Daniel Mossé
Department of Computer Science
University of Pittsburgh
Pittsburgh, PA 15260
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• EDUCATION

Ph.D. in Computer Science *Dec 1993*
University of Maryland, College Park
Dissertation: "A Framework for the Development and Deployment of Fault Tolerant Applications in Real-Time Systems"

M.S. in Computer Science *May 1990*
University of Maryland, College Park
Thesis: "Serial Pattern Matching"

B.S. in Mathematics *Dec 1985*
University of Brasília, Brazil

• INTERESTS

Distributed Real-Time Systems

- Multicore systems, Real-Time Systems, Resource Allocation, Scheduling, Embedded Systems, Power and Energy Management, Wireless and Sensor Networks,Fault Tolerance

• APPOINTMENTS

Chair, Department of Computer Science, University of Pittsburgh *2009-present*

Professor, Department of Computer Science, University of Pittsburgh *2004-present*

Visiting Professor, Institute of Computing, Universidade Federal Fluminense, Brazil *2007-2008*

Visiting Associate Professor, Department of Computer Science, Cornell University *2000-2001*

Associate Professor, Department of Computer Science, University of Pittsburgh *1998-2004*

Assistant Professor, Department of Computer Science, University of Pittsburgh *1993-1998*

Secondary Faculty Appointment, Computer Engineering Program, University of Pittsburgh *1996-present*

Invited Faculty Member, Semester at Sea Program, Institute for Shipboard Education *Spring 2000*

Related Faculty, Center for Latin-American Studies, University of Pittsburgh *1996-present*

Assistant Professor, Department of Computer Science, Cornell University *Summer 1995*

Instructor, Department of Computer Science, University of Pittsburgh *1992-1993*

Research Assistant, Department of Computer Science, University of Maryland *1987-1992*

Teaching Assistant, University College/IBM, University of Maryland *1990*

Teaching Assistant, Department of Computer Science, University of Maryland *1986-1987*

Intern and Programmer, Computer Science Center, University of Brasília *1982-1985*

English Teacher, CCAA Language Institute, Brasília, Brazil *1979-1981*

- **RESEARCH GRANTS**

DARPA, TTO (with Adam Lee, and subcontract to UIC) *2011*
"Distributed, Verified, and Trustworthy Protocols for Mobile Spacecraft Coalitions" *($201,000) for 6 months*

NSF/CRA CI Fellowship *2009-2011*
"Fault-adaptive Control of Energy-efficient, Virtualized Computing Environments" *($280,000)* (renewed, but post-doc left before end of the grant)

Bosch
Research Gift to study home automation and energy efficiency *($40,000)* *2010-2011*

NSF, CSR Division (Childers, PI; 5 co-PIs) *2010-2014*
"Storage Class Memory Architecture for Energy Efficient Data Centers" *($1,912,123)*

Equipment Gift from Sun Microsystems *2009*
Equipment grant from Sun Microsystems for undergraduate operating system and multicore research *($25,000)*

NSF, CCF Division (Childers, PI; Melhem, co-PI) *2008-2011*
"CPA-CSA:Tera-PCM: A Low Power Terabyte Main Memory using Phase Change Memory" *($300,000)*

NSF, CCF Division (Comfort, PI) *2008-2010*
"NSF DRU Designing Resilience for Communities at Risk" *CS share: ($192,582)*

NSF ITR Division, (Melhem, Comfort–GSPIA, co-PIs) *2003-2010*
For research on Secure Critical Information Technology Infrastructure for Emergency Management *($2,800,000)*

NSF, CCF Division *2008-2009*
An International Supplement for NSF grant CT-ISG (see below)*($10,000)*

Univ of Pittsburgh, Innovation in Education Awards *2007-2008*
For development of new programming course for non-majors *($16,000)*

NSF, CNS Division *2006-2007*
For travel support for RTSS 2006 *($10,395)*

SGER: Sensor Based Infrastructure for Early Tsunami Detection,
(Louise Comfort and Taieb Znati, Co-PIs) *2005-2007*
For examining the issues in early tsunami detection and response systems *($199,214)*

CT-ISG: Fault-Tolerant and Secure Infrastructure for Time-Critical EmbeddedSystems, (Rami Melhem and Taieb Znati, Co-PIs) *2005-2009*
For studying secure, reward-based, fault-tolerant routing and data forwarding *($259,926)*

DARPA, subcontract from Raytheon (Bruce Childers, co-PIs) *2004-2006*
For studying memory structures for power management *($150,000)*

NSF ITR Division, (Rami Melhem, Louise Comfort–GSPIA, co-PIs) *2003-2008*
For research on Secure Critical Information Technology Infrastructure for Emergency Management *($2,800,000)*

