

JEAN-LUC GAUDIOT

Professor

Department of Electrical Engineering and Computer Science
University of California
Irvine, CA 92697-2625
949-824-9748
gaudiot@uci.edu

Research Interests

- Programmability of large-scale multiprocessors, distributed structure representation, data caching and nomadic threads, high-level parallel language compilation, allocation, partitioning, and performance evaluation
 - Processor architecture, implementation and impact of future technologies
 - Fault-tolerant computing, architecture-level protection of deep sub-micron system against cosmic rays, Single Event Upset (SEU) handling
 - Benchmarking and characterization of applications, design of flexible architectures tuned for specific types of applications
-

Education

- *Ph.D. in Computer Science* (October 1982), *University of California, Los Angeles*
 - *M.Sc. in Computer Science* (June 1977), *University of California, Los Angeles*
 - “*Diplôme d’Ingénieur*” (*Electrical Engineering Diploma*) (June 1976), *École Supérieure d’Ingénieurs en Electronique et Electrotechnique, Paris, France*
-

Experience

- *PROFESSOR - University of California, Department of Electrical Engineering and Computer Science, Irvine, California* (Since January 2002 - Chair from January 2003 to September 2009)
- *PROFESSOR - University of Southern California, Department of Electrical Engineering-Systems, Los Angeles, California* (August 1996 - December 2001)
- *ASSOCIATE PROFESSOR - University of Southern California, Department of Electrical Engineering-Systems, Los Angeles, California* (June 1989 - August 1996)
- *ASSISTANT PROFESSOR - University of Southern California, Department of Electrical Engineering-Systems, Los Angeles, California* (December 1982 - June 1989)
- *MEMBER OF TECHNICAL STAFF, TRW Technology Research Center, El Segundo, California* (August 1980 - November 1982)
- *SOFTWARE ENGINEER, Teledyne Controls, Santa Monica, California* (March 1979 - August 1980)

Awards and Professional Societies Membership

- AAAS Fellow (American Association for the Advancement of Science) *“For Distinguished Contributions to the Design and Analysis of Highly Efficient Multiprocessor and Memory System Architectures,”* (October 2007)
- International Federation for Information Processing (IFIP) Silver Core Member *“For Dedication to Outstanding Scientific Work on One Hand and Enormous Service Work on the Other One,”* (September 2007)
- IEEE Computer Society Golden Core Member *“As One of the Distinguished Core of Dedicated Volunteers and Staff whose Leadership and Service have made the IEEE Computer Society the World’s Preeminent Association of Computing Professionals,”* (June 2003)
- IEEE Computer Society Meritorious Service Award *“For Outstanding Service as Editor-in-Chief of the IEEE Transactions on Computers,”* (November 2002)
- IEEE Fellow *“For Contributions to the Programmability and Reliability of Dataflow Architectures,”* (January 1999)
- IEEE Computer Society Distinguished Visitor (1994-1998)
- IEEE, IEEE Computer Society, ACM, ACM Sigarch
- IFIP Working Group 10.3 - Concurrent Systems (chair from 1995 to 2001)
- IEEE Computer Society Technical Committee on Computer Architecture (elected chair in June 2001, re-elected in June 2003 - two year terms)
- IEEE Computer Society Technical Committee on Parallel Processing (member of the Advisory Board)

Long-term consulting affiliations

- Northrop Grumman Corporation, Pico Rivera, California (1997-2007)
- Alshuler, Grossman, Stein, and Kahan LLP, Los Angeles, California (2002-2004)
- Language Systems, Inc., Canoga Park, California (1990-1997)
- TRW ESG, Redondo Beach, California (1986-1987)
- Research & Development Associates, Marina Del Rey, California (1985)
- Hughes Aircraft Co, Electro-Optical Systems Division, El Segundo, California (1983-1984)
- Logabax, Los Angeles, California (1978-1979)

Extramural Funding

- Architecture, Programmability and Performance of Large Scale Parallel Systems (NSF - evenly shared with the University of Delaware).
Duration of the award: 4 years (July 2011 through June 2015)
Amount of the award: \$800K
- Exploring Transactional Memory Systems for the Intel SCC (Intel).
No monetary award; access to the SCC site
- A Flexible, Efficient, and Dynamic Architecture and Compilation Framework for Networking Applications (NSF - Supplemental funding).
Duration of the award: 1 year (September 2010 through August 2011)
Amount of the award: \$40K
- A Flexible, Efficient, and Dynamic Architecture and Compilation Framework for Networking Applications (NSF - Supplemental funding).
Duration of the award: 1 year (September 2009 through August 2010)
Amount of the award: \$40K
- DUDECRONO - Dual degree on MicroNanotechnology (Department of Education).
Date of the Award: August 2009 (4 years)
Amount of the award: \$420,000
- A Flexible, Efficient, and Dynamic Architecture and Compilation Framework for Networking Applications (NSF - with a subcontract to the University of Delaware).
Duration of the award: 3 years (August 2005 through July 2008)
Amount of the award: \$400K
- MRI: HIPerWall: Development of a High-Performance Visualization System for Collaborative Earth System Sciences (NSF).
Date of the award: August 2004
Amount of the award: \$394K (with F. Kuester, S. Jenks, C. Zender, and S. Sorooshian)
- Application-Specific PIM (Processor-In-Memory) Architecture for Embedded Systems (Microsoft Research).
Date of the award: August 2003
Amount of the award: \$15K
- Postdoctoral grant (UC Mexus - the University of California Institute for Mexico and the United States).
Duration of the award: 1 year (September 2003 - August 2004)
Amount of the award: \$31K
- Parallel Processing and Computer Architecture Workshop (UC Conference and Research Workshop Program). March 2002 (\$1,000 with Dr. Stephen Jenks)
- ITR: A Completely Integrated Processor-Memory-Interconnect Architecture Model for Data Intensive Applications (NSF - subcontract from USC).
Duration of the award: 3 years (August 2002 through July 2005)
Total amount of the award: \$200K (with Prof. Sandeep Gupta at USC)
- E-textiles for Inflatable Systems (DARPA - with JPL. Selected but not funded: program canceled prior to appropriation (February 2002)

- Power Aware Architectures (DARPA - subcontract from UCI).
Duration of the award: 3 years (August 2000 through July 2003)
Amount of the award: \$150K
- Multithreading - A Viable Approach for High Performance Single-Chip Architectures (NSF - with a subcontract to the University of Delaware).
Duration of the award: 3 years (August 2000 through July 2003 - extended through July 2004)
Amount of the award: \$600K
- ILP vs. TLP: A Viable Trade-off? (NSF - with a subcontract to the University of Delaware).
International Program Division: 3 years (June 1999 through May 2002 - extended through July 2004)
Amount of the award: \$20K
- Processor Architectures for DSP Applications (Conexant).
Date of the award: October 2000
Amount of the award: \$33K
- A Hierarchical Decoupled Instruction Set Computer (DARPA).
Duration of the award: 3 years (August 1998 through July 2001)
Amount of the award: \$600K (with Al Despain)
- Processor Architectures for DSP Applications (Conexant).
Date of the award: October 1999)
Amount of the award: \$33K
- Processor Architectures for DSP Applications (Conexant).
Date of the award: October 1998
Amount of the award: \$33K
- Processor Architectures for DSP Applications (Rockwell Semiconductor Systems).
Duration of the award: 1 year (October 1997 through September 1998)
Amount of the award: \$33K
- New Generation Multithreaded Multiprocessors (NSF - with a subcontract to the University of Delaware).
Duration of the award: 3 years (August 1997 through July 2000)
Amount of the award: \$400K
- Formal specification and transformation of parallel programs (NSF).
International Program Division: 3 years (June 1997 through May 2000)
Amount of the award: \$12K
- An evaluation of high-performance functional computing (DARPA).
Duration of the award: 3 years (September 1995 to August 1998)
Amount of the award: \$1.2M
- A comparative study of the programmability of a signal processing application in an MIMD and an SIMD multiprocessor (Teledyne Systems Company).
Amount of the award: \$30K (sole PI - March 1994)
- Equipment for research in designing and using multiprocessor systems (NSF) with A. Despain (May 1992).
Amount of the award: \$85K
- A study of genetic programming for infra-red image analysis (Hughes Aircraft).
Amount of the award: \$30K (sole PI - December 1993)

- Programming and evaluating the performance of signal processing applications in a parallel environment (Teledyne Systems Company).
Amount of the award: \$30K (sole PI - March 1991)
- Programming parallel machines for knowledge-based applications (Language Systems, Inc.).
Duration of the award: 1.5 years (November 1991 to January 1993)
Amount of the award: \$27K
Level of support: 1 Research Assistant (sole PI)
- A data-driven approach to programming multiprocessor systems (National Science Foundation).
Duration of the award: 2 years (March 1991 to March 1993)
Amount of the award: \$171K
Level of support: 2 summer months, 1.5 Research Assistant (sole PI)
- Neurobiology and simulation of neural nets for invariant object recognition (Air Force Office of Scientific Research with C. von der Malsburg and E. Rolls).
Duration of the award: 3 years (May 1988 to May 1991).
Amount of the award: \$600K
Level of support: 10% academic year, 1 Research Assistant
- A multi-level data-flow architecture for signal and data processing applications (Department of Energy, Office of Energy Research).
Duration of the award: 4 years (May 1987 to July 1991)
Amount of the award: \$603K
Level of support: 40% academic year, 1 summer month, 3 Research Assistants (sole PI)
- Research on architectural issues in data-flow multicomputers (NSF).
Duration of the award: 3 years (May 1987 to June 1990)
Amount of the award: \$171K
Level of support: 2 summer months, 1.5 Research Assistant (sole PI)
- Research in Computer Architecture (NSF) with M. Dubois and K. Hwang (June 1986).
Amount of the award: \$56K
- Logic programming in data-flow systems (USC Faculty Research and Innovation Fund).
Duration of the award: 1 year (June 86 to May 87)
Amount of the award: \$18K (sole PI)
- Survey of simulation languages (Rockwell International).
Duration of the award: 1 month (August 1985).
Amount of the award: \$5K (sole PI)
- Performance analysis of a reconfigurable multiprocessor system (USC Faculty Research and Innovation Fund with M. Dubois).
Duration of the award: 1 year (June 85 to May 86).
Amount of the award: \$18.5K
- Variable resolution in data-flow systems (NSF Initiation Grant).
Duration of the award: 2 years (June 84 to May 86).
Amount of the award: \$48K (sole PI)
- Performance evaluation of data-flow multiprocessors (USC Faculty Research and Initiation Fund).
Duration of the award: 1 year (June 84 to May 85).
Amount of the award: \$8K (sole PI)

Books

- [B1] L. Bic, W. Böhm, P. Evripidou, and J-L. Gaudiot (Eds.). *Proceedings of the IFIP WG 10.3 Working Conference on Parallel Architectures and Compilation Techniques, PACT '95*, ACM Press, June 27-29, 1995.
- [B2] G.R. Gao, L. Bic, and J-L. Gaudiot (Eds.). *Advanced topics in dataflow computing and multithreading*, IEEE Computer Society Press, 1995.
- [B3] M. Cosnard, K. Ebcioglu, and J-L. Gaudiot. (Eds.) *Proceedings of the IFIP WG10.3 Working Conference on Architectures and Compilation Techniques for Fine and Medium Grain Parallelism*, IFIP Transactions, North Holland, 1993.
- [B4] D. Abramson and J-L. Gaudiot. (Eds.) *Proceedings of the Nineteenth Annual International Symposium on Computer Architecture*, ACM Press, 1992.
- [B5] J-L. Gaudiot and L. Bic. (Eds.) *Advanced Topics in Data-Flow Computing*, Prentice Hall, 1991.

Books chapters and reprints

- [BC1] C. Liu, X. Li, S. Liu and J-L. Gaudiot, “Simultaneous MultiThreading Microarchitecture,” in *Handbook of Research on Scalable Computing Technologies*, edited by Kuan-Ching Li, Ching-Hsien Hsu, Laurence T. Yang, Jack Dongarra, Hans Zima, IGI Global, pp. 552–582, 2009.
- [BC2] J-L. Gaudiot, J-Y. Kang, and W.W. Ro, “Improving performance beyond pipelining: superpipelining, superscalar and VLIW,” in *Computer Architecture, (a volume of Advances in Computers)*, edited by Ali R. Hurson, Elsevier, Inc., 2004.
- [BC3] C. Shin, S.W. Lee, and J-L. Gaudiot, “The need for adaptive dynamic thread scheduling,” in *High Performance Scientific and Engineering Computing - Hardware/Software Support*, edited by L.T. Yang and Y. Pan, Kluwer Publishing, 2004.
- [BC4] J-L. Gaudiot, “Foreword,” in *Parallel I/O for Cluster Computing*, by C. Cérin and Hai Jin, Kluwer Publishing, 2002
- [BC5] J-L. Gaudiot, “Préface,” in *Architecture et micro-architecture des processeurs*, Springer-France by Bernard Goossens, 2002 (in French).
- [BC6] J-L. Gaudiot, “Introduction to computer architecture and design,” chapter in *Computer Engineering Handbook*, January 2002.
- [BC7] S. Shams and J-L. Gaudiot, “Regularly structured neural networks on the DREAM machine,” chapter 9 in *Parallel Architectures for Artificial Neural Networks, Paradigms and Implementations*, IEEE Computer Society, N. Sundararajan and P. Saratchandran, Eds., 1998.
- [BC8] C. Kim and J-L. Gaudiot, “Data-flow and multithreaded architectures,” chapter in *Encyclopedia of Electrical and Electronics Engineering*, Wiley Pub., May 1997.
- [BC9] J-L. Gaudiot, T. DeBoni, J. Feo, W. Böhm, and P. Miller, “The Sisal project: real world functional computing,” chapter 2 in *Languages, Compilation Techniques and Run Time Systems for Scalable Parallel Systems, Recent Advances and Future Perspectives*, Springer Verlag Lecture Notes in Computer Science Series, 1997.

