Curriculum Vitæ

Frédéric Vivien

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1 Education and professional history

Education

- **Accreditation to supervise research** (*Habilitation à Diriger des Recherches*) from the *École normale supérieure de Lyon* defended on May 6, 2008: *On scheduling for distributed heterogeneous platforms*. Referees: José FORTES, Arnold ROSENBERG and Denis TRYSTRAM. Members of the jury: Claire HANEN, Thierry PRIOL, Yves ROBERT, Arnold ROSENBERG and Denis TRYSTRAM.

- **Ph.D.** (*Doctorat*) from the *École normale supérieure de Lyon* defended on December 17, 1997, titled "*Détection de parallélisme dans les boucles imbriquées*" (Parallelism detection in nested loops), and prepared under the supervision of Alain DARTE and Yves ROBERT. Referees: Paul FEAUTRIER and Robert SCHREIBER. Members of the jury: Philippe CHRÉTIENNE, Alain DARTE, Paul FEAUTRIER, Catherine MONGENET, Sanjay RAJOPADHYE, and Yves ROBERT.

- **Master** (*DEA*) of computer science from the *École normale supérieure de Lyon*, June 1994. Research work under the supervision of Alain DARTE and titled "*Ordonnancement multidimensionnel pour les équations récurrentes uniformes et affines*" (Multidimensional scheduling for uniform and affine recurrence equations).

- *Agrégation* of mathematics (entitles to teach mathematics in high school), June 1995.

- Student, *École normale supérieure de Lyon*, France, 1991-1995.

Professional history

Current position: INRIA senior research scientist (since October 2010), working in the LIP laboratory of the *École normale supérieure* of Lyon, France.

INSTITUTIONS	POSITIONS ET STATUS	DATES		OBSERVATIONS
		start	end	
INRIA	Senior Research Scientist	Oct. 1, 2010	-	
Univ. of Hawai'i at Manoā Honolulu, HI, USA	*Visiting scholar*	17 juil. 2008	16 juil. 2009	Sabbatical
INRIA	Junior Research Scientist	Sep. 1,2002	-	
MIT	Visiting Scientist	Jan. 15, 2000	Dec. 15, 2000	Sabbatical
University Louis Pasteur Strasbourg, France	Permanent Assistant Professor (*Maître de conférences*)	Sep. 1, 1998	Aug. 31, 2002	

2 Graduate student advising

2.1 Doctoral student (co-)advising

- Zhiwei Wu started in Oct. 2020 his PhD titled "Energy-aware strategies for periodic scientific workflows under reliability constraints on heterogeneous platforms". International co-advising (50%) with Li Han and Jing Liu, ECNU, Shanghaï (China).

- Yiqin Gao started in Oct. 2018 her PhD titled "Replication Algorithms for Real-time Tasks with Precedence Constraints". Co-advising (50%) with Yves Robert.

- Li Han started defended in May 2020 her PhD on "Fault-tolerant and energy-aware algorithms for workflows and real-time systems". Co-advising (50%) with Yves Robert. Li is now an associate professor (on a tenure track) at ECNU, Shanghaï (China).

- Bertrand Simon defended in July 2008 his PhD on "Scheduling task graphs on modern computing platforms". Co-advising (50%) with Loris Marchal. Bertrand is now a CNRS junior researcher (CRCN) in Lyon.

- Maroua Maalej defended her PhD on "Low cost memory analyses for efficient compilers" in October 2017. Co-advising (10%) with Laure Gonnord. Maroua is now a post-doctoral researcher in the AdaCore company.

- Dounia Zaidouni defended her PhD on"Combining checkpointing and other resilience mechanisms for exascale systems" in December 2014. Co-advising (80%) with Yves Robert. Dounia is now an Assistant Professor at the *Institut national des postes et télécommunications* (INPT) in Rabat (Morocco).

- Clément Rezvoy defended his PhD on "Large Scale Parallel Inference of Protein and Protein Domain Families" in September 2011. Co-advising (50%) with Daniel Kahn. Clément is now an Engineer in a private company.