DARPA/BAE, (Rami Melhem, PI) *2002-2004*
For research on power management of space applications *($430,000)*

IBM Shared University Research (Rami Melhem, PI) *2003-2005*
Equipment grant for power management in highly available systems *($70,000)*

NSF Networking Division (Rami Melhem, co-PI) *2002-2005*
For studying power-autonomous wireless networks *($200,000)*

NSF Networking Division (Rami Melhem, co-PI) *2001-2004*
For studying distributed denial-of-service issues *($300,000)*

NSF Research Experience for Undergraduates Award (several awards) *1994-present*
To support undergraduates in research projects on network security *($52,365)*

NSF ITR Division, senior investigator; *2001-2006*
with Vanderbilt, Illinois, and Syracuse Universities
For development of real-time fault-tolerant software for the BTeV accelerator at Fermi National Labs *($4,998,000), Pitt's share: $590,000)*

NSF Computer Communication Research *2001-2002*
For travel support for RTAS'01 *($12,000)*

DARPA (Rami Melhem, PI) *2000-2004*
For power-aware scheduling in real-time operating systems *($1,600,000)*

NSF Division of Undergraduate Education *1996-1999*
For development of course materials for teaching real-time systems *($129,884)*

University of Pittsburgh Research Fund *1994-1995*
To study resource reclaiming schemes for real-time systems *($9,000)*

NSF Research Initiation Award *1993-1996*
For study of fault tolerance schemes in real-time systems *($99,999)*

Digital Equipment Corporation *1992*
Equipment grant for development of real-time operating systems *($30,000)*

- **TEACHING AWARDS/GRANTS**

Provost's Innovation in Education Grant/Award *2007*
One of 11 recipients at the University of Pittsburgh, for redesigning the Introductory Programming course for non-majors

Tina and David Bellet Teaching Excellence Award *2006*
One of two among over 500 faculty members in the School of Arts and Sciences

Teaching Excellence Award (undergraduate elective) *1994-1998,2003,2005*
Computer Science Department, University of Pittsburgh

Teaching Excellence Award (graduate core) *1994,1995,1996,2001,2002*
Computer Science Department, University of Pittsburgh

Nominee, Chancellor's Distinguished Teaching Award *1996*
(1 of 20 nominees throughout the University of Pittsburgh)

Teaching Excellence Award (for teaching assistants) *1987*
One per year in the Computer Science Department, University of Maryland, College Park

Teaching Excellence Award *1980*
CCAA Language Institute Brasília, DF, Brazil

- **SCHOLARLY AWARDS**

IPAM/UCLA Large Scale Network Workshops *2002*
Support for attending 2 week-long workshops at IPAM/UCLA

GE Information Systems Scholar *1989*
One award per year for graduate students

- **PUBLICATIONS**

Journal Papers

1. A. Avritzer, Y. Cai, V. Cortellessa, J. Leite, D. Mossé, A. Koziolek, L. Kapova, D. Gouvea. R. Leao, E. DeSouza e Silva, M. Morganna, and M. Dalton, "Experience with Model-based Performance, Reliability and Adaptability Assessment of a Complex Industrial Architecture, " *Journal of Software and Systems Modeling*, to appear.
2. M. Zhou, Y. Du, B. Childers, R. Melhem and D. Mossé, "Writeback-aware Partitioning and Replacement for Last-Level Caches in Phase Change Main Memory Systems," *ACM Transactions on Architecture and Compiler Optimization, Special Issue on High-Performance and Embedded Architectures and Compilers*, Vol. 8, Issue 4, January 2012.
3. C. Santana, J. Leite, and D. Mossé, "Power Management by Load Forecasting in Web Server Clusters," *Custer Computing*, Vol. 14, Issue 4, pp.471-481, September 2011.
4. D. Zhu, X. Qi, D. Mossé, and R. Melhem, "An Optimal Boundary-Fair Scheduling Algorithm for Multiprocessor Real-Time Systems," *Journal of Parallel and Distributed Computing*, doi:10.1016/j.jpdc.2011.06.003, 2011.
5. D. Mossé, J Leite, D. Kusic, "Guest Editorial of the Special Issue: Energy Aware Real-Time Systems," *Real-Time Systems Journal* v. 47, n2,pp.73-74, 2011.
6. J. Leite D. Mossé, and L. Bertini, "Power and Performance Control of Soft Real-time Web Server Clusters," *Information Processing Letters* v110, n17, pp 767-773, doi:10.1016/j.ipl.2010.06.013, July 2010.
7. L. Bertini, J. Leite and D. Mossé, "Power Optimization for Dynamic Configuration in Heterogeneous Web Server Clusters," *Journal of Systems and Software*, Number 83, v 4, pp 585-598, 2010.
8. L. Comfort, D. Mossé, and T. Znati, "Managing Risk in Real Time: Integrating Information Technology into Disaster Risk Reduction and Response," *Commonwealth, a Journal of Political Science, Special Policy Issue on Emergency Management in Pennsylvania,* Volume 15, Number 1, pages 27-46, May 2009.
9. D. Zhu, R. Melhem and D. Mossé "Energy Efficient Redundant Configurations for Real-Time Parallel Reliable Servers," *Journal of Real-Time Systems*, Volume 41, Issue 3, pages 195-221, 2009.
10. V. Ramasubramanian and D. Mossé, "BRA: a Bidirectional Routing Abstraction for Asymmetric Mobile Ad Hoc Networks," *ACM/IEEE Transactions on Networking*, Volume 16, Number 1, pages 116-129, 2008.
11. R. Xu, D. Mossé, and R. Melhem "Minimizing Expected Energy Consumption in Real-Time Systems through Dynamic Voltage Scaling", *ACM Transactions on Computers*, vol. 25, no. 4, pp Dec 2007.
12. N. AbouGhazaleh, D. Mossé, B. Childers and R. Melhem, "Near-memory Caching for Improved Energy Consumption," *IEEE Transactions on Computers*, Vol. 56, Number 11, pp. 1441-1455 Nov. 2007.
13. S. Khattab, R. Melhem, D. Mossé, and T. Znati, "Honeypot Back-propagation for Mitigating Spoofing Distributed Denial-of-Service Attacks," *Journal Parallel Dis-*