- [BC10] J-L. Gaudiot and A. Sohn, "Programmability and Performance Issues of Multiprocessors on Hard Nonnumeric Problems," chapter in *Advanced topics in dataflow computing and multithreading*, IEEE Computer Society Press, 1995.
- [BC11] J-L. Gaudiot and C. Kim, "Data-driven and multithreaded architectures for high-performance computing," chapter in *Parallel Computers, Theory and Practice*, pp. 73-105, IEEE Computer Society Press, 1996.
- [BC12] A. Sohn and J-L. Gaudiot, "Connectionist production systems in local and hierarchical representation," chapter in *Applications of Learning and Planning Methods*, World Scientific Publishing Co., N.G. Bourbakis, Ed., 1991.
- [BC13] J-L. Gaudiot and D.K. Yoon, "Occam," chapter in *A Comparative Study of Parallel Programming Languages: The Salishan Problems*, Special Topics in Supercomputing, Vol.6, pp.217-262, North Holland, Amsterdam, The Netherlands, John Feo, Ed., 1992.
- [BC14] P. Evripidou and J-L. Gaudiot, "The USC Decoupled Multilevel Data-Flow Execution Model," chapter in *Advanced Topics in Data-Flow Computing*, J-L. Gaudiot and L. Bic, eds., Prentice Hall, 1990.
- [BC15] W. Najjar and J-L. Gaudiot, "Macro data-flow architectures," chapter in *Dataflow Computing: Theory and Practice*, Ablex Publishing, John Sharp, Ed., 1992.
- [BC16] J-L. Gaudiot and L. Bic, "Data-Flow: A Status Report," unrefered article in *ACM SIGARCH Computer Architecture News*, Vol. 17, No. 6, pp. 111-118, December 1989.
- [BC17] J-L. Gaudiot, "Data-flow machines," chapter in *Topics in High-Level Language Computer Architecture*, Computer Science Press, V. Milutinovic, Ed., August 1988.
- [BC18] J-L. Gaudiot, M. Dubois, L.T. Lee, and N. Tohmé, "The TX16: A highly programmable multiprocessor architecture," reprinted in *Multi-Microprocessors*, IEEE Press, A. Gupta, ed., 1987 (originally published in *IEEE Micro*, October 1986).

Journal Publications

- [J1] K. Yi, W. Ro, and J-L. Gaudiot, "Importance of Coherence Protocols with Network Applications on Multi-Core Processors," *IEEE Transactions on Computers*, in press.
- [J2] S. Liu, R. Pittman, A. Forin, and J-L. Gaudiot, "Achieving Energy Efficiency through Run-Time Partial Reconfiguration on Reconfigurable Systems," *ACM Transactions on Embedded Computing Systems*, in press.
- [J3] S. Liu, J. Tang, L. Wang, X-F. Li, and J-L. Gaudiot, "Packer: Parallel Garbage Collection Based on Virtual Spaces," *IEEE Transactions on Computers*, in press.
- [J4] H. Homayoun, A. Veidenbaum, A. Sasan, and J-L. Gaudiot, "Reducing Power in All Major CAM and SRAM Based Processor Units via Centralized, Dynamic Resource Size Management," *IEEE Transactions on Very Large Scale Integration Systems*, in press.
- [J5] S. Liu, R.N. Pittman, A. Forin, and J-L. Gaudiot, "Minimizing the Runtime Partial Reconfiguration Overheads in Reconfigurable Systems," *Journal of Supercomputing*, DOI 10.1007/s11227-011-0657-6, July 2011.
- [J6] J. Tang, S. Liu, C. Liu, Z. Gu, and J-L. Gaudiot, "Prefetching in Embedded Mobile Systems Can Be Energy-Efficient," *Computer Architecture Letters*, Vol. 10, Number 1, DOI: <http://doi.ieeecomputersociety.org/10.1109/L-CA.2011.2>, February 2011.

- [J7] S. Liu, C. Eisenbeis, and J-L. Gaudiot, "Value Prediction and Speculative Execution on GPU," *International Journal of Parallel Programming*, DOI: 10.1007/s10766-010-0155-0, December 2010.
- [J8] J. Tang, S. Liu, Z. Gu, X-F. Li, and J-L. Gaudiot, "Achieving Middleware Execution Efficiency: Hardware-Assisted Garbage Collection Operations," *Journal of Supercomputing*, DOI: 10.1007/s11227-010-0493-0, November 2010.
- [J9] S. Liu, X-F. Li, L. Wang, and J-L. Gaudiot, "Space-and-Time Efficient Parallel Garbage Collector for Data-Intensive Applications," *International Journal of Parallel Programming*, DOI:10.1007/s10766-010-0151-4, October 2010.
- [J10] K. Yi and J-L. Gaudiot, "Network Applications on Simultaneous MultiThreading Processors," *IEEE Transactions on Computers*, DOI:10.1109/TC.209.185, Vol. 59, No. 9, pp. 1200-1209, September 2010.
- [J11] S. Liu, J. Tang, C. Deng, X-F. Li, and J-L. Gaudiot, "RHE: A JVM Courseware," *IEEE Transactions on Education*, Issue: 99, DOI: 10.1109/TE.2010.2047946, April 2010.
- [J12] X. Li and J-L. Gaudiot, "Tolerating Radiation-Induced Transient Faults in Modern Processors," *International Journal of Parallel Programming*, ISSN 0885-7458 (Print) 1573-7640 (Online), DOI:10.1007/s10766-009-0114-9, Volume 38, Issue 2, Page 85, April 2010.
- [J13] S. Liu and J-L. Gaudiot, "Potential Impact of Value Prediction on Communication in Many-Core Architectures," *IEEE Transactions on Computers*, DOI:10.1109/TC.2009.28, Vol. 58, No. 6, pp. 759-769, June 2009.
- [J14] W.W. Ro and J-L. Gaudiot, "A Complexity-Effective Microprocessor Design with Decoupled Dispatch Queues and Prefetching Parallel Computing," *Parallel Computing*, DOI:10.1016/j.parco.2008.12.008, pp. 255-268, May 2009.
- [J15] W.W. Ro and J-L. Gaudiot, "A Low-Complexity Microprocessor Design with Speculative Pre-Execution," *Journal of Systems Architecture*, DOI:10.1016/j.sysarc.2008.05.003, Volume 54, Issue 12, pp. 1101-1112, December 2008.
- [J16] H.H. Wang, K.C. Li, S.H. Lu, C.C. Yang, and J-L. Gaudiot, "Design and Implementation of an Agent Home Scheme Strategy for Prefetch-Based DSM Systems," *International Journal of Parallel Programming*, ISSN 0885-7458 (Print), 1573-7640 (Online), Volume 36, Number 6, pp. 521-542, December 2008.
- [J17] D.S. Kang, C. Liu, and J-L. Gaudiot, "The Impact of Speculative Execution on SMT Processors," *International Journal of Parallel Programming*, ISSN 0885-7458 (Print), 1573-7640 (Online), DOI:10.1007/s10766-007-0052-3, Volume 36, Number 4, pp. 361-385, August 2008.
- [J18] J.Y. Kang, S. Gupta, and J-L. Gaudiot, "An Efficient Data-Distribution Mechanism in a PIM (Processor-In-Memory) Architecture Applied to Motion Estimation," *IEEE Transactions on Computers*, Vol. 57, No. 3, pp. 375-388, March 2008.
- [J19] W. Duan, F. Kuester, J-L. Gaudiot, and O. Hammami, "Automatic Object and Image Alignment using Fourier Descriptors," in *Image and Vision Computing*, Vol 26/9, pp. 1196-1206, January 2008.
- [J20] W.W. Ro, S.P. Crago, A.M. Despain, and J-L. Gaudiot, "Design and Evaluation of a Hierarchical Decoupled Architecture," *Journal of Supercomputing*, Volume 38, Number 3, pp. 237-259, December 2006.
- [J21] C. Shin, S.W. Lee, and J-L. Gaudiot, "Adaptive Dynamic Thread Scheduling for Simultaneous MultiThreaded Architectures with A Detector Thread," *Journal of Parallel and Distributed Computing*, Volume 66, Issue 10, pp. 1304-1321, October 2006.

- [J22] J.Y. Kang and J-L. Gaudiot, "A Simple High-Speed Multiplier Design," *IEEE Transactions on Computers*, Vol. 55, No. 10, October 2006.
- [J23] S.W. Lee and J-L. Gaudiot, "Throttling-Based Resource Management in High Performance Multi-threaded Architectures," *IEEE Transactions on Computers*, Vol. 55, No. 9, pp. 1142-1152, September 2006.
- [J24] W.W. Ro and J-L. Gaudiot, "Speculative Pre-Execution Assisted by Compiler (SPEAR)," *Journal of Parallel and Distributed Computing*, Vol. 66, Issue 8, pp. 1076-1089, August 2006.
- [J25] C. Cérin, M. Koskas, and J-L. Gaudiot, "A Multithreaded SQL Service," *Parallel Processing Letters*, Vol. 16, No. 2, pp. 245-259, June 2006.
- [J26] S.W. Lee, N. Park, and J-L. Gaudiot, "Low Power Microprocessor Design for Embedded Systems," *Proceedings of the Workshop on Embedded System for Ubiquitous Computing (ESUC 2006), in conjunction with Computational Science and Its Applications - ICCSA 2006: International Conference, Glasgow, UK, May 8-11, 2006, Lecture Notes in Computer Science*, Publisher: Springer Berlin / Heidelberg, Volume 3983 / 2006.
- [J27] H-Y. Tseng and J-L. Gaudiot, "Automatic Array Partitioning Based on the Smith Normal Form," *International Journal of Parallel Programming*, Vol. 33, No. 35, pp. 35-56, February 2005.
- [J28] J. Burns and J-L. Gaudiot, "Area and System Clock Effects on SMT/CMP Throughput," *IEEE Transactions on Computers*, Vol. 54, No. 2, pp. 141-152, February 2005.
- [J29] C. Shin, S.W. Lee, and J-L. Gaudiot, "The need for adaptive dynamic thread scheduling in Simultaneous MultiThreading," *Parallel Processing Letters*, Vol. 14, No. 3&4, pp. 327-345, September & December 2004.
- [J30] D.S. Kang and J-L. Gaudiot, "Speculation-Aware Thread Scheduling for Simultaneous Multithreading," *IEE Electronics Letters*, Vol. 40, No.5, pp. 296-298, March 2004.
- [J31] J.W. Woo, J-L. Gaudiot, and A. Wendelborn, "Alias Analysis in Java with Reference-Set Representation for High-Performance Computing," *International Journal on Parallel Programming*, Vol. 32, No.1, February 2004.
- [J32] A. Cristóbal-Salas, A. Tchernykh, J-L. Gaudiot, and W-Y. Lin, "Non-strict execution in parallel and distributed computing," *International Journal of Parallel Programming*, Vol. 31, No.2, pp. 77-105, April 2003.
- [J33] A. Cristóbal-Salas, A. Tchernykh, and J-L. Gaudiot, "Non-strict Evaluation of the FFT Algorithm in Distributed Memory Systems," in *Proceedings of the Recent Advances in Parallel Virtual Machine and Message Passing Interface: Tenth European PVM/MPI User's Group Meeting, Venice, Italy, September 29 - October 2, 2003*, Lecture Notes in Computer Science Publisher: Springer Berlin / Heidelberg, Volume 2840 / 2003.
- [J34] C. Cérin and J-L. Gaudiot, "On a scheme for parallel sorting on heterogeneous clusters," *Future Generation Computer Systems*, Vol. 18, No.3, pp. 353-372, January 2002.
- [J35] J. Burns and J-L. Gaudiot, "SMT layout overhead and scalability," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 13, No. 2, pp. 142-155, February 2002.
- [J36] J.N. Amaral, W-Y. Lin, J-L. Gaudiot, and G.R. Gao, "Exploiting locality in single assignment data structures updated through split-phase transactions," *International Journal of Cluster Computing, Special Issue on Internet Scalability: Advances in Parallel, Distributed, and Mobile Systems*, Vol. 4, Issue 4, 2001.

- [J37] C. Cérin and J-L. Gaudiot, "Benchmarking clusters of workstations through parallel sorting and BSP libraries," *Parallel Processing Letters*, Vol. 11, No. 1, pp. 25-40, March 2001.
- [J38] I. Attali, D. Caromel, Y-S. Chen, J-L. Gaudiot, and A. Wendelborn, "Enhancing functional and irregular parallelism: stateful functions and their semantics," *International Journal of Parallel Programming*, Vol. 29, No. 4, pp. 443-460, 2001.
- [J39] M. Ayed and J-L. Gaudiot, "An efficient heuristic for code partitioning," *Parallel Computing*, 26 (4), pp. 399-426, March 2000.
- [J40] H-Y. Tseng and J-L. Gaudiot, "Communication generation for aligned and Cyclic(K) distributions using integer lattice," *Special issue of the IEEE Transactions on Parallel and Distributed Systems on Compilers and Languages for Parallel and Distributed Computers*, Vol. 10, No. 2, pp. 136-146, February 1999.
- [J41] M. Ayed and J-L. Gaudiot, "Analysis of a heuristic for code partitioning," *Journal of Supercomputing*, High-Performance Computer Design, Analysis, and Use, Volume 12, Number 3, pp. 191-226, May 1998.
- [J42] Y-S. Chen and J-L. Gaudiot, "Implementing parallel branch-and-bound with extended Sisal 2.0," *Parallel Processing Letters*, Volume 8, Number 1, pp. 41-50, March 1998.
- [J43] I. Attali, D. Caromel, Y-S. Chen, J-L. Gaudiot, and A. Wendelborn, "Formal semantics of Sisal arrays," *Journal of Computer and Information Science*, 1998.
- [J44] S. Jenks and J-L. Gaudiot, "Exploiting locality and tolerating remote memory access latency using thread migration," *International Journal of Parallel Programming*, 25(4), pp. 281-304, August 1997.
- [J45] A. Sohn, M. Sato, N. Yoo, and J-L. Gaudiot, "Data and workload distribution in a multithreaded architecture," *Journal of Parallel and Distributed Processing*, Vol. 40, No. 2, pp. 256-264, February 1997.
- [J46] C. Kim, J-L. Gaudiot, and W. Proskurowski, "Parallel computing with the SISAL functional language: programmability and performance issues," *Software, Practice and Experience*, Vol. 26, No. 9, pp. 1025-1051, September 1996.
- [J47] P. Evripidou and J-L. Gaudiot, "Incorporating Input/Output operations in a dynamic data-driven environment," *Parallel Computing*, Vol. 21, No. 8, pp. 1285-1311, August 1995.
- [J48] S. Shams and J-L. Gaudiot, "Implementing regularly structured neural networks on the DREAM machine," *IEEE Transactions on Neural Networks*, Vol. 6, No. 2, pp. 407-421, March 1995.
- [J49] W. Najjar and J-L. Gaudiot, "Network resilience: a measure of network fault-tolerance (Authors' reply)," *IEEE Transactions on Computers*, Vol. 43, No. 12, pp. 1451-1453, December 1994.
- [J50] S. Shams and J-L. Gaudiot, "Parallel implementations of neural networks," *International Journal on Artificial Intelligence Tools*, Vol. 2, No. 4, pp. 557-581, April 1993.
- [J51] P. Evripidou and J-L. Gaudiot, "Block scheduling of iterative algorithms and graph-level priority scheduling in a simulated data-flow multiprocessor," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 4, No. 4, pp. 398-413, April 1993.
- [J52] A. Sohn and J-L. Gaudiot, "Learning legal moves in planning problems: a connectionist approach to examining legal moves in the Tower-of-Hanoi," *International Journal on Engineering Applications of Artificial Intelligence*, pp. 239-245, March 1992.