- Matthieu Gallet defended his PhD on "Steady-State Scheduling of Workflow Applications onto Heterogeneous Platforms" in October 2009. Co-advising (50%) with Yves Robert. Matthieu is now a reserach engineer for the French Department of Defense.

- Jean-François Pineau defended his PhD on "Communication-aware scheduling on heterogeneous master-worker platforms" in September 2008. Co-advising (50%) with Yves Robert.

- Hélène Renard defended her PhD on "Load balancing and data redistribution on heterogeneous platforms" (*Équilibrage de charge et redistribution de données sur plates-formes hétérogènes*) in December 2005. Co-advising (50%) with Yves Robert. Hélène is now assistant professor (*maître de conférences*) at the École Polytechnique of the University of Nice - Sophia Antipolis, France.

- Arnaud Giersch defended his PhD on "Scheduling of tasks sharing data on heterogeneous platforms" (*Ordonnancement sur plates-formes hétérogènes de tâches partageant des données*) in December 2004. Co-advising (50%) with Stéphane Genaud. Arnaud is now assistant professor (*maître de conférences*) at the IUT of Belfort-Montbéliard, France.

- Nicolas Wicker defended his PhD on "Determination of the number of classes: application to genes and proteins" (*Détermination du nombre de classes: application aux gènes et aux protéines*) in December 2002. Co-advisor for the third and last year of his PhD (Olivier Poch was the other co-advisor). Nicolas did his bioinformatic research work in a team of structural biologists. Nicolas is now a professor at University of Lille 1.

2.2 Master student (co-)advising

- Bertrand Simon: "Scheduling malleable task trees", June 2014. Co-advising (50%) with Loris Marchal.

- Clément Rezvoy: "Parallelization of protein domain inference", June 2007. Co-advising (50%) with Daniel Khan (Université Claude Bernard, Lyon).

- Veronika Rehn: "Scheduling and data redistribution strategies on star platforms", June 2006. I was one of her three co-advisors (for 33%, Loris Marchal and Yves Robert were the two other co-advisors).

- Matthieu Gallet: "Scheduling of switched requests" (*Ordonnancement de requêtes commutées*), June 2006. I co-advised him (for 50%, Yves Robert was the other co-advisor).

- Jean-François Pineau: "Scheduling of independent tasks on heterogeneous master-slave platforms: off- and on-line models" (*Ordonnancement de tâches indépendantes sur plate-forme maître-esclave hétérogène: modèles hors-ligne et à la volée*), June 2005. I co-advised him (for 50%, Yves Robert was the other advisor).

- Ridha Kouache: "Life-spans and memory compression" (*Durées de vie et compression mémoire*), June 2002. I co-advised him (for 50%, Philippe Clauss was the other advisor).

2.3   Post-doctoral student advising

- Lionel Eyraud-Dubois was for one year (2006-2007) a post-doctoral student in our team. He was working on the automatic building of a model for the network interconnecting a given set of computational resources. Lionel Eyraud-Dubois is now holding an INRIA junior researcher position in Bordeaux, France.

3   Responsibilities

3.1   Laboratory associate director

Associate director of the LIP laboratory since September 1, 2017. The LIP is the computer science laboratory of ENS Lyon. As of Fall 2018, this laboratory comprises 145 members, including 60 permanent faculty and researchers, around 50 PhD students, and 11 administrative and technical staff members.

3.2   Team leadership

Head of the ROMA project-team since January 2012. As of Fall 2018, ROMA comprises 6 permanent faculty and researchers, 2 engineers, and 8 PhD students.

Head of the GRAAL project-team from July 1, 2006 until December 31, 2011. At the time of its closing, the GRAAL team comprised 11 permanent faculty and researchers, 3 engineers, 12 PhD students, and 6 post-doctoral students. (Some of the GRAAL members went to create thee ROMA team; the other part built the AVALON team with members from another of the laboratory team.)

3.3   Board member

- Member of the scientific council of Labex IRMIA (`http://labex-irmia.u-strasbg.fr/`) since 2018. IRMIA is a "laboratory of excellence" of the University of Strasbourg comprising mathematicians, computer scientists, and biostatisticians.

- Elected member of the Scientific council of *École normale supérieure de Lyon* since 2014 (and representative of ENS Lyon at the Academic Council of the University of Lyon).