tributed Computing, Special Issue on Security in Grid and Distributed Systems, Vol. 66, Number 9, pages 1152-1164, September 2006.

14. N. AbouGhazaleh, D. Mossé, B. Childers, R. Melhem, "Collaborative Operating System and Compiler Power Management for Real-Time Applications," *ACM Trans. on Embedded Computing Systems*, Volume 5, Number 1, pp. 82-115 February 2006.
15. N. AbouGhazaleh, B. Childers, D. Mossé, and R. Melhem, "Power Management in External Memory using Power-Aware Cached-DRAM," *Int'l. Journal on Embedded Systems, Special Issue on Power-Aware Computing Systems*, Vol. 3, Numbers 1-2, pp. 65-72, 2007.
16. S. Gobriel, R. Melhem, and D. Mossé, "A Unified Interference/Collision Model for Optimal MAC Transmission Power in Adhoc Networks," *International Journal of Wireless and Mobile Computing*, Volume 1, Number 3/4, pp 179-190, 2006.
17. D. Mossé *et. al.*, "RTES Demo System 2004," *ACM SIGBED Review*, Volume 2, Issue 3, July 2005
18. C. Sangpachatanaruk, S. M. Khattab, T. Znati, R. Melhem, and D. Mossé, "Design and Analysis of a Replicated Elusive Server Scheme for Mitigating Denial of Service Attacks," *Journal of Systems and Software*, Elsevier, Vol 73(1), p15-29, September 2004
19. C. Rusu, R. Melhem, and D. Mossé, "Multi-version Scheduling in Rechargeable Energy-aware Real-time Systems Energy Constraints," *Journal of Embedded Computing*, Vol. 1, Issue 2, 2004
20. T. Okumura and D. Mossé, "Virtualizing Network I/O on End-Host Operating System – Operating System Support for Network Control and Resource Protection," *IEEE Transactions on Computers*, Vol. 53, No. 10, pp 1303-1316, Oct 2004
21. D. Zhu, D. Mossé and R. Melhem, "Power Aware Scheduling for AND/OR Graphs in Real-Time Systems," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 15, No. 9, Sept 2004
22. H. Aydin, R. Melhem, D. Mossé, and P. MejíFa-Alvarez, "Power-Aware Scheduling for Periodic Real-Time Tasks," *IEEE Transactions on Computers*, Vol. 53, No. 5, pp 584–600, May 2004
23. R. Melhem, D. Mossé and E. Elnozahy, "The Interplay of Power Management and Fault Recovery in Real-Time Systems," *IEEE Transactions on Computers*, Vol. 53, No. 2, pp 217–23, Feb 2004
24. C. Rusu, R. Melhem, and D. Mossé, "Maximizing Rewards for Real-Time Applications with Energy Constraints," *ACM Transactions on Embedded Computing Systems*, Vol. 2, No. 4, pp 1-23, Nov 2003
25. C. Rusu, R. Melhem, and D. Mossé, "Maximizing the System Value while Satisfying Time and Energy Constraints," *IBM Journal of Research and Development*, Vol. 47, No. 5/6, 2003
26. P. Mejía-Alvarez, E. Levner and D. Mossé, "Power-Optimized Scheduling Server for Real-Time Tasks," *ACM Transactions on Embedded Computing Systems*, Special Issue on Dynamically Adaptable Embedded Systems, Vol. 3, No. 2, May 2004
27. P. Mejía-Alvarez, R. Melhem, D. Mossé, and H. Aydin, "An Incremental Server for Scheduling Overloaded Real-Time Systems," IEEE Transactions on Computers, Vol. 52, No. 10, Oct 2003