- [J53] A. Sohn and J-L. Gaudiot, "A survey on the state-of-the-art research in parallel processing of production systems," *International Journal on Artificial Intelligence Tools*, pp. 279-331, January 1992.
- [J54] W. Najjar and J-L. Gaudiot, "Scalability analysis in gracefully degradable large systems," *IEEE Transactions on Reliability*, Vol. 40, No. 2, pp. 189-197, June 1991.
- [J55] A. Sohn and J-L. Gaudiot, "Representing and processing production systems in connectionist architectures," *International Journal of Pattern Recognition and Artificial Intelligence*, Vol. 4, No. 2, pp. 199-214, June 1990.
- [J56] W. Najjar and J-L. Gaudiot, "Network resilience: a measure of network fault-tolerance," *IEEE Transactions on Computers*, Vol. 39, No.2, pp. 174-181, February 1990.
- [J57] M.E. Exum and J-L. Gaudiot, "Network design and allocation considerations in the Hughes Data-Flow Machine," *Parallel Computing*, Vol. 13, No. 1, pp. 17-34, 1990.
- [J58] J-L. Gaudiot and A. Sohn, "Data-driven parallel production systems," *IEEE Transactions on Software Engineering*, Vol.16, No.3, pp. 281-293, March 1990.
- [J59] J-L. Gaudiot and Y-H. Wei, "Token relabeling in a tagged token data-flow architecture," *IEEE Transactions on Computers*, Vol. 38, No. 9, pp. 1225-1239, September 1989.
- [J60] J-L. Gaudiot and L-T. Lee, "Occamflow: A methodology for programming multiprocessor systems," *Journal of Parallel and Distributed Computing*, Vol. 7, No. 1, pp. 96-124, August 1989.
- [J61] O. Kremer and J-L. Gaudiot, "An architecture for parallel matching in a Prolog programming environment," *Computer Systems Science and Engineering*, Vol. 4, No. 1, pp. 19-26, January 1989.
- [J62] Y-H. Wei and J-L. Gaudiot, "Demand-driven interpretation of FP programs on a data-flow multiprocessor," *IEEE Transactions on Computers*, Vol. 37, No. 8, pp. 946-966, August 1988.
- [J63] J-L. Gaudiot, J.I. Pi, and M. Campbell, "Program graph allocation in distributed multicomputers," *Parallel Computing*, Vol. 7, pp. 227-247, June 1988.
- [J64] W. Najjar, J-L. Jezouin, and J-L. Gaudiot, "Parallel discrete-event simulation," *IEEE Design and Test of Computers*, pp. 41-44, December 1987.
- [J65] J-L. Gaudiot, "Data-driven multicomputers in digital signal processing," *Proceedings of the IEEE, Special Issue on Hardware and Software for Digital Signal Processing*, Vol. 75, NO. 9, pp. 1220-1234, September 1987.
- [J66] J-L. Gaudiot and Y-H. Wei, "Performance evaluation of structure access schemes in data-flow systems," *Journal of Future Computer Systems*, Vol. 2, No. 1, pp. 1-33, January 1987.
- [J67] J-L. Gaudiot, M. Dubois, L-T. Lee, and N. Tohmé, "The TX16: A highly programmable multiprocessor architecture," Feature Article in *IEEE Micro, Special Issue on Multiprocessing*, Vol. 6, No. 5, pp. 18-31, October 1986.
- [J68] J-L. Gaudiot, "Structure handling in data-flow systems," *IEEE Transactions on Computers*, Vol. 35, No. 6, pp. 489-502, June 1986.
- [J69] J-L. Gaudiot, R. Vedder, G. Tucker, M. Campbell, and D. Finn, "A distributed VLSI architecture for efficient signal and data processing," *IEEE Transactions on Computers*, Vol. 34, No. 12, pp. 1072-1087, December 1985.

- [J70] J-L. Gaudiot and M.D. Ercegovac, "Performance evaluation of a simulated data-flow computer with low-resolution actors," *Journal of Parallel and Distributed Computing*, Vol. 2, pp. 321-351, November 1985.
-

Conference Publications

- [C1] J. Tang, S. Liu, Z. Gu, C. Liu and J-L. Gaudiot, "Memory-Side Acceleration for XML Parsing," in *Proceedings of the Eighth IFIP International Conference on Networking and Parallel Computing (NPC 2011)*, Changsha, Hunan, P.R. China, October 21-23, 2011.
- [C2] J. Chang, C. Liu, S. Liu, and J-L. Gaudiot, "Workload Characterization of Cryptography Algorithms for Hardware Acceleration," in *Proceedings of the Second ACM International Conference on Performance Engineering (ICPE 2011)*, Karlsruhe, Germany, March 14-16, 2011.
- [C3] J K-T. Chang, C. Liu, S. Liu, and J-L. Gaudiot, "The Performance Analysis and Hardware Acceleration of Crypto-Computations for Enhanced Security," in *Proceedings of the 16th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC'10)*, Tokyo, Japan, December 13-15, 2010.
- [C4] S. Liu, C. Eisenbeis, and J-L. Gaudiot, "A Theoretical Framework for Value Prediction in Parallel Systems," in *Proceedings of the Thirty Ninth International Conference on Parallel Processing*, San Diego, California, September 13-16, 2010.
- [C5] S. Liu, C. Eisenbeis, and J-L. Gaudiot, "Speculative Execution on GPU: An Exploratory Study," in *Proceedings of the Thirty Ninth International Conference on Parallel Processing*, San Diego, California, September 13-16, 2010.
- [C6] X. Wu, J-J. Han, and J-L. Gaudiot, "Energy-Efficient Scheduling of Real-Time Periodic Tasks in Multicore Systems," in *Proceedings of the 2010 IFIP International Conference on Networks and Parallel Computing (NPC 2010)*, Zhengzhou, P.R. China, September 13-15, 2010.
- [C7] P. Nistler and J-L. Gaudiot, "Efficient Scheduling for Hard Real-Time Systems on Multiprocessor Platforms," in *Proceedings of the 2010 IFIP International Conference on Networks and Parallel Computing (NPC 2010)*, Zhengzhou, P.R. China, September 13-15, 2010.
- [C8] J. Tang, S. Liu, X.-F. Li, Z. Gu, and J-L. Gaudiot, "Hardware-Assisted Middleware: Acceleration of Garbage Collection Operations," in *Proceedings of the Twenty First IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP 2010)*, Rennes, France , July 7-9, 2010.
- [C9] S. Liu, R. N. Pittman, A. Forin, and J-L. Gaudiot, "On Energy Efficiency of Reconfigurable Systems with Run-Time Partial Reconfiguration," in *Proceedings of the Twenty First IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP 2010)*, Rennes, France , July 7-9, 2010.
- [C10] S. Liu, C. Deng, X-F. Li, and J-L. Gaudiot, "RHE: A Lightweight JVM Instructional Tool," in *Proceedings of IEEE Computer Software and Applications Conference (COMP-SAC 2009)*, Seattle, Washington, July 20-24, 2009.
- [C11] C. Liu and J-L. Gaudiot, "The Impact of Resource Sharing Control on the Design of Multicore Processors," in *Proceedings of the 2009 International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP09)*, Taipei, Taiwan, June 8-11, 2009.

- [C12] S. Liu, L. Wang, X-F. Li, and J-L. Gaudiot, "Space-and-Time Efficient Garbage Collectors for Parallel Systems," in *Proceedings of the 2009 ACM International Conference on Computing Frontiers (CF 2009)*, Ischia, Italy, May 18-20, 2009.
- [C13] S. Liu and J-L. Gaudiot, "Value Prediction in Modern Many-Core Systems," in *Proceedings of the Twenty Third IEEE International Parallel and Distributed Processing Symposium*, TCPP-Ph.D. Forum, Rome, Italy, May 25-29, 2009.
- [C14] S. Liu, L. Wang, J-L. Gaudiot, and X.F. Li, "Packer: an Innovative Space-Time-Efficient Parallel Garbage Collection Algorithm Based on Virtual Spaces," in *Proceedings of the Twenty Third IEEE International Parallel and Distributed Processing Symposium*, Rome, Italy, May 25-29, 2009.
- [C15] H. Homayoun, A. Veidenbaum, and J-L. Gaudiot, "Adaptive Techniques for Leakage Power Management in L2 Cache Peripheral Circuits," in *Proceedings of the XXVI IEEE International Conference on Computer Design (ICCD 2008)*, Lake Tahoe, California, October 12-15, 2008.
- [C16] C. Liu and J-L. Gaudiot, "Resource Sharing Control in Simultaneous MultiThreading Microarchitectures," in *Proceedings of the Thirteenth IEEE Asia-Pacific Computer Systems Architecture Conference (ACSAC 2008)*, Hsinchu, Taiwan, August 4-6, 2008.
- [C17] S. Liu and J-L. Gaudiot, "The Potential of Fine-Grained Value Prediction in Enhancing the Performance of Modern Parallel Machines," in *Proceedings of the Thirteenth IEEE Asia-Pacific Computer Systems Architecture Conference (ACSAC 2008)*, Hsinchu, Taiwan, August 4-6, 2008 (Best Paper Award).
- [C18] H. Homayoun, M. Makhzan, J-L. Gaudiot, and A. Veidenbaum, "A Centralized Cache Miss Driven Technique to Improve Processor Power Dissipation," in *Proceedings of the International Conference on Embedded Computer Systems: Architectures, Modeling, and Simulation (IC-SAMOS)*, Samos, Greece, July 21-24, 2008.
- [C19] K. Yi and J-L. Gaudiot, "Architectural Implications of Cache Coherence Protocols with Network Applications on Chip MultiProcessors," in *Proceedings of the 2007 IFIP International Conference on Networks and Parallel Computing (NPC 2007)*, Dalian, P.R. China, September 18-21, 2007.
- [C20] S. Liu and J-L. Gaudiot, "Synchronization Mechanisms on Modern Multi-Core Architectures," (*Invited paper*) in *Proceedings of the Twelfth Asia-Pacific Computer Systems Architecture Conference (ACSAC 2007)*, Seoul, Korea, August 23-25, 2007.
- [C21] K. Yi and J-L. Gaudiot, "Architectural Support for Network Applications on Simultaneous MultiThreading Processors," in *Proceedings of the Twenty First International Parallel and Distributed Processing Symposium (IPDPS 2007)*, Long Beach, California, March 26-30, 2007.
- [C22] X. Li and J-L. Gaudiot, "Design Tradeoffs and Deadlock Prevention in Transient Fault-Tolerance SMT Processors," in *Proceedings of the Twelfth IEEE International Symposium Pacific Rim Dependable Computing (PRDC'06)*, Riverside, California, December 18-20, 2006.
- [C23] K. Yi and J-L. Gaudiot, "Features of Future Network Processor Architectures," in *Proceedings of the IEEE 2006 John Vincent Atanasoff International Symposium on Modern Computing (JVA 2006)*, Sofia, Bulgaria, October 3-6, 2006.
- [C24] S. Liu, J-L. Gaudiot, and V. Cristini, "Prototyping Virtual Cancer Therapist(VCT): A Software Engineering Approach," in *Proceedings of the 2006 Engineering in Medicine and Biology Conference*, New York, New York, August 30 - September 3, 2006.

- [C25] W. W. Ro and J-L. Gaudiot, "Design and Effectiveness of Small-Sized Decoupled Dispatch Queues," in *Proceedings of the 2006 European Conference on Parallel Computing (Euro-Par 2006)*, Dresden, Germany, August 28 - September 1, 2006.
- [C26] S. Liu and J-L. Gaudiot, "DNA-based Killer Automaton: the Innovative Nanomedicine," in *Proceedings of 2006 NSTI Nanotechnology Conference and Trade Show (Nanotech 2006)*, Boston, Massachusetts, USA, May 7-11, 2006.
- [C27] W.W. Ro and J-L. Gaudiot, "A Low-Complexity Issue Queue Design with Speculative Pre-Execution," in *Proceedings of the 2005 International Conference on High Performance Computing (HiPC 2005)*, Goa, India, December 18-21, 2005.
- [C28] C. Liu and J-L. Gaudiot, "Static Partitioning vs Dynamic Sharing of Resources in Simultaneous MultiThreading Microarchitectures," in *Proceedings of the Sixth International Workshop on Advanced Parallel Processing Technologies (APPT'05), Hong Kong, PRC, October 27-28, 2005, Lecture Notes in Computer Science*, Publisher: Springer Berlin / Heidelberg, Volume 3756, pp. 81-90 / 2005.
- [C29] J-Y. Kang and J-L. Gaudiot, "A Logarithmic Time Method for Two's Complementation," in *Proceedings of the 2005 International Conference on Computational Science (ICCS 2005)*, Atlanta, Georgia, May 22-25, 2005.
- [C30] A. Cristóbal-Salas, J-L. Gaudiot, C. Jáuregui-Romo, E. Herrán-Paz, and A. Rodríguez-Daz, "Blood circulation simulation using a distributed decentralized-control design," in *Proceedings of the 2005 International Conference on Simulation in Education (ICSiE'05), part of the 2005 Western Simulation Multiconference (WesternSim'05)*, New Orleans, Louisiana, January 23-27, 2005.
- [C31] C-T. Yang , Y-L. Kuo, K-C. Li, and J-L. Gaudiot, "On the Design of Cluster and Grid Computing Environment Toolkit for Bioinformatics Applications," in *Proceedings of Distributed Computing - IWDC 2004: Sixth International Workshop*, Kolkata, India, December 27-30, 2004.
- [C32] I. Kim, J-L. Gaudiot, and J. Draper, "Network interface buffer management with shadow addressing for avoiding cachable device register reuse overheads," in *Proceedings of the Second International Symposium on Parallel Distributed Processing and Applications*, Hong-Kong, China, December 13-15, 2004.
- [C33] J-Y. Kang, S. Gupta, and J-L. Gaudiot, "An Efficient PIM (Processor-In-Memory) Architecture for BLAST," in *Proceedings of the Thirty Eighth Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 7-10, 2004.
- [C34] A. Cristóbal-Salas, A. Chernykh, E. Rodríguez-Alcantar, and J-L. Gaudiot, "Exploiting single-assignment properties to optimize message-passing programs by code transformations," in *Proceedings of the Sixteenth International Workshop on Implementation and Application of Functional Languages (IFL'04)*, Lübeck, Germany, September 8-10, 2004.
- [C35] X. Li and J-L. Gaudiot, "A compiler-assisted on-Chip assigned-signature control flow checking," in *Proceedings of the Ninth Asia-Pacific Computer Systems Architecture Conference (ACSAC'04)*, Beijing, P.R. China, September 7-9, 2004.
- [C36] J-Y. Kang and J-L. Gaudiot, "A fast and well structured multiplier," in *Proceedings of the EUROMICRO Symposium on Digital System Design Architectures, Methods and Tools*, Rennes, France, August 31-September 2, 2004.
- [C37] J-Y. Kang, S. Gupta and J-L. Gaudiot, "Accelerating the kernels of BLAST with an efficient PIM (processor-in-memory) architecture," in *Proceedings of the Computational Systems Bioinformatics Conference (CSB 2004)*, Palo Alto, California, August 16-19, 2004.