- Head of the doctoral studies committee of the laboratory from July 2013 through August 2017 (vice-head of this committee the two previous years). The work included following the enlistment, the progress, and the defense of all the laboratory PhD theses and habilitations. Laboratory representative at the doctoral school.

- Laboratory council of LIP since 2003.

- Recruiting board for INRIA junior researchers for the Saclay - Île-de-France INRIA center in 2008.

- Board for scientific positions at INRIA Rhône-Alpes for the years 2003 to 2006. This committee is responsible for selecting postdoctoral students, visiting scientists, and teacher-researchers temporarily hired on full-research positions.

- Board for the CORDI PhD grants at INRIA Rhône-Alpes since 2006.

- Recruiting board in computer science at the *École normale supérieure de Lyon* in 2005-2006 (deputy).

- Recruiting board in computer science at the University Louis Pasteur, Strasbourg, in 2001-2002.

- Elected member of the council of the faculty of mathematics and computer science, Louis Pasteur University, 2001-2002.

3.4 Examiner for competitive selections

ENS Lyon students: I was co-responsible of the theoretical test part of the oral examination in the competitive selection of the students of the three *Écoles normales supérieures* (Cachan, Lyon, and Paris), in 2003, 2004, and 2005.

3.5 Evaluation of scientific works

3.5.1 Editorial board

- Since 2017, member of the editorial board of the *Journal of Parallel and Distributed Computing*.
- From 2005 until 2019, member of the editorial board of the journal *Parallel Computing*.

3.5.2 Conference program committees

- **Global Chair** for Topic 10 (*Theory and Algorithms for Parallel Computation and Networking*) for the conference Euro-Par 2019, Göttingen, Allemagne, August, 26-30 2019.
- **Program vice-chair**, for thee "algorithms" track for HiPC 2014, *the 21st annual IEEE International Conference on High Performance Computing*, December 2014, India.
- **Co-head of the stream** "Algorithmes distribués, multi-agents et calcul parallèle" for the 15th Congress of the French Operation Research Society (*Société française de recherche opérationnelle et d'aide à la décision*), ROADEF 2014, Bordeaux, France, February 26-28, 2014.
- **Program vice-chair**, for the "algorithms" track of IPDPS 2013, *the 27th IEEE International Parallel & Distributed Processing Symposium*, Cambridge, MA, USA, May 20-24, 2013.
- **Local chair** for Topic 12 for the Euro-Par 2011 conference, Bordeaux, France, August 29 - September 2, 2011.
- **Program chair** for HeteroPar 2010: *8th International Workshop on Algorithms, Models, and Tools for Parallel Computing on Heterogeneous Platforms*, Ischia-Naples, Italy, August 31, 2010.

Membre de comités de programme de conférences: IPDPS'21; PDP 2021; IPDPS'20; PDP 2020; EuroPar 2019; IPDPS'18 (*primary reviewer*); SC'18 *posters*; PDP 2018; EduPar 18; IPDPS'17; SC'17; PDP 2017; EduPar 17; SbacPad 2017; IPDPS'16; SC'16; PDP 2016; EduPar 16; EuroEduPar 16; HeteroPar 2016; HiPC 2016; WAPCO 2016; SC'15; WAPCO 2015; SC'14; Technical Posters Committee of SC'14; IPDPS 2014; ComPAS'2014; PDP 2014; SC'13; EduPDHPC; ICPP 2013; EduPar-13; PDP 2013; ROADEF 2013; RenPar'21 - ComPAS'2013; PDP 2012; CCGrid 2012; Cluster 2012; ROADEF 2012; ROADEF 2011; PhD forum of IPDPS 2011; HiPC 2011; ICDCS 2011; RenPar 2011; EuroPDP 2011; HiPC 2010; Cluster 2010; EuroPDP 2010; NPC 2009; CCGrid 09; RenPar 2009; ISPDC'2009; EuroPDP 2009; *Workshop on Scheduling for Parallel Computing*, 2009; RenPar 2009; ISPDC'2009; EuroPDP 2009; ICPADS'08; *3rd CoreGRID Workshop on Grid Middleware*; Grid2008; RenPar 2008; EuroPDP 2008; *CoreGRID workshop on Grid Middleware 2007*; Grid2007; *Workshop on Scheduling for Parallel Computing*, 2007; *Workshop on Programming Models for Grid Computing*, 2007; IPDPS 2007; EuroPDP 2007; HiPC 2006; RenPar 2006; Grid2006; HCW 2006; Grid 2005; ISPA'05; *Workshop on scheduling for parallel computing*, 2005; PPoPP 2003.