28. D. Mossé, R. Melhem, and S. Ghosh, "A Non-Preemptive Real-Time Scheduler with Recovery from Transient Faults and Its Implementation," IEEE Transactions on Software Engineering, Vol. 29, No. 8, pp 752–767, Aug 2003
29. S. Lauzac, R. Melhem, and D. Mossé, "An Improved Rate-Monotonic Admission Control and its Applications," IEEE Transactions on Computers, Vol. 52, No. 3, pp 337-350, Mar 2003
30. H. Aydin, R. Melhem, D. Mossé, and P. Mejia-Alvarez "Optimal Reward-Based Scheduling for Periodic Real-Time Tasks," IEEE Transactions on Computers, Vol. 50, No. 2, pp. 111-130, Feb 2001
31. Y. Ronen, D. Mossé, and M. Pollack, "Using Value-Density Algorithms to Handle Transient Overloads in Deliberation Scheduling," *to appear in IEEE Expert, Special Issue on Real-Time Intelligent Systems*
32. F. Liberato, R. Melhem, and D. Mossé, "Tolerance to Multiple Faults for Aperiodic Tasks in Hard Real-Time Systems," IEEE Transactions on Computers, Vol. 49, No. 9, pp. 906-914, Sept 2000
33. B. Field, T. Znati, and D. Mossé, "V-Net: A Versatile Network Architecture for Flexible Delay Guarantees in Real-Time Networks," IEEE Transactions on Computers, Vol. 49, No. 8, pp. 841-858, Aug 2000
34. R. Friedman and D. Mossé, "Load Balancing Schemes for High-Throughput Distributed Fault-Tolerant Servers," Journal of Parallel and Distributed Computing, Vol. 59, No. 3, pp. 475-488, Dec 1999
35. S. Komandur, J. Crowcroft, and D. Mossé, "Performance Comparison of CRAM, SPAM, and SEAM," *Telecommunication Systems*, Special Issue on ATM (Asynchronous Transfer Mode) Networks, Vol. 11 No. 3, pp 267-274, Baltzer Science Publishers, 1999.
36. A. Egan, D. Kutz, D. Mikulin, R. Melhem, and D. Mossé, "Fault-Tolerant RT-Mach (FT-RT-Mach) and an Application to Real-Time Train Control," *Software Practice and Experience*, Vol. 29,No. 4, pp 379-395, Wiley Publishers, April 1999
37. S. Ghosh, R. Melhem, D. Mossé, and J. Sensarma, "Fault-Tolerant Rate-Monotonic Scheduling," *Journal of Real-Time Systems*, Vol. 15, No. 2, pp 149-181, Sept 1998
38. J. Fayman, D. Mossé, and E. Rivlin, "FT-AVS: A Fault-Tolerant Architecture for Real-Time Active Vision," *Journal of Real-Time Imaging*, v 4, No. 2, pp 143-157, Apr 1998
39. Y-J. Chen, D. Mossé, and S-K. Chang, "A Framework for Modeling Dependable Real-Time Distributed Systems," *International Journal of Systems Science; Special Issue on Distributed Systems*, Vol. 28, No. 11, November 1997
40. S. Ghosh, R. Melhem, and D. Mossé, "Fault Tolerance through Scheduling of Aperiodic Tasks in Hard Real-Time Multiprocessor Systems," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 8, No. 3, pp 272-284, Mar 1997
41. D. Mossé, "Resource Reservations in Networked Multimedia Systems," *ACM Computing Surveys*, Vol. 27, No. 4, pp 610-612, Dec 1995
42. D. Mossé, "Serial Pattern Matching Methods," *RITA – Revista de Informática Técnica e Aplicada,* Brazil, Vol. 1, No. 2, pp 9-35, Mar 1990