- [C38] D.S. Kang and J-L. Gaudiot, "Speculation Control for Simultaneous Multithreading," in *Proceedings of the Eighteenth International Parallel and Distributed Processing Symposium (IPDPS 2004)*, Santa Fe, New Mexico, April 26-30, 2004.
- [C39] W.W. Ro and J-L. Gaudiot, "SPEAR: A Hybrid Model for Speculative Pre-Execution," in *Proceedings of Eighteenth International Parallel and Distributed Processing Symposium (IPDPS 2004)*, Santa Fe, New Mexico, April 26-30, 2004.
- [C40] K.C. Li, H.H. Wang, and J-L. Gaudiot, "A Strategy for Point-to-point Node Communication Performance Prediction in Cluster Environments," in *Proceedings of the National Computer Symposium (NCS '2003)*, Taiwan, December 2003.
- [C41] I. Kim, J-L. Gaudiot, and J. Draper, "Asynchronous Event Handler Spawning using Communication Thread Cache," in *Proceedings of the Second Workshop on Application Specific Processors (WASP'03)*, held in conjunction with the 36th International Symposium on Microarchitecture (MICRO), San Diego, December 2, 2003.
- [C42] S-W. Lee and J-L. Gaudiot, "Clustered microarchitecture Simultaneous MultiThreading," in *Proceedings of Euro-Par 2003 International Conference on Parallel and Distributed Computing*, Klagenfurt, Austria, August 26-29, 2003.
- [C43] J-Y. Kang, S. Gupta, S. Shah, and J-L. Gaudiot, "An efficient PIM (Processor-In-Memory) architecture for motion estimation," in *Proceedings of the Fourteenth International Conference on Application-specific Systems, Architectures and Processors (ASAP)*, The Hague, The Netherlands, pp. 273-283, June 24-26, 2003.
- [C44] H.M. de Oliveira, J.M. Laine, E.T. Midorikawa, L.M. Sato, K.C. Li, and J-L. Gaudiot, "Modeling and predicting point-to-point communication of MPI programs in NOW environments," in *Proceedings of the 2003 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA)*, Las Vegas, Nevada, June 23-26, 2003.
- [C45] C. Shin, S-W. Lee, and J-L. Gaudiot, "Dynamic scheduling issues in SMT architectures," in *Proceedings of the Seventeenth International Parallel and Distributed Processing Symposium (IPDPS)*, Nice, France, April 22-26, 2003.
- [C46] W.W. Ro, J-L. Gaudiot, S. Crago, and A. Despain, "HiDISC: A decoupled architecture for data-intensive applications," in *Proceedings of the Seventeenth International Parallel and Distributed Processing Symposium (IPDPS)*, Nice, France, April 22-26, 2003.
- [C47] S. Jenks and J-L. Gaudiot, "A multithreaded runtime system with thread migration for distributed memory parallel computing," in *Proceedings of Advanced Simulation Technologies Conference*, Orlando, Florida, March 2003.
- [C48] W.W. Ro and J-L. Gaudiot, "Compiler support for dynamic speculative pre-execution," in *Proceedings of the Seventh Annual Workshop on Interaction between Compilers and Computer Architecture (INTERACT-7)*, pp. 14-23, Anaheim, California, February 2003.
- [C49] K.C. Li, J-L. Gaudiot, and L.M. Sato, "Performance prediction methodology for parallel programs with MPI in NOW environments," in *Proceedings of the Fourth International Workshop on Distributed Computing, Mobile, and Wireless Computing (IWDC)*, pp. 268-279, Kolkata, India, December 2002.
- [C50] K.C. Li, J-L. Gaudiot, and L.M. Sato, "Performance measurement and prediction of parallel programs for NOW environments using P3MP," in *Proceedings of the IASTED International Conference on Networks, Parallel and Distributed Processing, and Applications (NPDP)*, Tsukuba, Japan, October 2002.

- [C51] C. Shin, S-W. Lee, and J-L. Gaudiot, "The Need for Adaptive Dynamic Thread Scheduling in Simultaneous MultiThreading," in *Proceedings of the First Workshop on Hardware/Software Support for Parallel and Distributed Scientific and Engineering Computing (SPDSEC) in conjunction with the International Conference on Parallel Architectures and Compilation Techniques (PACT)*, Charlottesville, Virginia, September 2002.
- [C52] H.M. Oliveira, J.M. Laine, E.T. Midorikawa, L.M. Sato, K.C. Li, and J-L. Gaudiot, "Performance analysis and prediction of some MPI communication primitives," in *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA)*, Las Vegas, USA, July 2002.
- [C53] K.C. Li, L.M. Sato, and J-L. Gaudiot, "On exploiting a graph-based approach representation for parallel programs with MPI," in *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA)*, Las Vegas, USA, July 2002.
- [C54] S. Jenks and J-L. Gaudiot, "An evaluation of thread migration for exploiting distributed array locality," in *Proceedings of the Sixteenth Annual International Symposium on High Performance Computing Systems and Applications*, pp.190-195, Moncton, New Brunswick, June 2002.
- [C55] J.W. Woo, J. Woo, I. Attali, D. Caromel, J-L. Gaudiot, and A. Wendelborn, "Alias analysis for exceptions in Java," in *Proceedings of the TwentyFifth Australasian Computer Science Conference (ACSC), Conferences in Research and Practice in Information Technology Series*, Vol. 4, pp. 321-329, Melbourne, Victoria, Australia, January 2002.
- [C56] H. El Naga and J-L. Gaudiot, "MCOMA: A multithreaded COMA architecture," in *Proceedings of the International Conference on Circuit Design (ICCD)*, pp. 523-525, Austin, Texas, October 2001.
- [C57] J. Burns and J-L. Gaudiot, "Area and system clock effects on SMT/CMP processors," in *Proceedings of the International Conference on Parallel Architectures and Compilation Techniques (PACT)*, pp. 211-218, Barcelona, Spain, September 2001.
- [C58] K.C. Li, L.M. Sato, and J-L. Gaudiot, "A tool for performance analysis and prediction of parallel computing on NOW," in *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA)*, Las Vegas, Nevada, June 2001.
- [C59] J.W. Woo, J. Woo, I. Attali, D. Caromel, J-L. Gaudiot, and A. Wendelborn, "Alias analysis for Java with reference-set representation," in *Proceedings of the 2001 International Conference on Parallel and Distributed Systems (ICPADS)*, pp. 459-466, KyongJu City, Korea, June 2001.
- [C60] J.W. Woo, I. Attali, D. Caromel, J-L. Gaudiot, and A. Wendelborn, "Alias analysis on type inference for class hierarchy in Java," in *Proceedings of the 2001 Australasian Computer Science Conference (ACSC)*, pp. 206-214, Gold Coast, Australia, January 2001.
- [C61] C. Cérin and J-L. Gaudiot, "Parallel sorting algorithms with sampling techniques on clusters with processors running at different speeds," in *Proceedings of the 2000 International Conference on High Performance Computing*, Bangalore, India, December 2000.
- [C62] J. Burns and J-L. Gaudiot, "SMT fetch bottleneck with multiple block fetch," in *Proceedings of the Workshop on Multi-Threaded Execution, Architecture, and Compilation (MTEAC-4) held in conjunction with the Thirty Third International Symposium on Microarchitecture (MICRO-33)*, Monterey, California, December 2000.

- [C63] A. Bakshi, J-L. Gaudiot, W-Y. Lin, M. Makhija, V.K. Prasanna, W.W. Ro, and C. Shin, "Memory latency: to tolerate or to reduce?," *Invited Paper at the Twelfth Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2000, São Pedro, Brazil, October 24-27, 2000.*
- [C64] S.P. Crago, A.M. Despain, J-L. Gaudiot, M. Makhija, W.W. Ro, and A. Srivastava, "A high-performance, hierarchical decoupled architecture," *Proceedings of the Memory Access DEcoupling for superscalar and multiple issue Architectures (MEDEA) Workshop, Philadelphia, Pennsylvania, October 2000.*
- [C65] A. Cristóbal-Salas, A. Tchernykh, J-L. Gaudiot, and W-Y. Lin, "I-Structure Software Cache, an approach to exploit data locality in cluster computing," in *Proceedings of the 2000 International Workshop on Cluster Computing - Technologies, Environments, and Applications (CC-TEA)*, held in conjunction with PDPTA-2000, Monte Carlo Resort, Las Vegas, Nevada, June 2000.
- [C66] J. Woo, J.W. Woo, and J-L. Gaudiot, "Flow-sensitive alias analysis with referred-set representation for Java," in *Proceedings of the Fourth International Conference/Exhibition on High Performance Computing in Asia-Pacific Region (HPC-ASIA)*, May 2000.
- [C67] C. Cérin and J-L. Gaudiot, "Evaluation of two BSP libraries through parallel sorting on clusters," in *Proceedings of the Second Workshop on Cluster-Based Computing (WCBC)*, Santa Fe, New Mexico, May 2000.
- [C68] W-Y. Lin, J.N. Amaral, J-L. Gaudiot, and G.R. Gao, "Caching single-assignment structures to build a robust fine-grain multithreading system," in *Proceedings of the International Parallel and Distributed Processing Symposium (IPDPS 2000)*, pp. 589-594, Cancún, Mexico, May 1-5, 2000.
- [C69] W-Y. Lin, J-L. Gaudiot, J.N. Amaral, and G.R. Gao, "Performance analysis of the I-Structure Software Cache on multithreading systems," in *Proceedings of the Nineteenth IEEE International Performance, Computing and Communication Conference (IPCCC 2000)*, pp. 83-89, Phoenix, Arizona, Feb. 20-22, 2000.
- [C70] J. Burns and J-L. Gaudiot, "Quantifying the SMT layout overhead - Does SMT pull its weight?," in *Proceedings of the High Performance Computer Architecture Conference (HPCA-6)*, pp. 109-120, Toulouse, France, January 2000.
- [C71] C. Cérin and J-L. Gaudiot, "Algorithms for stable sorting to minimize communications in Networks of Workstations and their implementations in BSP," in *Proceedings of the IEEE International Workshop on Cluster Computing (IWCC)*, pp. 112-120, Melbourne, Australia, December 1999.
- [C72] A. Dandalis, V.K. Prasanna, and J-L. Gaudiot, "Run-time mapping of graph-problem instances onto reconfigurable hardware," in *Proceedings of the 1999 Military and Aerospace Applications of Programmable Devices and Technologies Conference*, June 1999.
- [C73] H.-Y. Tseng and J-L. Gaudiot, "Compiling for efficient communication of aligned arrays with Block-Cyclic distribution," in *Proceedings of the Twenty Second Australasian Computer Science Conference*, Auckland, New Zealand, January 18-21, 1999.
- [C74] J. Burns and J-L. Gaudiot, "Exploring the SMT fetch bottleneck," in *Proceedings of the Workshop on Multi-Threaded Execution, Architecture and Compilation (MTEAC)*, Orlando, Florida, January 1999.
- [C75] H.C. Kim and J-L. Gaudiot, "Flat Indexing: A Compilation Technique to Enhance Parallelism of Logic Programs," in *Proceedings of the 1998 International Conference on Parallel and Distributed Systems (ICPADS)*, pp. 766-774, Taipei, Taiwan, December 1998.

- [C76] H.C. Kim and J-L. Gaudiot, "Parallel implementation of logic programs on a distributed shared multiprocessor system," in *Proceedings of the 1998 International Parallel Computing Workshop (PCW)*, pp. 151-158, Singapore, September 1998.
- [C77] H.C. Kim and J-L. Gaudiot, "The implementation and performance of the TC-Prolog system," in *Proceedings of the International Technical Conference on Circuit/Systems, Computers and Communications (ITC-CSCC)*, Vol. 2, pp. 1151-1155, Sokcho, Korea, July 1998.
- [C78] W-Y. Lin and J-L. Gaudiot, "The design of I-Structure Software Cache systems," in *Proceedings of the 1998 Workshop on Multi-Threaded Execution, Architecture and Compilation (MTEAC)*, Las Vegas, Nevada, Jan. 31 - Feb. 1, 1998.
- [C79] W-Y. Lin and J-L. Gaudiot, "Exploiting global data locality in non-blocking multi-threaded architectures," in *Proceedings of the 1997 International Symposium on Parallel Architectures, Algorithms and Networks (ISPAN)*, pp. 78-84, Taipei, Taiwan, December 1997.
- [C80] H-Y. Tseng and J-L. Gaudiot, "Two techniques for static array partitioning on message-passing parallel machines," in *Proceedings of the International Conference on Parallel Architectures and Compilation Techniques (PACT)*, pp. 225-235, San Francisco, California, October 1997.
- [C81] J-L. Gaudiot, W. Böhm, T. DeBoni, J. Feo, P. Miller, and W. Najjar, "The Sisal model of functional programming and its implementation," in *Proceedings of the Second Aizu International Symposium on Parallel Algorithms/Architectures Synthesis (pAs '97)* (Invited paper), pp. 112-123, Aizu-Wakamatsu, Japan, March 1997.
- [C82] H-Y. Tseng and J-L. Gaudiot, "A compiler strategy for generating efficient communication based on array distribution directives," in *Proceedings of the Third International Conference on Computer Science and Informatics (CS&I '97)*, Research Triangle Park, North Carolina, March 1997.
- [C83] Y-S. Chen and J-L. Gaudiot, "Semantics specification of extended Sisal 2.0 in the Centaur system," in *Proceedings of the 1996 International Conference on Parallel and Distributed Computing and Systems (ICPP)*, Chicago, Illinois, October 1996.
- [C84] Y-S. Chen and J-L. Gaudiot, "Extending functional languages with stateful computations," in *Proceedings of the 1996 Symposium on Parallel and Distributed Processing (SPDP)*, pp. 542-549, New Orleans, Louisiana, October 1996.
- [C85] S. Jenks and J-L. Gaudiot, "Nomadic Threads - A migrating multithreaded approach to remote memory accesses in multiprocessors," in *Proceedings of the International Conference on Parallel Architectures and Compilation Techniques (PACT)*, pp. 2-11, Boston, Massachusetts, October 1996.
- [C86] W-Y. Lin and J-L. Gaudiot, "I-Structure Software Cache - A split-phase transaction runtime cache system," in *Proceedings of the International Conference on Parallel Architectures and Compilation Techniques (PACT)*, pp. 122-126, Boston, Massachusetts, October 1996.
- [C87] D.K. Yoon and J-L. Gaudiot, "Worker-based parallel computing on PVM," in *Proceedings of Euro-Par 1996 International Conference on Parallel and Distributed Computing*, Vol. 1, pp. 506-509, Lyon, France, August 1996.
- [C88] Y-S. Chen and J-L. Gaudiot, "An application of extended Sisal 2.0," in *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA)*, Vol. 1, pp. 245-251, Sunnyvale, California, August 1996.

