per client. *Sustainable Computing, Informatics and Systems*, 5:41–63, 2015.



- [137] George Bosilca, Aurélien Bouteiller, Thomas Hérault, Yves Robert, and Jack Dongarra. Composing resilience techniques: ABFT, periodic and incremental checkpointing. *Int. J. of Networking and Computing*, 5(1):2–25, 2015.
- [138] Henri Casanova, Yves Robert, Frédéric Vivien, and Dounia Zaidouni. On the impact of process replication on executions of large-scale parallel applications with coordinated checkpointing. *Future Generation Computer Systems*, 51:7–19, 2015.
- [139] Guillaume Aupy, Manu Shantharam, Anne Benoit, Padma Raghavan, and Yves Robert. Co-scheduling algorithms for high-throughput workload execution. *Journal of Scheduling*, 19(6):627–640, 2016.
- [140] Anne Benoit, Saurabh K. Raina, and Yves Robert. Efficient checkpoint/verification patterns. *Int. Journal of High Performance Computing Applications*, 31(1):52–65, 2017.
- [141] Guillaume Aupy, Anne Benoit, Henri Casanova, and Yves Robert. Scheduling computational workflows on failure-prone platforms. *Int. J. of Networking and Computing*, 6(1):2–26, 2016.
- [142] Anne Benoit, Aurélien Cavelan, Yves Robert, and Hongyang Sun. Assessing general-purpose algorithms to cope with fail-stop and silent errors. *ACM Trans. Parallel Computing*, 3(2), 2016.
- [143] Sheng Di, Yves Robert, Frédéric Vivien, and Franck Cappello. Toward an optimal online checkpoint solution under a two-level HPC checkpoint model. *IEEE Trans. Parallel Distributed Systems*, 28(1), 2017.
- [144] Massimiliano Fasi, Julien Langou, Yves Robert, and Bora Uçar. A backward/forward recovery approach for the preconditioned conjugate gradient method. *J. Computational Science*, 17:522–534, 2016.
- [145] 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*, 52:22–41, 2016.
- [146] Guillaume Aupy, Julien Herrmann, Paul Hovland, and Yves Robert. Optimal multistage algorithm for adjoint computation. *Siam J. Scientific Computing*, 38(3):C232–C255, 2016.
- [147] Leonardo Bautista-Gomez, Anne Benoit, Aurélien Cavelan, Saurabh Raina, Yves Robert, and Hongyang Sun. Coping with recall and precision of soft error detectors. *J. Parallel and Distributed Computing*, 98:8–24, 2016.
- [148] Anne Benoit, Aurélien Cavelan, Yves Robert, and Hongyang Sun. Towards optimal multi-level checkpointing. *IEEE Trans. Computers*, 66(7):1212–1226, 2017.
- [149] Jakub Kurzak, Piotr Luszczek, Ichitaro Yamazaki, Yves Robert, and Jack Dongarra. Design and implementation of the PULSAR programming system for large scale computing. *Supercomputing Frontiers and Innovation*, 4(1), 2017.
- [150] Anne Benoit, Loic Pottier, and Yves Robert. Resilient co-scheduling of malleable applications. *Int. Journal of High Performance Computing Applications*, 32(1):89–103, 2018.
- [151] Anne Benoit, Aurélien Cavelan, Yves Robert, and Hongyang Sun. Multi-level checkpointing and silent error detection for linear workflows. *J. Computational Science*, 28:398–415, 2018.
- [152] George Bosilca, Aurélien Bouteiller, Thomas Hérault, Amina Guermouche, Yves Robert, Pierre Sens, and Jack Dongarra. A failure detector for HPC platforms. *Int. Journal of High Performance Computing Applications*, 32(1):139–158, 2018.
- [153] Guillaume Aupy, Anne Benoit, Sicheng Dai, Loic Pottier, Padma Raghavan, Yves Robert, and Manu Shantharam. Co-scheduling amdhal applications on cache-partitioned systems. *Int. Journal of High Performance Computing Applications*, 32(1):123–138, 2018.

- [154] Li Han, Louis-Claude Canon, Henri Casanova, Yves Robert, and Frédéric Vivien. Checkpointing workflows for fail-stop errors. *IEEE Trans. Computers*, 67(8):1105–1120, 2018.
- [155] Henri Casanova, Julien Herrmann, and Yves Robert. Computing the expected makespan of task graphs in the presence of silent errors. *Parallel Computing*, 75:41–60, 2018.
- [156] Anne Benoit, Aurélien Cavelan, Franck Cappello, Padma Raghavan, Yves Robert, and Hongyang Sun. Coping with silent and fail-stop errors at scale by combining replication and checkpointing. *J. Parallel and Distributed Computing*, 122:209–225, 2018.
- [157] Oguz Kaya and Yves Robert. Computing dense tensor decompositions with optimal dimension trees. *Algorithmica*, 81(5):2092–2121, 2019.
- [158] Valentin Le Fèvre, Thomas Héroult, Yves Robert, Aurélien Bouteiller, Atsushi Hori, George Bosilca, and Jack Dongarra. Comparing the performance of rigid, moldable and grid-shaped applications on failure-prone hpc platforms. *Parallel Computing*, 85:1–12, 2019.
- [159] Anne Benoit, Aurélien Cavelan, Florina M. Ciorba, Valentin Le Fèvre, and Yves Robert. Combining checkpointing and replication for reliable execution of linear workflows with fail-stop and silent errors. *International Journal of Networking and Computing*, 9(1):2–27, 2019.
- [160] Thomas Herault, Yves Robert, Aurelien Bouteiller, Dorian Arnold, Kurt B. Ferreira, George Bosilca, and Jack Dongarra. Checkpointing strategies for shared high-performance computing platforms. *International Journal of Networking and Computing*, 9(1):28–52, 2019.
- [161] Guillaume Aupy, Anne Benoit, Brice Goglin, Loïc Pottier, and Yves Robert. Co-scheduling HPC workloads on cache-partitioned CMP platforms. *Int. Journal of High Performance Computing Applications*, 33(6):1221–1239, 2019.
- [162] Li Han, Valentin Le Fèvre, Louis-Claude Canon, Yves Robert, and Frédéric Vivien. A Generic Approach to Scheduling and Checkpointing Workflows. *Int. Journal of High Performance Computing Applications*, 33(6):1255–1274, 2019.
- [163] Louis-Claude Canon, Aurélie Kong Win Chang, Yves Robert, and Frédéric Vivien. Scheduling independent stochastic tasks under deadline and budget constraints. *Int. Journal of High Performance Computing Applications*, 2019, to appear.