Book Chapters

1. D. Zhu, B. Childers, D. Mossé, and R. Melhem, "Power Aware Mapping of Real-Time Tasks to Multiprocessors," in *The Handbook of Parallel Computing: Models, Algorithms, and Applications*, Edited by Sanguthevar Rajasekaran et al., CRC Press, Chapter 40, 2006, 2009.
2. H. Aydin, R. Melhem, D. Mossé, "Periodic Reward-Based Scheduling and Its Application to Power-Aware Real-Time Scheduling," *in Handbook of Scheduling: Algorithms, Models, and Performance Analysis*, 2004 (J. Leung, editor)
3. N. AbouGhazaleh, D. Mossé, B. Childers and R. Melhem, "Toward the Placement of Power Management Points in Real-Time Applications," in *Compilers and Operating Systems for Low Power*, Kluwer Academic Publishers, 2003
4. R. Melhem, N. AbouGhazaleh, H. Aydin and D. Mossé, " Power Management Points in Power-Aware Real-Time Systems," in *Power Aware Computing*, ed. by R. Graybill and R. Melhem, Plenum/Kluwer Publishers, 2002.
5. Ó. Gudmundsson, D. Mossé, K-T. Ko, A. K. Agrawala, and S. K. Tripathi, "MARUTI: A Platform for Hard Real-Time Application," *Mission Critical Operating Systems*, IOS Press, 1991.

Refereed Conference Papers

1. J. Kim, T. Barth, D. Mossé, J. Yackovich, and G. Boulos, “Seamless Integration of Heterogeneous Devices and Access Control in Smart Homes,” *The 8th International Conference on Intelligent Environments(IE 2012)*, Guanajuato, Mexico, June 2012.
2. V. Petrucci, O. Loques, D. Mossé, R. Melhem, N. Gazala, and S. Gobriel, “Thread Assignment Optimization with Real-time Performance and Memory Bandwidth Guarantees for Energy-efficient Heterogeneous Multi-core Systems,” *The 18th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2012)*, Beijing, China, April 2012.
3. J. Yackovich, D. Mossé, A. Rowe and R. Rajkumar, “Making WSN TDMA Practical: Stealing Slots Up and Down the Tree,” *RTCSA 2011*,Toyama, Japan, August 28-31. 2011.
4. V. Petrucci, V. Carrera, O. Loques, J. Leite, and D. Mossé, “Optimized Management of Power and Performance for Virtualized Heterogeneous Server Clusters,” *11th IEEE Interntaional Symposium on Cluster, Cloud and Grid Computing (CC-Grid 2011)*, Newport Beach, California, May 2011.
5. D. Gouvêa, A. Avritzer, R. Meri Leão, E. de Souza e Silva, M. Diniz, L. Berardinelli, J. Leite, D. Mossé, Y. Cai, L. Kapova, and A. Martens, “Experience Building Non-Functional Requirement Models of a Complex Industrial Architecture,” *2nd International Conference on Performance Engineering (ICPE2011)*, Karlsruhe, Germany, March 14-16, 2011.
6. F. Duarte, C. Pires, C. Souza, J. Ros, R. Leão, E. de Souza e Silva, V. Corellessa, J. Leite, D. Mossé, and Y. Cai, "Experience with a New Architecture Review Process using a Globally Distributed Architecture Review Team", *IEEE International Conference on Global Software Engineering (ICGSE 2010)*, Princeton, NJ, August 2010.
7. C. Santana, J. Leite and D. Mossé, “Previso de Carga em Aglomerados de Servidores Web (in Portuguese),” *Simpsio Brasileiro de Redes de Computao (SBRC) 2010*, Gramado, RS, dx.doi.org/10.1007/s10586-011-0187-2, Brazil, May 2010.
8. J. Leite, D. Kusic and D. Mossé, “Stochastic Approximation Control of Power and Tardiness in a Three-tier Web-Hosting Cluster,” 7^{th} *International Conference on Autonomic Computing and Communications (ICAC-10)* Washington DC, June 2010.
9. V. Petrucci, O. Loques, and D. Mossé, “A Dynamic Optimization Model for Power and Performance Management of Virtualized Clusters,” 16^{th} *e-Energy2010, The First Conference on Energy-Efficient Computing and Networking*, Passau, Germany, April 2010.
10. A. Ferreira, M. Zhou, B. Childers, R. Melhem, D. Mossé, and M. Yousif, “Using PCM in Next-generation Embedded Space Applications,” 16^{th} *IEEE Real-Time and Embedded Technology and Applications Symposium*, Stockholm, Sweden, April 2010.
11. A. Ferreira, M. Zhou, S. Bock, R. Melhem, B. Childers and D. Mossé, “Increasing PCM Main Memory Lifetime, ” *Design, Auotmation & Test in Europe*, Dresden, Germany, March 2010.
12. C. Santana, J. Leite, and D. Mossé, “ Load Forecasting Applied to Soft Real-time Web Clusters,”, *Symposium on Applied Computing, SAC 2010- Real Time Track*, Sierre, Switzerland, March, 2010.