- [C89] J-L. Gaudiot and C-T. Cheng, "A scalable cache design for I-structures in multithreaded architectures," in *Proceedings of the 1996 International Conference on Parallel Processing (ICPP)*, pp. 263-266, Bloomingdale, Illinois, August 1996.
- [C90] A. Sohn, M. Sato, N. Yoo, and J-L. Gaudiot, "Effects of multithreading on data and workload distribution for distributed-memory multiprocessors," in *Proceedings of the Tenth International Parallel Processing Symposium (IPPS)*, pp. 116-122, Honolulu, Hawaii, April 1996.
- [C91] I. Attali, D. Caromel, Y-S. Chen, J-L. Gaudiot, and A. Wendelborn, "A formal semantics for Sisal arrays," in *Proceedings of the 1995 Joint Conference on Information Sciences*, Wrightsville Beach, North Carolina, September 1995.
- [C92] Y-S. Chen and J-L. Gaudiot, "Parallelism detection algorithm for extended Sisal programs in Centaur," in *Proceedings of the Eighth International Conference on Parallel and Distributed Computing Systems*, Orlando, Florida, September 1995.
- [C93] S. Mabry and J-L. Gaudiot, "Distributed Parallel Object-oriented Environment for Traffic Simulation (POETS)," in *Proceedings of the Winter Simulation Conference*, pp. 1093-1100, Orlando, Florida, December 1994.
- [C94] H.C. Kim and J-L. Gaudiot, "Exploitation of fine-grain parallelism in logic languages on massively parallel architectures," in *Proceedings of the IFIP WG10.3 Working Conference on Parallel Architectures and Compilation Techniques (PACT)*, pp. 225-234, Montréal, Canada, August 1994.
- [C95] C. Kim and J-L. Gaudiot, "A hierarchical activation management technique," in *Proceedings of the 1994 Conference on Parallel ARchitectures and Languages Europe (PARLE)*, pp. 577-588, Athens, Greece, July 1994.
- [C96] C. Kim and J-L. Gaudiot, "A direct array injection technique in a fine-grain multithreading execution model," in *Proceedings of the International Parallel Processing Symposium (IPPS)*, pp. 187-194, Cancún, Mexico, April 1994.
- [C97] A. Sohn, J-L. Gaudiot, M. Sato, S. Sakai, Y. Kodama, and Y. Yamaguchi, "Performance studies of the EM-4 multithreaded multiprocessor on nonnumeric problems: preliminary report," in *Proceedings of the 1994 Simulation Multiconference on Grand Challenges in Computer Simulation*, pp. 264-269, San Diego, California, April 1994.
- [C98] C. Kim, J-L. Gaudiot, and W. Proskurowski, "Programmability and performance issues: the case of an iterative partial differential equation solver," in *Proceedings of the 3rd Sisal Users Conference (SISAL '93)*, San Diego, California, October 1993.
- [C99] J-L. Gaudiot, H-C. Kim, and R.E. Stumberger, "Data-driven execution of logic languages," in *Proceedings of the 1993 ICLP '93 Post-Conference Workshop on Concurrent, Distributed and Parallel Implementations of Logic Programming Systems*, Budapest, Hungary, June 1993.
- [C100] J-L. Gaudiot, H-C. Kim, R.E. Liuzzi, C.A. Montgomery, and R.E. Stumberger, "Programming parallel architectures for knowledge-based applications," in *Proceedings of the 1993 Third Annual Mohawk Valley IEEE DUAL-USE Technologies and Applications Conference*, Utica, New York, May 1993.
- [C101] W.A. Tackett and J-L. Gaudiot, "Adaptation of self-replicating organisms," in *Proceedings of the International Joint Conference on Neural Networks*, Beijing, China, November 1992.

- [C102] J-L. Gaudiot and G. Ventre, "A system for data-driven programming of multicomputers," in *Proceedings of the Fourth Brazilian Symposium in Computer Architectures, High Performance Computing (Simpósio Brasileiro de Arquitetura de Computadores e Processamento de Alto Desempenho - SBAC-PAD)*, São Paulo, Brazil, October 1992.
- [C103] D.K. Yoon and J-L. Gaudiot, "Programming and evaluating the performance of signal processing applications in the SISAL programming environment," in *Proceedings of the Second SISAL Users Conference*, pp. 67-82, San Diego, California, October 1992.
- [C104] A. Sohn and J-L. Gaudiot, "Parallelism analysis of the Tower-of-Hanoi on the Sequent Symmetry shared memory multiprocessor," in *Proceedings of the Second Pacific Rim International Conference on Artificial Intelligence*, Seoul, Korea, September 1992.
- [C105] S. Shams and J-L. Gaudiot, "Efficient implementation of neural networks on the DREAM machine," in *Proceedings of the Eleventh IAPR International Conference on Pattern Recognition, Vol. IV, Conference D: Architectures for Vision and Pattern Recognition*, pp. 204-208, The Hague, The Netherlands, August 30 - September 3, 1992.
- [C106] A. Sohn, J-L. Gaudiot, and M. Guyot, "Parallelism profile of an Ops5 production system interpreter," in *Proceedings of the Fourth International Conference on Software Engineering and Knowledge Engineering*, pp. 534-543, Capri, Italy, June 1992.
- [C107] J-L. Gaudiot and H.C. Kim, "Concurrent logic programming language on a data-driven architecture," in *Proceedings of the 1992 Workshop on Future Directions of Parallel Programming and Architecture*, Tokyo, Japan, June 1992.
- [C108] A. Sohn and J-L. Gaudiot, "Performance evaluation of the Multiple Root Node Approach to the Rete Pattern Matcher for Production Systems," in *Proceedings of the 1992 Fifth Generation Computer Systems Conference (FGCS)*, Vol. 2, pp. 977-986, Tokyo, Japan, June 1992.
- [C109] J-L. Gaudiot and C-M. Lin, "Performance measurements of linear systems solvers on data-driven multiprocessor systems," in *Proceedings of Parallel Computing '91*, London, United Kingdom, September 1991.
- [C110] A. Sohn and J-L. Gaudiot, "A macro actor/token implementation of production systems on a data-flow multiprocessor," in *Proceedings of the Twelfth International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 36-41, Sydney, Australia, August 1991.
- [C111] J-L. Gaudiot, C.A. Montgomery, and R.E. Stumberger, "Data-driven execution of natural language parsing," in *Proceedings of the First International Workshop on Parallel Processing for Artificial Intelligence Applications*, Sydney, Australia, August 1991.
- [C112] S. Shams and J-L. Gaudiot, "Parallel Methods for Implementations of Neural Networks," in *Proceedings of the Seattle International Joint Conference on Neural Networks (IJCNN'91)*, Vol. 2, pp. 988, Seattle, Washington, July 1991.
- [C113] C. Kim and J-L. Gaudiot, "A scheme to extract run-time parallelism from sequential loops," in *Proceedings of the 1991 ACM International Conference on Supercomputing (ICS)*, Cologne, Germany, June 1991.
- [C114] J-L. Gaudiot and C-M. Lin, "Chaotic linear system solvers in a variable-grain data-driven multiprocessor systems," in *Proceedings of the Conference on Parallel Architectures and Languages Europe (PARLE)*, Vol. 2, pp. 331-348, Eindhoven, The Netherlands, June 1991.
- [C115] P. Evripidou and J-L. Gaudiot, "Input/Output operations for hybrid data-flow/control-flow systems," in *Proceedings of the Fifth International Parallel Processing Symposium (IPPS)*, pp. 318-323, Anaheim, California, April 1991.

- [C116] P. Evripidou and J-L. Gaudiot, "Distributed Input/Output processing in data-driven multiprocessors," in *Proceedings of the Second IEEE Symposium on Parallel and Distributed Processing (SPDP)*, pp. 326-333, Dallas, Texas, December 1990.
- [C117] A. Sohn and J-L. Gaudiot, "A connectionist approach to learning legal moves in Tower-of-Hanoi," in *Proceedings of the Second International Conference on Tools for Artificial Intelligence*, pp. 366-371, Herndon, Virginia, November 1990.
- [C118] P. Evripidou and J-L. Gaudiot, "A decoupled data-driven architecture with vectors and macro actors," in *Proceedings of the VAPP-CONPAR '90 Joint Conference on Vector and Parallel Processing*, pp. 39-50, Zürich, Switzerland, September 1990.
- [C119] A. Sohn and J-L. Gaudiot, "Data-driven production systems: A macro actor/token implementation," in *Proceedings of the Fifth International Symposium on Intelligent Control*, pp. 327-332, Philadelphia, Pennsylvania, September 1990.
- [C120] P. Evripidou and J-L. Gaudiot, "A decoupled graph/computation data-driven architecture with variable resolution actors," in *Proceedings of the 1990 International Conference on Parallel Processing (ICPP)*, Vol. 1, pp. 405-414, St Charles, Illinois, August 1990.
- [C121] Y-H. Wei and J-L. Gaudiot, "Compiling programs to direct access data-flow graphs," in *Proceedings of the 1990 International Conference on Parallel Processing (ICPP)*, Vol. 2, pp. 65-69, St Charles, Illinois, August 1990.
- [C122] J-L. Gaudiot, L-T. Lee, and P. Aubrée, "Data-driven approach for programming a transputer-based system," in *Proceedings of Comcon Spring '90, Intellectual Leverage, Digest of Papers, Thirty Fifth IEEE Computer Society International Conference*, pp. 94-99, San Francisco, California, February 26 - March 2, 1990.
- [C123] A. Sohn and J-L. Gaudiot, "Connectionist production systems in local representation," in *Proceedings of the Fourth IEEE International Joint Conference on Neural Networks (IJCNN), Vol. 2: Application Track*, pp. II-199-II-202, Washington, D.C., January 1990.
- [C124] J-L. Gaudiot and C-M. Lin, "Performance of asynchronous algorithms in multi-level data-driven systems," in *Proceedings of the IFIP Working Group 10.3 Working Conference on Decentralized Systems*, Lyon, France, December 1989.
- [C125] J-L. Gaudiot and W. Najjar, "Limits on Scalability in Gracefully Degradable Large-Scale Systems," in *Proceedings of the Eighth Symposium on Reliable Distributed Systems*, pp. 148-157, Seattle, Washington, October 1989.
- [C126] A. Sohn and J-L. Gaudiot, "Multilayer of ring-structured feedback network for production system processing," in *Proceedings of the 1989 IEEE International Workshop on Tools for Artificial Intelligence, Architectures, Languages and Algorithms*, pp. 457-464, Herndon, Virginia, October 1989.
- [C127] P. Evripidou and J-L. Gaudiot, "Some scheduling techniques for numerical algorithms in a simulated data-flow multiprocessor," in *Proceedings of Parallel Computing '89*, Leiden, The Netherlands, August 1989.
- [C128] P. Evripidou, W. Najjar, and J-L. Gaudiot, "A single-assignment language in a distributed memory multiprocessor," in *Proceedings of the Conference on Parallel Architectures and Languages Europe (PARLE)*, Vol. 2, pp. 304-320, Eindhoven, the Netherlands, June 1989.
- [C129] C-M. Lin, W. Proskurowski, and J-L. Gaudiot, "A parallel multigrid method for data-driven multiprocessor systems," in *Proceedings of the Fourth Copper Mountain Conference on Multigrid Methods*, Copper Mountain, Colorado, April 1989.

- [C130] J-L. Gaudiot, "Parallel computing: One opportunity, four challenges," in *Proceedings of the Fifth IEEE Conference on Data Engineering*, pp. 482-484, Los Angeles, California, February 1989.
- [C131] Y-H. Wei and J-L. Gaudiot, "Lazy evaluation of FP programs: a data-flow approach," in *Proceedings of the International Conference on Fifth Generation Computer Systems 1988 (FGCS)*, pp. 658-665, Tokyo, Japan, November 1988.
- [C132] J-L. Gaudiot, C. von der Malsburg, and S. Shams, "A data-flow implementation of a neurocomputer for pattern recognition applications," in *Proceedings of the 1988 Aerospace Applications of Artificial Intelligence Conference*, Dayton, Ohio, October 1988.
- [C133] W. Najjar and J-L. Gaudiot, "Reliability considerations in large-scale computing systems," in *Proceedings of the Second Symposium on Massively Parallel Computation*, pp. 507-510, Fairfax, Virginia, October 1988.
- [C134] J-L. Gaudiot, S.H. Lee, and A. Sohn, "Data-driven multiprocessor implementation of the Rete match algorithm," in *Proceedings of the 1988 International Conference on Parallel Processing (ICPP), Volume I: Architecture*, pp. 256-260, St Charles, Illinois, August 1988.
- [C135] P. Evripidou and J-L. Gaudiot, "Iterative algorithms in a data-driven environment," in *Proceedings of the 1988 International Conference on Parallel Processing (ICPP), Volume I: Architecture*, pp. 244-248, St Charles, Illinois, August 1988.
- [C136] W. Najjar and J-L. Gaudiot, "Network disconnection in distributed systems," in *Proceedings of the Eighth International Conference on Distributed Computing Systems*, pp. 554-561, San Jose, California, June 1988.
- [C137] J-L. Gaudiot, C-M. Lin, and M. Hosseiniyar, "Solving partial differential equations in a data-driven multiprocessor environment," in *Proceedings of the Fifteenth Annual International Symposium on Computer Architecture (ISCA)*, pp. 223-230, Honolulu, Hawaii, May 1988.
- [C138] J-L. Gaudiot and W. Najjar, "Macro-actor execution on multilevel data-driven architectures," in *Proceedings of the IFIP Working Group 10.3 Working Conference on Parallel Processing*, Pisa, Italy, April 1988.
- [C139] Y-H. Wei and J-L. Gaudiot, "Transformation of numerical algorithms for data-flow processing," in *Proceedings of the Twenty First Annual Hawaii International Conference on System Sciences (HICSS), Vol.I. Architecture Track*, pp. 301-310, Hilo, Hawaii, January 1988.
- [C140] W. Najjar and J-L. Gaudiot, "A hierarchical data-driven model for multigrid problem solvers," in *Proceedings of the International Symposium on High Performance Computer Systems*, Paris, France, December 1987.
- [C141] W. Najjar, J-L. Jezouin, and J-L. Gaudiot, "Parallel execution of discrete-event simulation," in *Proceedings of the 1987 International Conference on Computer Design (ICCD)*, Port Chester, New York, October 1987.
- [C142] W. Najjar and J-L. Gaudiot, "Multi-level execution in data-flow architectures," in *Proceedings of the 1987 International Conference on Parallel Processing (ICPP)*, pp. 32-39, St. Charles, Illinois, August 1987.
- [C143] J-L. Gaudiot and L-T. Lee, "Multiprocessor systems programming in a high-level data-flow language," in *Proceedings of the European Conference on Parallel ARchitectures and Languages (PARLE)*, Vol. 1, pp. 134-151, Eindhoven, the Netherlands, June 1987.