3.5.3 Evaluation of laboratories and projects

- Member of the High Council for Evaluation of Research and Higher Education (HCERES [1]) "visiting committee" for the FEMTO-ST Institute, Besançon, France, 2016.
- Member of the HCERES "visiting committee" for the FEMTO-ST Institute, Besançon, France, 2011.

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[1] http://www.hceres.com/Agency/Missions

- Member of the committee of experts in charge in 2010 of evaluating the possibility for the Computer Science laboratory of Franche-Comté (LIFC, EA University of Franche-Comté, Besançon) to join the FEMTO-ST Institute.
- In 2008, I evaluated a research project for *Wiener Wissenschafts-, Forschungs- und Technologiefonds* "a small science fund in Vienna, Austria". In 2008, I also reviewed a *principal investigator program* for the *Science Foundation Ireland*.
- In 2005, I evaluated a research project for the Innovational Research Incentives Scheme - Veni programme of the Dutch organization for scientific research (NWO).

3.6 Workshop and school organization

- Organization of the French spring school in theoretical computer science (EPIT 2007) with Yves Robert, from June 3 to June 8 June 2007. The theme was be "Scheduling". Following this school, we edited the book "Introduction to Scheduling" [E3].

- Organization of the workshop "Compilation and Automatic Parallelization"with Catherine Mongenet (ICPS-LSIIT, ULP) and Yves Robert (LIP, ENS Lyon), workshop which gathered, from October 18 to 20 1999, the French community in automatic parallelization.

4 Involvement in projects and collaborations

4.1 Involvement in national and international projects

European Project SCoRPIO (2013-2016): Significance-Based Computing for Reliability and Power Optimization.

ANR project RESCUE (2010-2014): *Résilience des applications scientifiques sur machines exascales.*

INRIA associated team MetagenoGrid (2008-2010): with Henri Casanova (Concurrency group) and Guylaine Poisson (Bioinformatics laboratory) of the University of Hawai'i at Mānoa. Responsible of the collaboration.

European Marie Curie Action IOF MetagenoGrids (2008-2010). Funding for the 2008-2009 sabbatical taking place in the scope of the associated-team of same name. The sabbatical is further described in Section 4.2.

MIT-France (2007): responsible of the collaboration with Saman Amarasinghe (MIT, USA) on the scheduling of streams of computations for the multicore Cell processor.

RTRA Innovations en infectiologie (2007-2011): (innovations in infectiology) responsible of the involvement of the GRAAL project-team.

ANR Alpage (2006-2008): member.

CoreGRID (2004-2008): European Network of Excellence (NoE). In charge of the partner "CNRS". In charge of a sub-task of the virtual institute on *Resource Management and Scheduling*.

Ragtime (2003-2006): region Rhône-Alpes project on the Grid for the processing of medical information. In charge of the theme "Management of computing resources".

4.2 Mobility

(Stays of at least one month in laboratories other than my official laboratory.)

July 2008 to July 2009: visiting scientist at the University of Hawai'i at Mānoa, on sabbatical from INRIA. I mainly worked on the resource allocation to virtual machines that are used to execute parallel applications on clusters [J15, J18, C23, C32, C28] (the previous list includes follow-ups on this work). I also studied the scheduling of bags of non-identical tasks [C27].

Mid-January to mid-December 2000: visiting scientist in the MIT Laboratory of Computer Science in Martin Rinard's team, which is part of the *Compiler and Architecture Group*. Research works with Martin Rinard on the flow-sensitive pointer and escape analysis of Java programs [C57], and with Saman Amarasinghe and William Thies on the reduction of the memory usage in programs [J25, C58].