13. V. Petrucci, O. Loques, and D. Mossé, "Dynamic Optimization of Power and Performance for Virtualized Server Clusters,"(short paper and poster), *Symposium on Applied Computing, SAC 2010, Power-Aware Dynamic Optimization Track*, Sierre, Switzerland, March 2010.
14. S. Gobriel, S. Khattab, R. Melhem and D. Mossé, "Considering Link Qualities in Fault Tolerant Aggregation in Wireless Sensor Networks," *Ad Hoc Sensor and Mesh Networking Symposium (GC'09 AHSN)*, Hawaii, USA, Dec 2009.
15. L. Bertini, J. Leite, and D. Mossé, "Generalized Tardiness Quantile Metric: Distributed DVS for Soft Real-Time Web Clusters," *Proceedings of ECRTS 2009 (European Conference of Real-Time Systems)*, Dublin, Ireland, June 2009.
16. S. Gobriel, D. Mossé, R. Cleric, "TDMA-ASAP: Sensor Network TDMA Scheduling with Adaptive Slot-stealing And Parallelism," *The 29th International Conference on Distributed Computing Systems (ICDCS 2009)*, Montreal, Canada, June 2009
17. T. Okumura, B. R. Childers, and D. Mossé, "Network I/O Extensibility without Administrator Privilege," *International Conference on Autonomic and Autonomous Systems (ICAS)*, Valencia, Spain, April 2009
18. V. Petrucci, O. Loques and D. Mossé, "A Framework for Dynamic Adaptation of Power-aware Server Clusters," *in Proceedings of SAC 2009, ACM Symposium of Applied Computing*, Honolulu, Hawaii, March 2009
19. S. Gobriel, S. Khattab, R. Melhem and D. Mossé, "GroupBeat: Wireless Networks Made Reliable," (short paper) *in IEEE International Conference on Mobile Ad-hoc and Sensor Systems 2008 (MASS'08)*, Atlanta Oct 2008
20. S. Khattab, D. Mossé and R. Melhem, "Jamming Mitigation in Multi-Radio Wireless Networks: Reactive or Proactive?", *in Proceedings of SecureComm 2008*, Istanbul, Turkey, Sept 2008
21. S. Khattab, D. Mossé and R. Melhem "Modeling of the Channel-hopping Anti-Jamming Defense in Multi-Radio Wireless Networks", *in Proceedings of Mobiquitous*, Dublin, Ireland, July 2008
22. S. Khattab, S. Gobriel, R. Melhem, and D. Mossé, "Live Baiting for Service-level DoS Attackers", *in Proceedings of INFOCOM'08*, Phoenix, AZ, April 2008
23. T. Okumura, B. R. Childers, and D. Mossé, "Running a Java VM Inside an Operating System Kernel: a Networking case study," *ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments (VEE 2008)*, Seattle, WA, March 2008
24. N. AbouGhazaleh, B. Childers, R. Melhem and D. Mossé "Integrated CPU and cache power management," *2008 International Conference on High Performance Embedded Architectures & Compilers (HiPEAC 2008)*, Goteborg, Sweden, Jan 2008.
25. R. Xu, R. Melhem, and D. Mossé, "Energy-Aware Scheduling for Streaming Applications on Chip Multiprocessors," *Proceedings of RTSS'07 (Real-Time Systems Symposium)*, Tucson, AZ, Dec 2007
26. R. Xu, R. Melhem, and D. Mossé, "A Unified Practical Approach to Stochastic DVS Scheduling," *ACM Int'l Conf on Embedded Software (EMSoft 2007)*, Austria, Sept 2007
27. L. Bertini, J. Leite, and D. Mossé, "Statistical QoS Guarantee and Energy-efficiency

in Web Server Clusters," *Proceedings of ECRTS 2007 (European Conference of Real-Time Systems)*, Pisa, Italy, July 2007.