- [C144] W. Najjar and J-L. Gaudiot, "Reliability and performance modeling of hypercube-based multiprocessors," in *Proceedings of the Second International Workshop on Applied Mathematics and Performance/Reliability Models of Computer/Communication Systems*, pp. 308-358, Rome, Italy, May 1987.
- [C145] W. Najjar and J-L. Gaudiot, "Distributed fault-tolerance in data-driven architectures," in *Proceedings of the Second International Conference on Supercomputing*, Santa Clara, California, May 1987.
- [C146] J-L. Gaudiot and Y-H. Wei, "Token relabeling in a tagged token data-flow architecture," in *Proceedings of the 1986 International Conference on Parallel Processing (ICPP)*, St Charles, Illinois, August 1986.
- [C147] J-L. Gaudiot and M. Dubois, "An integrated solution to large-scale computing problems," in *Proceedings of the International Symposium on New Directions in Computing*, Trondheim, Norway, August 1985.
- [C148] J-L. Gaudiot, "Methods for handling structures in data-flow systems," in *Proceedings of the Twelfth Annual Symposium on Computer Architecture (ISCA)*, pp. 352-258, Boston, Massachusetts, June 1985.
- [C149] J-L. Gaudiot and C. S. Raghavendra, "Fault-tolerance and data-flow systems," in *Proceedings of the Fifth International Conference on Distributed Computing Systems (ICDSC)*, pp. 16-23, Denver, Colorado, May 1985.
- [C150] J-L. Gaudiot and M.D. Ercegovac, "Performance Analysis of a Data-Flow Computer with Variable Resolution Actors," in *Proceedings of the Fourth International Conference on Distributed Computing Systems (ICDSC)*, pp. 2-9, San Francisco, California, May 1984.
- [C151] J-L. Gaudiot and M.D. Ercegovac, "Evaluation of ring communication networks in a data-flow computer," in *Proceedings of the Third Annual Phoenix Conference on Computers and Communications*, Phoenix, Arizona, March 1984.
- [C152] J-L. Gaudiot and M.D. Ercegovac, "Simulation of a data-flow machine using the SARA system," in *Proceedings of the Seventeenth Asilomar Conference on Circuits, Systems and Computers*, pp. 485-489, Monterey, California, October 1983.
- [C153] J-L. Gaudiot and M.D. Ercegovac, "A scheme for handling arrays in data-flow systems," in *Proceedings of the Third International Conference on Distributed Computing Systems*, pp. 724-729, Fort Lauderdale, Florida, October 1982.

Other Publications

- [N1] A. Melo and J-L. Gaudiot, "Word from the Program Chairs," *Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2011)*, Vitória, Brazil, October 2011.
- [N2] J-L. Gaudiot, "TC celebrates its 60th anniversary," *IEEE Transactions on Computers*, Volume 60, Issue 5, May 2011.
- [N3] J-L. Gaudiot, "Introducing the New Editor-in-Chief of IEEE Computer Architecture Letters," *IEEE Computer Architecture Letters*, Volume 8, Issue 2, December 2009, Page(s):37 - 38 Digital Object Identifier 10.1109/L-CA.2009.60
- [N4] C. Cérin, K.C. Li, and J-L. Gaudiot, "Secure, Manageable and Controllable Grid Services," *Journal of Supercomputing / Special Issue on Secure, manageable and controllable grid services*, DOI: 10.1007/s11227-009-0311-8, July 2009.

- [N5] J-L. Gaudiot, "The Walls of Computer Design, (abstract)," *Lecture Notes in Computer Science*, Volume 4330/2006, pp.1, *Proceedings of 2006 International Symposium on Parallel and Distributed Processing and Applications (ISPA 2006)*, Sorrento, Italy, December 4-7, 2006.
- [N6] M. Hill, J-L. Gaudiot, M. Hall, J. Marks, P. Prinetto, and D. Baglio, "A Wiki for Discussing and Promoting Best Practices in Research," in *Communications of the ACM*, Volume 49, Issue 9, pp. 63-64, September 2006.
- [N7] J-L. Gaudiot, "Introduction, Special Issue Nineteenth International Parallel and Distributed Processing Symposium - IPDPS 2005," in *Journal of Parallel and Distributed Computing*, Volume 66, Issue 7, Page 873, July 2006.
- [N8] J-L. Gaudiot, Y. Patt, and K. Skadron, "Foreword," *IEEE Computer Architecture Letters*, Vol. 5, No. 1, pp. 1, January-June 2006.
- [N9] J-L. Gaudiot, "Commentary for the paper -Software Simulation of DNA-Based Killer Automaton: The Innovative Nanomedicine- by Shaoshan Liu," *The UCI Undergraduate Research Journal*, Volume VIII, 2005.
- [N10] J-L. Gaudiot and S-W. Song, "Message from the Guest Editors," *International Journal on Parallel Programming - Special Issue on Computer Architecture*, October 2005.
- [N11] J-L. Gaudiot, "Message from the Program Chair," *International Parallel and Distributed Processing Symposium*, Denver, Colorado, April 2005.
- [N12] J-L. Gaudiot and K.C. Li, "Foreword from the Guest Editors," *International Journal of Computer Applications in Technology - Special Issue on Applications for High-Performance Systems*, Second Semester, 2004.
- [N13] J-L. Gaudiot and S.W. Song, "Message from the Program Chairs," *Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2004)*, Foz do Iguacu, Brazil, October 2004.
- [N14] J-L. Gaudiot, "Preface," *Note from the Program and General Chairs of the Conference on Computing Frontiers (CF '04)*, Ischia, Italy, April 2004.
- [N15] J-L. Gaudiot, "Introducing the New Editor-in-Chief of the IEEE Transactions on Computers," *IEEE Transactions on Computers*, Vol. 52, No. 1, pp. 1-2, January 2003.
- [N16] J-L. Gaudiot, "Parallel Computer Architecture and Instruction-Level Parallelism (Topic Program Chair's message)," *Proceedings of the Eight International Euro-Par Conference (Euro-Par '02)*, pp. 457, Paderborn, Germany, August 2002.
- [N17] J-L. Gaudiot, "Editor's Note," *IEEE Transactions on Computers*, Vol. 51, No. 11, pp. 1281, November 2002.
- [N18] J-L. Gaudiot, "Editor's Note," *IEEE Transactions on Computers*, Vol. 51, No. 7, pp. 737-739, July 2002.
- [N19] J-L. Gaudiot, "Editor's Note," *IEEE Transactions on Computers*, Vol. 51, No. 1, pp. 1-2, January 2002.
- [N20] J-L. Gaudiot "Editor's Note," *IEEE Transactions on Computers*, Vol. 50, No. 9, pp. 863-864, September 2001.
- [N21] J-L. Gaudiot "Editor's Note," *IEEE Transactions on Computers*, Vol. 50, No. 4, pp. 289-291, April 2001.
- [N22] M. Cosnard, U. Finger, and J-L. Gaudiot, "IFIP Special Issue: Editorial Note," *Parallel Processing Letters*, Vol. 11, No. 1, pp. 3-5, March 2001.

- [N23] J-L. Gaudiot “Editor’s Note,” *IEEE Transactions on Computers*, Vol. 49, No. 10, pp. 1009-1012, October 2000.
- [N24] J-L. Gaudiot “Editor’s Note,” *IEEE Transactions on Computers*, Vol. 49, No. 5, pp. 385-386, May 2000.
- [N25] J-L. Gaudiot “Editor’s Note,” *IEEE Transactions on Computers*, Vol. 49, No. 2, pp. 97-99, February 2000.
- [N26] J-L. Gaudiot and F. Lombardi, “Guest Editors’ introduction,” *IEEE Transactions on Computers*, Vol. 48, No. 6, pp. 553-555, June 1999.
- [N27] J-L. Gaudiot, “Special topics on Parallel Architectures and Compilation Techniques (Guest editor’s introduction),” *International Journal of Parallel Programming*, Vol. 24, No. 3, pp. 207-208, June 1996.
- [N28] J-L. Gaudiot, L. Bic, and P. Evripidou, “Preface,” in *Proceedings of the 1995 Conference on Paralel Architectures and Compilation Techniques*, Limassol, Cyprus, June 1995.
- [N29] G.R. Gao, J-L. Gaudiot, and L. Bic, “Special Issue on Data-Flow and Multithreaded Systems (Guest editors’ introduction),” *Journal of Parallel and Distributed Computing*, Vol. 18, No. 3, pp. 271-272, December 1993.
- [N30] S. Bhatt, J-L. Gaudiot, L. Patnaik, and M. Reeve, “Program Chairs’ message,” in *Proceedings of the Fifth IEEE Symposium on Parallel and Distributed Processing*, Dallas, Texas, December 1993.
- [N31] K. Ebcioglu and J-L. Gaudiot, “Preface,” in *Proceedings of the IFIP WG10.3 Working Conference on Architectures and Compilation Techniques for Fine and Medium Grain Parallelism*, Orlando, Florida, January 1993.
- [N32] L. Bic and J-L. Gaudiot, “Special topics on data-flow systems (Guest editors’ introduction),” *Journal of Parallel and Distributed Computing*, Vol. 10, No. 4, pp. 277-278, December 1990.

Invited Presentations

- “Value Prediction in Parallel Architectures,” Keynote Presentation at the Fourteenth IEEE International Conference on Computational Science and Engineering (CSE-2011), Dalian, PR China, August 24, 2011.
- “Languages, Compilation, and Models of Computation for Exascale Systems,” Invited Presentation at the 2011 DOE Workshop on Architectures II on Exascale and Beyond: Configuring, Reasoning, Scaling, Sandia National Laboratory, Albuquerque, NM, August 8-10, 2011.
- “Value Prediction in Parallel Architectures,” Invited Presentation at EURECOM, Sophia-Antipolis, France, June 2010.
- “Strategic Planning in the Department of Electrical Engineering and Computer Science at the University of California, Irvine,” IEMN, Lille, France, May 2010.
- “Value Prediction in Parallel Architectures,” Invited Presentation at INRIA, Saclay, France, April 2010.
- “Value Prediction in Parallel Architectures,” Invited Presentation at ESIEE, Marne-la-Valle, France, April 2010.

- “Value Prediction in Parallel Architectures,” Invited Talk at Toulouse ’09, Toulouse, France, September 2009.
- “The Walls of Computer Design,” Keynote Talk at The 4th Workshop on Grid Technologies and Applications (WoGTA07), Providence University, Taichung, Taiwan, December 2007.
- “The Walls of Computer Design,” Invited Presentation at Seoul National University, Seoul, Korea, August 22, 2007.
- “The Walls of Computer Design,” Keynote Speech at the Fourth International Symposium on Parallel and Distributed Processing and Applications (ISPA 2006), Sorrento, Italy, December 2006.
- “The Walls of Computer Design,” Invited tutorial lecture at the International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2006), Ouro Preto, Brazil, October 2006.
- “Design and Effectiveness of Small-Sized Decoupled Dispatch Queues,” Joint Presentation to the Electrical and Computer Engineering Department and the Computer Science Department at Colorado State University, Fort Collins, Colorado, October 10, 2006.
- “The Walls of Computer Design,” Information Science and Technology Center (ISTeC) Distinguished Lecture, Colorado State University, Fort Collins, Colorado, October 9, 2006.
- “The Walls of Computer Design,” Invited tutorial lecture at the IEEE 2006 John Vincent Atanasoff International Symposium on Modern Computing, Sofia, Bulgaria, October 3, 2006.
- “The Walls of Computer Design,” Invited presentation at the *École Nationale Supérieure de Techniques Avancées* (ENSTA), Paris, France, January 3, 2006.
- “SPEAR: A Hybrid Model for Speculative Pre-Execution,” Invited presentation at the IFIP WG10.3 Meeting, Paris, France, February 2005.
- “The Memory Gap: To tolerate or to Reduce?,” Invited presentation at Raytheon, Inc., El Segundo, California, April 2002.
- “I-Structure Software Caches,” Invited presentation at CICESE, Ensenada, Mexico, April 2002.
- “Power Aware Design,” Invited presentation at the International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2001), Pirenópolis, September 2001.
- “Memory Latency: To Tolerate or to Reduce?,” Distinguished lecture at Rochester Institute of Technology, Rochester, NY, February 5th, 2001.
- “Memory Latency: To Tolerate or to Reduce?,” Keynote presentation at the International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2000), São Pedro, Brazil, October 2000.
- “Parallelism and Multithreaded architectures,” Invited presentation at the Universidade de São Paulo, Brazil, October 1999.
- “Parallelism and Multithreaded architectures,” Invited presentation at the Universidade Federal de Pernambuco, Recife, Brazil, October 1999.

- “Parallelism and Multithreaded architectures,” Keynote presentation at the Simpósio Brasileiro de Arquitetura de Computadores e Processamento de Alto Desempenho (SBAC-PAD), Natal, Brazil, October 1999.
- “Does SMT pull its weight? a bottom-up analysis,” Invited presentation at Vrije Univ. Brussels, Brussels, Belgium, May 1999.
- “Future Computer Architectures,” Keynote presentation at the 1998 international conference on computers, communications and systems, Taegu, Korea, November 1998.
- “I-Structure Software Caches,” Invited presentation at Kyungpook National University, Korea, November 1998.
- “Making Parallel Functional Computing a Reality: the SISAL Project,” Invited presentation at the Second Parallel Architectures/Algorithms Symposium, Aizu-Wakamatsu, Japan, March 1997.
- “Making Functional Programming a Reality: The Sisal Project,” Distinguished Visitor Presentation at Purdue University, November 1996.
- “I-Structure Software Caches,” Distinguished Visitor Presentation at Purdue University, November 1996.
- “Parallel Computing: One Opportunity, Four Challenges,” Distinguished Visitor Presentation at the IEEE Northeastern Michigan section, Wayne State University, November 1995.
- “Making Parallel Functional Computing a Reality: the SISAL Project,” Invited presentation at the University of Illinois, CSRD, November 1995.
- “Parallel Computing: One Opportunity, Four Challenges,” Distinguished Visitor Presentation at the IEEE Orlando section, University of Central Florida, September 1995.
- “Data-flow and Multithreaded Multiprocessors,” Distinguished Visitor Presentation at the IEEE Dallas section, University of Texas at Arlington, March 1995.
- “Data-Driven Programming of Distributed Memory Multiprocessors,” Distinguished Visitor Presentation at the IEEE Northeastern Michigan section, Oakland State University, March 1995.
- “Parallel Computing: One Opportunity, Four Challenges,” Distinguished Visitor Presentation at the IEEE Boston section, January 1995.
- “Structure Handling in Multithreaded Architectures,” Distinguished Visitor presentation at *State University of New York*, Buffalo, New York, December 1994.
- “Issues in Parallel Computing,” Distinguished lecture at *Southern Methodist University*, December 1993.
- “Data-Driven and Multithreaded Architectures for High-Performance Computing,” Invited presentation at *The International Summer School on Parallel Systems and Languages (ISS PLANS)*, Prague, Czech Republic, July 1993.
- “Data-Driven Programming of Distributed Memory Multiprocessors,” Invited presentation at the *NATO Advanced Summer Institute*, Ankara, Turkey, July 1991.