June 1997: one month stay at the University of Tennessee at Knoxville, USA, in Jack Dongarra's team. Theoretical and experimental work on the scheduling, on an heterogeneous network of workstations, of tiles produced by the partitioning of nested loops. [J35, J34]

July-October 1996: three month stay as summer intern in the research labs of Hewlett-Packard in Palo Alto, California. In the *Compiler and Architecture Research* group directed by Bob Rau, I worked on the *PICO* (*Program In, Chip Out*) software. This software is an automatic generator of dedicated chips. PICO takes as input a program whose running time is mostly due to a set of nested loops. PICO automatically outputs a chip which is partially composed of a specialized network of processors designed to speed-up the execution of the set of nested loops. [J33, C60]

4.3 Involvement in software developments

- *MPI_MkDom2*: is an attempt at parallelizing an existing bioinformatics algorithm, MkDom2. The goal of MkDom2 is to produce a representation of the protein domain families inferred solely from an exhaustive sequence analysis. The end product of MkDom2 is the protein database ProDom (http://prodom.prabi.fr/prodom/current/html/home.php). MPI_MkDom2 is designed to be able to run on heterogeneous and distributed platforms such as clusters and Grids. MPI_MkDom2 is currently in its final stages of development and is bound to replace MkDom2 for the computation of the 2010 release of ProDom.

  MPI_MkDom2 was designed and realized by Clément Rezvoy; I oversaw his work.

- *MIT-Flex* (http://flex-compiler.lcs.mit.edu): implementation in this Java compiler of an incremental points-to and escape analysis during my visit in Martin Rinard's team (see section "Mobility" above).

- *PICO*: three-month implementation, in 1996, of program transformations in the SUIF compiler in the framework of the *PICO* project. The *PICO* software was developed by Hewlett-Packard (see section "Mobility" above), and is now commercially distributed by the company Synfora.

5 Teaching

I was assistant professor, at University Louis Pasteur, Strasbourg, France, for four years (1998-2002). I also did some teaching during my Ph.D. The French University system is quite different from the American one. To give an idea, in my last year as assistant professor, I gave 52 hours of lectures, 50 hours of repetitions, and 124 hours of lab sessions.

Since joining INRIA in 2002, I taught a second-year master course for three years (2005-2006, 2006-2007, and 20143-2014), and I have been teaching from the 2010-2011 academic year through the 2017-2018 academic year a first-year master course on Parallel and Distributed Algorithms and Programming.

I taught the following topics:

Standard classes: algorithms and data structures (lectures, repetitions, and lab sessions); programming (repetitions, and lab sessions); logic programming (lectures, repetitions, and lab sessions); functional programming (lectures, repetitions, and lab sessions); operating systems (repetitions and lab sessions); architecture (lectures, repetitions, and lab sessions); networks (basics) (repetitions and lab sessions).

Specialized classes: parallel computing (lectures); automatic parallelization (lectures); scheduling and algorithmic for distributed heterogeneous platforms (lectures).

6 Publications

Publications are listed in reverse chronological order. Most of them can be donwloaded from the web page `https://cv.archives-ouvertes.fr/fredericvivien` for those published from 2010 on. My oldest publications can be downloaded from the web page: `http://perso.ens-lyon.fr/frederic.vivien/publications.html`.

Books

[B1] Anne Benoit, Yves Robert, and Frédéric Vivien. *A Guide to Algorithm Design: Paradigms, Methods, and Complexity Analysis.* Applied Algorithms and Data Structures series. Chapman & Hall/CRC, August 2013.

[B2] Alain Darte, Yves Robert, and Frédéric Vivien. *Scheduling and Automatic Parallelization.* Birkhaüser, 2000.

Articles in international journals

[J1] 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*, 31(3):721–732, March 2020.

[J2] Louis-Claude Canon, Aurélie Kong Win Chang, Yves Robert, and Frédéric Vivien. Scheduling independent stochastic tasks under deadline and budget constraints. *International Journal of High Performance Computing Applications*, pages 1–19, June 2019.

[J3] Li Han, Valentin Le Fèvre, Louis-Claude Canon, Yves Robert, and Frédéric Vivien. A Generic Approach to Scheduling and Checkpointing Workflows. *International Journal of High Performance Computing Applications*, pages 1–19, May 2019.