28. A. Ferreira, D. Mossé, and J. Oh, "Thermal Faults Modeling using a RC model with an Application to Web Farms," *Proceedings of ECRTS 2007 (European Conference of Real-Time Systems)*, Pisa, Italy, July 2007.
29. N. AbouGhazaleh, A. Ferreira, C. Rusu, R. Xu, F. Liberato, B. Childers, R. Melhem and D. Mossé "Integrated CPU and L2 cache Voltage Scaling using Machine Learning," *ACM Language, Compilers, and Tools for Embedded Systems (LCTES 2007)*, San Diego, CA, June 2007
30. A. Berfield, P. K. Chrysanthis and D. Mossé, "LSynD: Localized Synopsis Diffusion," *10th IEEE Int'l Symposium on Object and Component-Oriented Real-Time Computing (ISORC 2007)*, Santorini, Greece, June 2007
31. S. Khattab, J. Brustoloni, D. Mossé, "Integrated Scheduling of Application- and Network-Layer Tasks in Delay-Tolerant MANETs," *IEEE Global Telecommunications Conference (GLOBECOM 2006)*, San Francisco, California, November 2006
32. S. Gobriel, D. Mossé, R. Melhem, S. Khattab, J. Brustoloni, "RideSharing: Fault Tolerant Aggregation in Sensor Networks Using Corrective Actions," *The 3rd Annual IEEE Communications Society Conference on Sensor, Mesh, and Ad Hoc Communications and Networks (SECON)*, Reston, Virginia, September 2006
33. S. Gobriel, D. Mossé, R. Melhem, "Mitigating the Flooding Waves Problem in Energy-Efficient Routing for MANETs," *The 26th International Conference on Distributed Computing Systems (ICDCS 2006)*, Lisboa, Portugal, July 2006
34. D. Mossé, L. Comfort, A. Amer, J. Brustoloni, P. Chrysanthis, M. Hauskrecht, A. Labrinidis, R. Melhem, and K. Pruhs, "Secure-CITI Critical Information-Technology Infrastructure," *The Seventh Annual Conference on Digital Government Research (DG.O 2006)*, San Diego, CA, May 2006
35. H. Qu, A. Labrinidis, and D. Mossé, "UNIT: User-centric Transaction Management in Web-Database Systems," *The 22nd IEEE International Conference on Data Engineering (ICDE 2006)*, Atlanta, GA, Apr 2006
36. C. Rusu, A. Ferreira, C. Scordino, A. Watson, R. Melhem, and D. Mossé, "Energy-Efficient Real-Time Heterogeneous Server Clusters", *IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS)*, San Jose, CA, April 2006
37. M.L. Soffa, G. Kapfhammer, and D. Mossé, "Testing in Resource Constrained Execution Environments," *2005 IEEE/ACM International Conference on Automated Software Engineering (ASE 2005)*, Long Beach, CA, Nov 2005
38. N. AbouGhazaleh, D. Mossé, B. Childers and R. Melhem, "Near-memory Caching for Improved Energy Consumption," *IEEE Int'l. Conf. on Computer Design (ICCD'05)*, San Jose, California, October 2005
39. H. Ling, D. Mossé and T. Znati, "Coverage-based Probabilistic Forwarding in Ad Hoc Routing," *Int'l Conference on Computer Communication and Networks (IC-CCN 2005)*, San Diego, CA, Oct 2005
40. R. Xu, D. Zhu, C. Rusu, R. Melhem, and D. Mossé, "Energy-Efficient Policies for Embedded Clusters," *ACM Language, Compilers, and Tools for Embedded Systems (LCTES 2005)*, Chicago, IL, June 2005