Other Presentations

- “Novel Architectures,” 2002 Southern California Embedded Systems Seminar, September 2002.
- “I-Structure Software Caches,” 2002 Parallel Processing and Computer Architecture Workshop, Irvine, California, March 2002.
- “Power Aware SMT Architectures,” Invited talk at the Computer Science Department, University of California, Riverside, February 2002.
- “The Memory Gap: To Tolerate or to Reduce?,” University of California, Irvine, May 2001.
- “Parallelism and Multithreaded Architectures,” Presented at the SIAM CSE 2000, Washington, DC, September 1999.
- “ISSC Implementation on EARTH,” University of Delaware, November 1998.
- “I-Structure Software Caches,” University of Adelaide, Australia, July 1998.
- “Simultaneous Multithreading for Digital Signal Processing,” Rockwell Semiconductor Systems, Newport Beach, California, March 1998.
- “I-Structure Software Caches,” INRIA Sophia-Antipolis, Sophia Antipolis, France, May 1997.
- “I-Structure Software Caches,” Université Paris VII, Paris, France, May 1998.
- “I-Structure Software Caches,” IMAG, Grenoble, France, December 1997.
- “I-Structure Software Caches,” LAAS, Toulouse, France, December 1997.
- “I-Structure Software Caches,” INRIA Rocquencourt, Rocquencourt, France, May 1997.
- “I-Structure Software Caches,” Université PARIS VII, Paris, France, May 1997.
- “I-Structure Software Caches,” IMAG, Grenoble, France, December 1997.
- “I-Structure Software Caches,” LAAS, Toulouse, France, December 1997.
- “I-Structure Software Caches,” Université de Picardie, Amiens, France, November 1997.
- “The Sisal Model of Functional Programming and its Implementation,” IRISA, Rennes, France, October 1997.
- “Compilation for SMT Architectures,” University of Cyprus, Larnaca, Cyprus, July 1997.
- “Compilation for SMT Architectures,” INRIA, Rocquencourt, France, June 1997.
- “I-Structure Software Caches,” University of Texas, Arlington, April 1997.
- “Parallel Computing: One Opportunity, Four Challenges,” Yonsei University, Seoul, Korea, March 1997.
- “Parallel Computing: One Opportunity, Four Challenges,” Seoul National University, Seoul, Korea, March 1997.
- “Parallel Computing: One Opportunity, Four Challenges,” ETRI, Korea, March 1997.

- “Multithreaded Execution for Multiprocessors and Superscalar Architectures,” ETRI, Korea, March 1997.
- “I-Structure Software Cache and Nomadic Threads,” SOCAL Parallel Processing Workshop, December 1996.
- “Parallel Computing: One Opportunity, Four Challenges,” University of Massachusetts, Lowell, Massachusetts, October 1996.
- “I-Structure Software Caches,” MITRE Corporation, Massachusetts, October 1996.
- “Data-Driven Logic Programming,” Bridgewater State College, January 1995.
- “Parallel Computing: One opportunity, Four (no! six) Challenges,” INRIA, Sophia Antipolis, France, June 1994.
- “Parallel Computing and Programmability Issues,” *Kubota Pacific Computers*, May 7, 1992.
- “Highly Programmable Architectures for Knowledge-Based and Natural Language Processing,” *Workshop on Intelligent Information Systems*, Rome, New York, Oct. 1991.
- “Message-Passing Multiprocessors,” *Journées d’études Architecture Parallelisme et Images*, Paris, France, December 1990.
- “Mapping directed graphs based computations onto a reduced VLSI architecture,” Poster presentation at the *International Workshop on Algorithms and Parallel VLSI Architectures*, Pont-à-Mousson, France, June 1990.
- “Data Structure Handling in Data-Flow Systems,” INRIA, Rocquencourt, France, December 1989.

Ph.D. students graduated

- Shaoshan Liu, Winter 2010
Dissertation title: *Value Prediction in Many Core Systems*
- Chen Liu, Summer 2007
Dissertation title: *Dynamic Partitioning in Simultaneous MultiThreaded Architectures*
- Kyueun Yi, Winter 2007
Dissertation title: *Network Applications on Modern Computer Architectures*
- Xiaobin Li, Summer 2005
Dissertation title: *Tolerating Radiation-Induced Transient Faults in Modern Processors*
- Dongsoo Kang, Spring 2004
Dissertation title: *Speculation-Aware Thread Scheduling for SMT*
- Ihn Kim, Fall 2003
Dissertation title: *VMINI: Virtual Memory Integrated Network Interface*
- Won Woo Ro, Fall 2003
Dissertation title: *Decoupled Memory Access Architectures with Speculative Pre-Execution*
- Jung-Yup Kang, Fall 2003
Dissertation title: *Efficient PIM (Processor-In-Memory) Architectures for Data-Intensive Applications*

- SeongWon Lee, Spring 2003
Dissertation title: *Solving Power Problems in High Performance Multithreaded Architectures*
- Chulho Shin, Fall 2002
Dissertation title: *Adaptive Dynamic Thread Scheduling for Simultaneous Multithreaded Architectures with a Detector Thread*
- JongWook Woo, Spring 2001
Dissertation title: *Alias Analysis for Java with Reference-Set Representation in High Performance Computing*
- Steve Jenks, Fall 2000
Dissertation title: *Compiler Controlled Locality Exploitation using Thread Migration for Distributed Memory Parallel Computers*
- James Burns, Fall 1999
Dissertation title: *POSM: Parallel On-chip Simultaneous Multithreading*
- Wen-Yen Lin, Fall 1999
Dissertation title: *I-Structure Software Caches: Exploiting Global Data Locality in Non-Blocking Multithreaded Architectures*
- Chung-Ta Cheng, Fall 1999
Dissertation title: *Architectural Support for Network-based Computing*
- Halima ElNaga, Fall 1998
Dissertation title: *MCOMA: A Multithreaded Cache Only Memory Architecture*
- Hung-Yu Tseng, Spring 1998
Dissertation title: *Automatic Array Partitioning and Distributed-array Compilation for Efficient Communication*
- Hiechel Kim, Summer 1996
Dissertation title: *High Performance Parallel Logic Programming on Distributed Shared Memory Multiprocessors*
- Moez Ayed, Summer 1996
Dissertation title: *Automatic Code Partitioning for Distributed Memory Multiprocessors*
- Namhoon Yoo, Summer 1996
Dissertation title: *Parallelism Control in Multithreaded Multiprocessors*
- Dae-Kyun Yoon, Spring 1996
Dissertation title: *A Framework for Coarse-Grain Parallel Execution of Functional Programs*
- Yung-Syau Chen, Spring 1996
Dissertation title: *Stateful Computations in Functional Languages*
- ChinHyun Kim, Spring 1994
Dissertation title: *Functional Programming and Fine-Grain Multithreading for High Performance Parallel Computing*
- Walter Tackett, Spring 1994
Dissertation title: *Recombination, Selection, and the Genetic Construction of Computer Programs*
- Soheil Shams, Summer 1992
Dissertation title: *Dream Machine - A Platform for Efficient Implementation of Neural Networks with Arbitrary Complex Interconnection Networks*

- Ken Flaton, Summer 1992
Dissertation title: *2D Object Recognition by Adaptive Feature Extraction and Dynamical Link Graph Matching*
 - Andrew Sohn, Summer 1991
Dissertation title: *Parallel Processing of Production Systems on Data-Flow Multiprocessors*
 - Chih-Ming Lin, Spring 1991
Dissertation title: *Numerical Partial Differential Equations Solvers on Variable-Grain Data-Flow Multiprocessor systems*
 - Paraskevas Evripidou, Fall 1990
Dissertation title: *On Scheduling, Granularity, and State-Operations of Hybrid Data-Flow / Control-Flow Systems*
 - Liang-Teh Lee, Summer 1989
Dissertation title: *Occamflow: Programming a Multiprocessor System in a High-Level Data-Flow Language*
 - Walid Najjar, Summer 1988
Dissertation title: *Fault-Tolerance and Reliability Analysis of Large-Scale Multicomputer Systems*
 - Yi-Hsiu Wei, Spring 1988
Dissertation title: *Demand-Driven Evaluation of Functional Programs in Data-Flow Multiprocessors*
-

Teaching activities

- Taught at USC several instances of:
 - EE599/653 Functional programming and data-flow systems (graduate level)
 - EE557 Computer architecture (graduate level)
 - EE454 Introduction to system design using microprocessors (undergraduate level)
 - EE457 Computer architecture (undergraduate level)
 - EE557b Advanced computer architecture (graduate level)
- Taught at UCI
 - ECE259 Microarchitecture and Compilation Techniques for Parallel Processing (Spring 2003)
 - ECE31 Introduction to Digital Systems (Fall 2003)
 - ECE137 Parallel Computer Systems (Winter 2003)
- Introduced a new class (Functional Programming and Data-Flow Systems) (graduate level)
- Developing a multimedia Web site for ECE31 (Introduction to Digital Systems Design)

Short-term Instruction

- “The Walls of Computer Design,” Short course at Tunghai University, Taichung, Taiwan, July 2005
- “Data-driven and multithreaded architectures for high-performance computing,” Invited tutorial at the *IV Brazilian Symposium in Computer Architectures, High Performance Computing*, São Paulo, Brazil, October 1992
- “Data-driven and multithreaded architectures for high-performance computing,” Invited tutorial at the *VAPP/CONPAR '92 Joint Conference on Vector and Parallel Processing*, Lyons, France, September 1992
- USC ITV satellite course on *Parallel Computing*, February 5, 1991
- Tutorial on data-flow systems associated with the *1989 ACM International Symposium on Computer Architecture*, Jerusalem, Israel, June 1989
- USC ITV satellite course on *Implementation of Artificial Neural Networks*, April 13, 1989 (with C. von der Malsburg)
- USC ITV satellite course on *Parallel Computing*, March 9, 1989
- USC Extension (1984 and 1987): Short course on parallel processing (1 day session)

Conference Organization and General Chairmanship

- Co-general chairman of the Fourteenth IEEE International Conference on Computational Science and Engineering (CSE-2011), Dalian, PRC, August 24-26, 2011
- Co-general chairman of the Seventh IFIP International Conference on Network and Parallel Computing (NPC 2010), Zhengzhou, PRC, September 13-15, 2010
- Co-general chairman of the Fourth IFIP International Conference on Network and Parallel Computing (NPC 2007), Dalian, PRC, September 18-21, 2007
- Co-general chairman of the Second IFIP International Conference on Network and Parallel Computing (NPC 2005), Beijing, PRC, November 30 - December 2, 2005
- Co-chair of WEPA-1: First Workshop on Embedded Parallel Architectures, held in conjunction with the Tenth International Symposium on High Performance Computer Architecture, Madrid, Spain, February 14, 2004
- Co-organizer with Dr. Stephen Jenks of the Southern California Parallel Processing and Computer Architecture Workshop, March 2002
- Chairman of the 1990 IFIP Working Group 10.3 Workshop, Paris, France, February 2000
- Co-chairman of the December 1996 SoCal Parallel Processing Workshop, held at the University of Southern California, December 1996
- Chairman of the 1996 IFIP Working Group 10.3 workshop, Paris, France, February 1996
- Co-chairman of the Workshop on Data-Flow Systems and Multithreading associated with the *1996 High Performance Computer Architecture Symposium*, San Jose, California, February 1996

- Co-chairman of the Workshop on Data-Flow Systems and Multithreading associated with the *1992 International Symposium on Computer Architecture*, Gold Coast, Australia, May 1992
- Co-general chairman of the *1992 International Symposium on Computer Architecture*, Gold Coast, Australia, May 1992
- Co-chairman of the Workshop “Data-flow computing: a status report,” associated with the *1989 ACM International Symposium on Computer Architecture*, Jerusalem, Israel, June 1989

Program Committee Chairmanships

- Co-Program Chair of the 2011 International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2011), Vitória, Espírito Santo, Brazil, October 2011
- Co-Program Chair of the 2007 International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2007), Gramado, Brazil, October 2007
- Chairman of the Program Committee of the Nineteenth International Symposium on Parallel and Distributed Processing Systems (IPDPS 2005), Denver, Colorado, April 2005
- Co-Program Chair of the 2004 International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Foz do Iguaçu, Brazil, October 2004
- Co-Program Chair of the 2004 Computing Frontiers Conference (CF '04), Ischia, Italy, June 2004
- Co-Program Chair of the First Workshop on Embedded Parallel Architectures (WEPA-1) held in conjunction with the Tenth International Symposium on High Performance Computer Architecture, Madrid, Spain, February 14, 2004
- Topic Program Chair of the “Topic 8: Parallel Computer Architecture and Instruction-Level Parallelism,” held at the Eighth International Euro-Par Conference (Euro-Par '02), Paderborn, Germany, August 27-30, 2002
- Program Committee Chair of the 1999 High Performance Computer Architecture conference (HPCA), Orlando, Florida, January 1999
- Chairman of the Program Committee for the 1995 Conference on Parallel Architectures and Compilation Techniques (PACT), Limassol, Cyprus, June 1995
- Chairman of the Program Committee (Systems Track) for the 1993 IEEE International Symposium on Parallel and Distributed Computing, Arlington, Texas, December 1993
- Chairman of the Program Committee for the 1993 IFIP Working Conference on Architectures and Compilation Techniques for Fine and Medium Grain Parallelism, Orlando, Florida, January 1993

Editorships

- Regional Editor (North America), *International Journal of Computational Science and Engineering*

- Co-Guest Editor of a Special Issue of the Journal of Parallel Programming on the Nineteenth International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2007), 2009
- Co-Guest Editor of a Special Issue of the Journal of Supercomputing on Secure, Manageable and Controllable Grid Services, 2009
- Co-Guest Editor of a Special Issue of the Journal of Supercomputing (NPC 2007), 2008
- Editor-in-Chief of the *IEEE Computer Architecture Letters*, January 2006 - December 2009
- Co-Guest Editor of a Special Issue of the Journal of Parallel and Distributed Processing, 2005
- Co-Guest Editor (with Siang Wun Song) of a Special Issue of the International Journal of Parallel and Distributed Programming, 2005
- Founding editor (with Yale Patt and Kevin Skadron) of the *Computer Architecture Letters*, the refereed Newsletter of the IEEE Computer Society Technical Committee on Computer Architecture
- Co-Guest editor of a Special Issue of the International Journal of Computer Applications in Technology, *Applications for High Performance Systems*, Fourth Quarter 2004
- Editor-in-Chief of the IEEE Transactions on Computers (1999 - 2002)
- Editorial Board Scientific Programming (Wiley)
- Editorial Board Parallel Processing Letters
- Editorial Board International Journal on Artificial Intelligence Tools
- Co-Guest Editor of a Special Issue on Parallel Processing in the New Millennium, *Parallel Processing Letters*, Vol. 11, Number 1, March 2001.
- Co-Guest Editor of a Special Issue of the *Parallel Processing Letters*, *IFIP WG10.3 Workshop*, March 2001
- Co-Guest Editor of a Special Issue of the IEEE Transactions on Computers, *Reconfigurable Computing*, June 1999.
- Co-Guest Editor of a Special Issue of the IEEE Transactions on Computers, *Multithreaded Computing*, June 1999.
- Guest Editor of a Special Issue of the International Journal of Parallel Programming, *Parallel Architectures and Compilation Techniques*, June 1996
- Associate Editor of the IEEE Transactions on Computers (1994-1998)