[J4] 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, February 2019.

[J5] Loris Marchal, Bertrand Simon, Oliver Sinnen, and Frédéric Vivien. Malleable task-graph scheduling with a practical speed-up model. *IEEE Transactions on Parallel and Distributed Systems*, 29(6):1357–1370, June 2018.

[J6] Li Han, Louis-Claude Canon, Henri Casanova, Yves Robert, and Frédéric Vivien. Checkpointing Workflows for Fail-Stop Errors. *IEEE Transactions on Computers*, 67(8):16, February 2018.

[J7] Sheng Di, Yves Robert, Frédéric Vivien, and Franck Cappello. Toward an Optimal Online Checkpoint Solution under a Two-Level HPC Checkpoint Model. *IEEE Transactions on Parallel and Distributed Systems*, 28(1):16, January 2017.

[J8] 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*, 51:13, October 2015.

[J9] 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.

[J10] Henri Casanova, Fanny Dufossé, Yves Robert, and Frédéric Vivien. Mapping Applications on Volatile Resources. *International Journal of High Performance Computing Applications*, 29(1):19, February 2015.

[J11] Marin Bougeret, Henri Casanova, Yves Robert, Frédéric Vivien, and Dounia Zaidouni. Using group replication for resilience on exascale systems. *International Journal of High Performance Computing Applications*, 28(2):210–224, May 2014.

[J12] Guillaume Aupy, Yves Robert, Frédéric Vivien, and Dounia Zaidouni. Checkpointing algorithms and fault prediction. *Journal of Parallel and Distributed Computing*, 74(2):2048–2064, November 2013.

[J13] George Bosilca, Aurélien Bouteiller, Elisabeth Brunet, Franck Cappello, Jack Dongarra, Amina Guermouche, Thomas Hérault, Yves Robert, Frédéric Vivien, and Dounia Zaidouni. Unified Model for Assessing Checkpointing Protocols at Extreme-Scale. *Concurrency and Computation: Practice and Experience*, 26(17):2727–2810, November 2013.

[J14] Anne Benoit, Yves Robert, Arnold Rosenberg, and Frédéric Vivien. Static strategies for worksharing with unrecoverable interruptions. *Theory of Computing Systems*, 53(3):386–423, 2013.

[J15] Mark Lee Stillwell, Frédéric Vivien, and Henri Casanova. Dynamic Fractional Resource Scheduling versus Batch Scheduling. *IEEE Transactions on Parallel and Distributed Systems*, 23(3):521–529, 2012.

[J16] Anne Benoit, Yves Robert, Arnold Rosenberg, and Frédéric Vivien. Static worksharing strategies for heterogeneous computers with unrecoverable interruptions. *Parallel Computing*, 37(8):365–378, 2011.

[J17] 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.

[J18] Mark Stillwell, David Schanzenbach, Frédéric Vivien, and Henri Casanova. Resource allocation algorithms for virtualized service hosting platforms. *Journal of Parallel and Distributed Computing*, 70(9):962–974, May 2010.

[J19] 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.

[J20] 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.

[J21] 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". *Journal of Parallel and Distributed Computing*, 68(7):1021–1031, 2008.

[J22] Arnaud Legrand, Alan Su, and Frédéric Vivien. Minimizing the Stretch When Scheduling Flows of Divisible Requests. *Journal of Scheduling*, 2008.

[J23] Jean-François Pineau, Yves Robert, and Frédéric Vivien. The impact of heterogeneity on master-slave scheduling. *Parallel Computing*, 34(3):158–176, 2008.

[J24] 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.

[J25] William Thies, Frédéric Vivien, and Saman Amarasinghe. A step towards unifying schedule and storage optimization. *ACM Transactions on Programming Languages and Systems (TOPLAS)*, 29(6):45 p., 2007.

[J26] Pushpinder Kaur Chouhan, Holly Dail, Eddy Caron, and Frédéric Vivien. Automatic Middleware Deployment Planning on Clusters. *International Journal of High Performance Computing Applications*, 20(4):14, November 2006.

[J27] Arnaud Giersch, Yves Robert, and Frédéric Vivien. Scheduling tasks sharing files on heterogeneous master-slave platforms. *Journal of Systems Architecture*, 52(2):88–104, February 2006.

[J28] Hélène Renard, Yves Robert, and Frédéric Vivien. Data redistribution algorithms for heterogeneous processor rings. *International Journal of High Performance Computing Applications*, 20(1):31–43, 2006.

[J29] Stéphane Genaud, Arnaud Giersch, and Frédéric Vivien. Load-Balancing Scatter Operations for Grid Computing. *Parallel Computing*, 30(8):923–946, 2004.

[J30] Arnaud Legrand, Hélène Renard, Yves Robert, and Frédéric Vivien. Mapping and Load-Balancing Iterative Computations on Heterogeneous Clusters with Shared Links. *IEEE Transactions on Parallel and Distributed Systems*, 15:546–558, 2004.

[J31] Frédéric Vivien and Nicolas Wicker. Minimal enclosing parallelepiped in 3D. *Computational Geometry*, 29(3):177–190, 2004.

[J32] Frédéric Vivien. On the Optimality of Feautrier's Scheduling Algorithm. *Concurrency and Computation: Practice and Experience*, 15(11-12):1047–1068, 2003. Special issue on Euro-Par 2002.

[J33] Alain Darte, Rob Schreiber, B. Ramakrishna Rau, and Frédéric Vivien. Constructing and Exploiting Linear Schedules with Prescribed Parallelism. *ACM Transactions on Design Automation of Electronic Systems*, 7(1):159–172, 2002.

[J34] Pierre Boulet, Jack J. Dongarra, Fabrice Rastello, Yves Robert, and Frédéric Vivien. Algorithmic Issues on Heterogeneous Computing Platforms. *Parallel Processing Letters*, 9(2):197–213, 1999.

[J35] Pierre Boulet, Jack J. Dongarra, Yves Robert, and Frédéric Vivien. Static Tiling for Heterogeneous Computing Platforms. *Parallel Computing*, 25(5):547–568, 1999.

[J36] Pierre Boulet, Alain Darte, Georges-André Silber, and Frédéric Vivien. Loop parallelization algorithms: From parallelism extraction to code generation. *Parallel Computing*, 24(3-4):421–444, 1998.

[J37] Pierre-Yves Calland, Alain Darte, Yves Robert, and Frédéric Vivien. On the removal of anti- and output-dependences. *International Journal of Parallel Programming*, 26(3):285–312, 1998.

[J38] Pierre-Yves Calland, Anne Mignotte, Olivier Peyran, Yves Robert, and Frédéric Vivien. Retiming DAGs. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, 17(12):1319–1325, 1998.

[J39] Pierre-Yves Calland, Alain Darte, Yves Robert, and Frédéric Vivien. Plugging anti and output dependence removal techniques into loop parallelization algorithms. *Parallel Computing*, 23(1-2):251–266, 1997.

[J40] Alain Darte, Georges-André Silber, and Frédéric Vivien. Combining Retiming and Scheduling Techniques for Loop Parallelization and Loop Tiling. *Parallel Processing Letters*, 7(4):379–392, 1997.

[J41] Alain Darte and Frédéric Vivien. On the Optimality of Allen and Kennedy's Algorithm for Parallelism Extraction in Nested Loops. *Parallel Algorithms and Applications*, 12(1-3):83–112, 1997. Special issue on "Optimizing Compilers for Parallel Languages".

[J42] Alain Darte and Frédéric Vivien. Optimal Fine and Medium Grain Parallelism Detection in Polyhedral Reduced Dependence Graphs. *International Journal of Parallel Programming*, 25(6):447–496, 1997.

[J43] Alain Darte and Frédéric Vivien. Parallelizing Nested Loops with Approximation of Distance Vectors: A Survey. *Parallel Processing Letters*, 7(2):133–144, 1997.

[J44] Alain Darte and Frédéric Vivien. Revisiting the Decomposition of Karp, Miller and Winograd. *Parallel Processing Letters*, 5(4):551–562, 1995.

Articles in international conferences with program committees and proceedings

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