Other Professional Activities

- Member of the "Future Directions in Computing" panel at the Fourteenth IEEE International Conference on Computational Science and Engineering (CSE-2011), Dalian, PR China, August 24, 2011.
- Member of a panel for the National Science Foundation, March 2011
- Member of a panel for the Department of Energy Office of Science, January 2011

- Member of a panel for the National Science Foundation, October 2010
- Member of the Program Committee of the Thirty Eighth International Symposium on Computer Architecture (ISCA '11), San Jose, CA, June 4-8, 2011
- IEEE Computer Society Publications Board Transactions Operation Committee Chair (since January 2010)
- Member of the IEEE Computer Society Publications Board (since January 2010)
- Member of the IEEE Computer Society Audit Committee (since January 2010)
- Elected member of the IEEE Computer Society Board of Governors (2010-2012)
- Member of the Program Committee of the *2010 International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD)*, Petropolis, Brazil, October 2010
- Member of the Program Committee of the *Fifth Annual Workshop on Architectural Research Prototyping (WARP 2010)*, Rennes, France, June 2010
- Member of a panel for the Department of Energy Office of Science, May 2010
- Member of the Search Committee for the new Editor-in-Chief of IEEE Computer Architecture Letters, April 2009.
- Member of the Program Committee of the *2009 International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD)*, São Paulo, Brazil, October 2009
- Member of the Program Committee of the *Secure, Trusted, Manageable and Controllable Grid Services and Systems Workshop (STMC-Grid'2009)*, Delft, The Netherlands, August 24-25, 2009
- Member of an NSF Review panel, 2009
- Member of the Program Committee of the *2009 High Performance Computing Conference (HPC Asia 2009)*, Kaohsiung, Taiwan, March 2009
- Member of the Program Committee of the *2008 IFIP International Conference On Network and Parallel Computing (NPC 2008)*, Shanghai, China, October 18-20, 2008
- Member of the Steering Committee of the *Workshop on Secure, Trusted, Manageable and Controllable Grid Services*, a workshop of the Fourteenth International Euro-Par Conference European Conference on Parallel and Distributed Computing (Euro-Par 2008), Las Palmas de Gran Canaria, Spain, August 26-29, 2008
- Member of the Program Committee of the *2008 International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD)*, Campo Grande, Brazil, October 2008
- Facilitator of an ABET session at the 2008 Annual Meeting of the Electrical and Computer Engineering Department Head Association (ECEDHA), San Diego, March 14-18, 2008
- Member of the Program Committee of the *SYMPosium en Architectures nouvelles de machines (SympA'2008)*, Fribourg, Switzerland, February 11-13, 2008
- Member of the Program Committee of the *2008 International Symposium on Frontiers in Computer Architecture Design (FCAD 2008)*, National Tsing Hua University, Hsinchu, Taiwan, August 4-6, 2008

- Member of the Program Committee of the *Thirteenth Asia-Pacific Computer Systems Architecture Conference (ACSAC 2008)*, National Tsing Hua University, Hsinchu, Taiwan, August 4-6, 2008
- Member of the Program Committee of the *2008 IEEE Eleventh International Conference on Computational Science and Engineering*, São Paulo, Brazil, July 16-18, 2008
- Evaluator of the *2008 International Workshop on Ultra Low Power Data-Driven Networking Systems*, Kyoto, Japan, January 10-11, 2008
- Chair of the Panel Discussion “The Impact of MultiCore Architectures on Programming,” at the *2007 International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2007)*, Gramado, Brazil, October 2007
- Member of the Panel Discussion “Multi-core - How can parallel computing become mainstream?,” at the *IFIP International Conference on Parallel Computing Conference (NPC 2007)*, Dalian, China, September 18 - 21, 2007
- Member of the Program Committee of the *Thirty Fifth International Symposium on Computer Architecture (ISCA '08)*, Beijing, PR China, June 21-25, 2008.
- Member of the Program Committee of the *Twelfth Asia-Pacific Computer Systems Architecture Conference (ACSAC 2007)*, Seoul, Korea, August 23-25, 2007.
- Member of the Program Committee of the *SYMPosium en Architectures nouvelles de machines (SympA'2006)*, Perpignan, France, October 4-6, 2006.
- Member of the Search Committee for the new Editor-in-Chief of *IEEE Micro*, October 2006.
- Member of the Program Committee of the *IEEE 2006 John Vincent Atanasoff International Symposium on Modern Computing (JVA 2006)*, Sofia, Bulgaria, October 3-6, 2006.
- Permanent member *International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD)* (since 2005)
- Chair of the Steering Committee of the *International Conference on Parallel Architectures and Compilation Techniques (PACT)* (since September 2006).
- Member of the Program Committee of the *2006 International Conference on Parallel Architectures and Compilation Techniques (PACT '06)*, Seattle, Washington, September 16-20, 2006
- Member of the Program Committee of the *Eleventh Asia-Pacific Computer Systems Architecture Conference (ACSAC 2006)*, Shanghai, PRC, September 6-8, 2006.
- Member of the Program Committee of the *Fifth IEEE International Symposium on Network Computing and Applications (NCA 2006)*, Kendall Square, Cambridge, MA, July 24 - July 26, 2006.
- Member of the Program Committee of the *Twelfth International Conference on Parallel and Distributed Systems (ICPADS '06)*, Minneapolis, MN, July 12-15, 2006.
- Member of the Program Committee of the *Thirty Third International Symposium on Computer Architecture (ISCA '06)*, Boston, MA, June 17-21, 2006.
- Member of the Search Committee for the new Editor-in-Chief of the *IEEE Transactions on Computers*, June 2006.

- Member of the Steering Committee of the Twentieth International Symposium on Parallel and Distributed Processing Systems (IPDPS 2006), Rhodes, Greece, April 2006.
- Member of the Review Committee of the “Laboratoire d’Informatique du Parallélisme,” Lyon, January 9-10, 2006.
- Member of the Technical Committee on Computer Architecture Advisory Board (since July 2005).
- Member of the UCR Computer Science and Engineering Board of Advisors, 2005-2006.
- Member of the ACM/IEEE CS ad hoc committee on the Health of Conferences, 2005.
- Member of the “*Conseil de Perfectionnement du Groupe ESIEE* (Board of advisors),” since 2005.
- Member of the Program Committee of the 2006 International Conference on Parallel Architectures and Compilation Techniques, Seattle, WA, September 16-20, 2006.
- Member of the Program Committee of the Twelfth International Conference on Parallel and Distributed Systems, Minneapolis, Minnesota, July 2006.
- Co-chair of the Steering Committee of the IEEE/ACM International Symposium on Computer Architecture (ISCA ’06), Boston, Massachusetts, June 2006.
- Member of the Steering Committee of the 2006 International Conference on Grid and Parallel Computing (GPC 2006), Taichung, Taiwan, May 2006
- Member of the Program Committee of the Nineteenth International Conference on Architecture of Computing Systems (ARCS ’06), Frankfurt, Germany, March 2006.
- Member of the Steering Committee of the IFIP International Conference on Network and Parallel Computing (NPC ’05), Beijing, PRC, November 30 - December 2, 2005
- Member of the Program Committee of the Tenth Asia-Pacific Computer Systems Architecture Conference (ACSAC05), Singapore, October 2005.
- Member of the Program Committee of the IEEE International Symposium on Network Computing and Applications, (NCA05), Cambridge, Massachusetts, July 2005.
- Member of the Program Committee of the 2004 International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Rio de Janeiro, Brazil, October 2004
- Member of a review panel at the National Science Foundation, 2004.
- Student Travel Awards Chair for the Parallel Architectures and Compilation Techniques conference, October 2004
- Member of the Steering Committee of the IFIP International Conference on Network and Parallel Computing (NPC ’04), Wuhan, P.R. China, October 18 - 20, 2004
- Member of the Program Committee of the IFIP International Conference on Network and Parallel Computing (NPC ’04), Wuhan, P.R. China, October 18 - 20, 2004
- Member of the Third International Conference on Parallel Computing Systems (PCS ’04) Program Committee, Colima, Mexico, September 19 - 22, 2004
- Member of the Ninth Asia-Pacific Computer Systems Architecture Conference (ACSAC ’04) Program Committee, Beijing, P.R. China, September 7 - 9, 2004

- Member of the Third IEEE International Symposium on Network Computing and Applications (NCA '04) Program Committee, Cambridge, Massachusetts, August 30- September 1, 2004
- Member of the Eckert-Mauchly award committee (2002 - 2003 - 2004), chair in 2003
- Member of the Steering Committee for HPCA, ISCA, PACT
- Chair of a committee within the NSF CISE Committee Of Visitors (COV), June 2003
- Member of the VUB laboratory research evaluation committee, Vrije Univ. Brussels, Belgium, October 2002
- IEEE Computer Society Technical Committee on Computer Architecture Executive Committee chair (elected June 2001 - reelected June 2003 - term ended June 2005)
- Chair of the evaluation committee of the “programme A3” at INRIA, Rocquencourt, France, October 1999
- Member of the NSF Wireless Computation program panel (June 1999).
- Member of the Advisory Board Euro-Par (1999)
- Member of the steering committee for the 1993 International Symposium on Computer Architecture
- Member of the steering committee for the SuperComputer Conference
- Permanent and Founding Member of the steering committee for Conference on Parallel Architectures and Compilation Techniques (PACT)
- Referee for multiple IEEE conferences, IEEE Transactions on Computers, IEEE Computer magazine, *etc.*
- Member of the *Parallel Computing* panel at the 1989 IEEE Conference on Data Engineering, Los Angeles, California, February 1989
- Session organizer at the National Computer Conference, Chicago, Illinois, June 1985 (session on *Functional Systems and Data-Flow Architectures*)
- Member of the *Parallel Computing* panel at the 1989 IEEE Conference on Data Engineering, Los Angeles, California, February 1989
- Program Committee member of ASAP '92 '93 '94 '95, CONPAR '92, Transputers '92 '93 '94 '95, FGCS '92, PARLE '93 '94, PACT '94, HPFC '95, TDP '96, PACT '98, PDSE '98, International Conference on Application of Concurrency to System Design, March 1998, Aizu Wakamatsu, Japan, PCS '99, HPCS 2003, NCA '03, *etc.*

University and Department Service at UCI

- The Henry Samueli School of Engineering Executive Committee on Foreign Outreach (since February 2011)
- Member of the EECS Department Graduate Committee (since January 2011)
- EECS Department chair (January 1, 2003 - September 2, 2009)
- Chair of the School Committee to evaluate the place of the ACE program within the School, Summer 2007

- Irvine campus representative on the Executive Advisory Committee of the Microelectronics Innovation and Computer Research Opportunities (MICRO) program, February 2007 - August 2009
- Member of the School Endowed Chairs Committee, 2006-2007
- Member of the Committee on International Education (Subcommittee of the Council on Educational Policy), 2006-2007
- Member of the HSSoE Dean Review Committee, Spring 2006
- Organizer of the 2002 Strategic Planning Department Retreat, December 2002
- Organizer of the 2002 ECE Department retreat, September 2002

University and Department Service at USC

- School of Engineering Appointments, Promotions, and Tenure Committee (chairman in 2000-2001)
- EE-Systems Department Merit review committee 1998 / 1999 (chair) /2000
- Computer Engineering Division Director (September 1998 - December 2001 - reelected in June 2001)
- Member of multiple doctoral committees
- Member of the Engineering Faculty Council (1997 - 1998)
- Ph.D. Admissions (from 1986 to 1989)
- Faculty Senate (1991-1992)
- Computer Engineering Ph.D. Screening Exam (chairman) (1991-1996)
- TA Assignments (chair) (1991-1996)
- EP&P (1991-1992)
- 1991, 1995 EE-Systems Department Merit review committee for Assistant Professors
- Computer Engineering Division Screening Exam Committee chairman (since 1991).
- Engineering Curriculum committee (Fall 1992)
- *Ad hoc* committee to review CTRF (1993)
- School of Engineering Curriculum Review Task Force (since 1994)
- EE-Systems Department Curriculum Review Task Force (since 1994)
- Promotion committees

Membership on doctoral and tenure committees outside the home university

- Member of a “tenure” committee at the University of Paris VII, France, December 2002
- Member of a doctoral committee at the University of Baja California, Ensenada, Mexico, May 2002

- Member of a doctoral committee at the University of Joensuu, Finland, April 2002
- Member of a doctoral committee at the “Universidade de São Paulo,” São Paulo, Brazil, October 2001
- Member of a “tenure” committee at the University of Rennes, Rennes, France, September 2000
- Member of a doctoral committee at the University of Rennes, Rennes, France, February 2000
- Member of a “tenure” committee at the Université Paris VII, Paris, France, December 1999.
- Member of a “tenure” committee at Vrije Univ. Brussels, Belgium, May 1999
- Member of a doctoral committee at the *École Nationale Supérieure des Télécommunications*, Paris, France, March 1999
- Member of a doctoral committee at the University of Rennes, Rennes, France, October 1998
- Member of a doctoral committee at the Université Paris VI, Paris, France, May 1998
- Member of a doctoral committee at Bridgewater State College, Massachusetts, December 1997

Invitations and collaboration with other research groups

- *CICESE*, Ensenada, Mexico, several visits since 2000.
- *INRIA*, Rocquencourt, France, multiple visits since 1997, including 1 month in November 1997.
- *Ecole Nationale Supérieure des Télécommunications*, Paris, France, July - December 1997.
- *Université de Picardie, Amiens*, France, June 1997.
- *Ecole Nationale Supérieure des Télécommunications*, Paris, France, May-July 1994.
- *Ecole Supérieure d’Ingénieurs en Electrotechnique et Electronique*, Paris, France, December 1990: research on parallel architectures for image processing.
- *Royal Melbourne Institute of Technology*, Melbourne, Australia, December 6, 1988 through January 10, 1989: research on the RMIT data-flow project.
- *NTT Musashino Research Center*, Tokyo, Japan, June 1989.
- *Ecole Supérieure d’Ingénieurs en Electronique et Electrotechnique*, Paris, France, July 1988.

September 21, 2011