41. D. Zhu, R. Melhem, and D. Mossé, "Energy-Efficient Configuration for QoS in Reliable Parallel Servers," *European Dependable Computing Conference (EDCC'05)*, Budapest, Hungary, Apr 2005
42. S. Gobriel, R. Melhem, and D. Mossé, "BLAM: An Energy-Aware MAC Layer Enhancement for Wireless Adhoc Networks," *IEEE Wireless Communications and Networking Conference (WCNC 2005)*, New Orleans, March 2005.
43. T. Okumura and D. Mossé, "The Netnice Packet Filter Bridging the Structural Mismatches in End-host Network Control and Monitoring," *INFOCOM 2005*, Miami, March 2005.
44. S. Gobriel, R. Melhem, and D. Mossé, "Modeling an Energy-Efficient MAC Layer Protocol," *IEEE ICENCO 2004*, Egypt, Dec 2004.
45. D. Zhu, R. Melhem, D. Mossé, and M. Elnozahy, "The Effects of Energy Management on Reliability of Real-Time Embedded Systems," *IEEE Int'l Conf on Computer Aided Design (ICCAD)*, San Jose, CA, 2004
46. R. Xu, C. Xi, R. Melhem, and D. Mossé, "Practical PACE for Embedded Systems," *ACM Int'l Conf on Embedded Software (EMSoft 2004)*, Pisa, Italy, Sept 2004
47. C. Rusu, R. Xu, R. Melhem, and D. Mossé, "Energy-Efficient Policies for Request-Driven Soft Real-Time Systems," *European Conference of Real-Time Systems (ECRTS 2004)*, Catania, Italy, Jul 2004
48. D. Zhu, R. Melhem, D. Mossé, and M. Elnozahy, "Analysis of an Energy Efficient Optimistic TMR Scheme," *Int'l Conf on Parallel and Distributed Systems (ICPADS)*, Jul 2004
49. S. M. Khattab, C. Sangpachatanaruk, R. Melhem, D. Mossé, and T. Znati, "Roaming Honeypots for Mitigating Service-level Denial-of-Service Attacks," *ICDCS–International Conference on Distributed Computing Systems*, Mar 2004
50. S. Gobriel, R. Melhem, and D. Mossé, "Unified Interference/Collision Analysis for Power-Aware Adhoc Networks," *INFOCOM 2004*, Hong Kong, March 2004.
51. D. Zhu, R. Melhem, and D. Mossé, "Multiple-Resource Periodic Scheduling Problem: How Much Fairness is Necessary?," *Proceedings of RTSS'03 (Real-Time Systems Symposium)*, Cancun, Mexico, Dec 2003
52. S. M. Khattab, C. Sangpachatanaruk, R. Melhem, D. Mossé and T. Znati "Proactive Server Roaming for Mitigating Denial-of-Service Attacks," *International Conference on Information Technology: Research and Education*, August 2003
53. N. AbouGhazaleh, D. Mossé, B. Childers, R. Melhem, and M. Craven, "Energy Management for Real-Time Embedded Applications with Compiler Support," *ACM Language, Compilers and Tools for Embedded Systems (LCTES 2003)*, San Diego, June 2003
54. N. AbouGhazaleh, D. Mossé, B. Childers, R. Melhem, and M. Craven, "Collaborative Operating System and Compiler Power Management for Real-Time Applications," *IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS'03)*, June 2003
55. C. Rusu, R. Melhem, and D. Mossé, "Multi-version Scheduling in Rechargeable Energy-aware Real-time Systems Energy Constraints," *Proceedings of ECRTS 2003 (European Conference of Real-Time Systems)*, Porto, Portugal, July 2003. Appeared also in Journal of Embedded Computing, 2004

56. J. Oh, S. Tamhankar, and D. Mossé, “Design of Very Lightweight Agents for Reactive Embedded Systems,” *IEEE Conference on the Engineering of Computer Based Systems (ECBS)*, April 2003, Huntsville, AL
57. T. Okumura, D. Mossé, Masaki Minami and Osamu Nakamura, “Network QoS Management Framework for Server Clusters,” *IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid 2003)*, Tokyo, Japan, May 2003
58. C. Sangpachatanaruk, S. M. Khattab, T. Znati, D. Mossé and R. Melhem, “A Simulation Study of the Proactive Server Roaming for Mitigating Denial of Service Attacks,” *Annual Simulation Symposium)*, Orlando, FL, Apr 2003
59. R. Mishra, N. Rastogi, D. Zhu, D. Mossé, and R. Melhem “Energy Aware Scheduling for Distributed Real-Time Systems,” *IPDPS’02 (IEEE International Parallel and Distributed Processing Symposium)*, Nice, France, Apr 2003
60. E. Elnozahy, R. Melhem, and D. Mossé, “Energy-Efficient Duplex and TMR Real-Time Systems,” *Proceedings of RTSS’02 (Real-Time Systems Symposium)*, Austin, TX, Dec 2002
61. C. Rusu, R. Melhem, and D. Mossé, “Maximizing the System Value while Satisfying Time and Energy Constraints,” *Proceedings of RTSS’02 (Real-Time Systems Symposium)*, Austin, TX, Dec 2002
62. P. Mejia-Alvarez, E. Levner, D. Mossé, “Power-Optimized Scheduling Server for Real-Time Tasks,” *IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS’02)*, 2002
63. D. Zhu, N. AbouGhazaleh, D. Mossé and R. Melhem, “Power Aware Scheduling for AND/OR Graphs in Multi-Processor Real-Time Systems,” *2002 International Conference on Parallel Processing* (ICPP), August 2002.
64. T. Okumura, D. Mossé, Masaki Minami and Osamu Nakamura, “Operating System Support for Network Control: a virtual network interface approach for end-host OSs,” *International Workshop on Quality of Service (IWQoS 2002)*, May 2002.
65. V. Ramasubramanian, R. Chandra and D. Mossé, “Providing a Bidirectional Abstraction for Unidirectional AdHoc Networks,” *INFOCOM 2002*, New York, June 2002.
66. H. Aydin, R. Melhem, D. Mossé, and P. Mejia Alvarez, “Dynamic and Aggressive Scheduling Techniques for Power-Aware Real-Time Systems,” *Proceedings of RTSS’01 (Real-Time Systems Symposium)*, London, England, Dec 2001
67. E. Gottschalk et al, “The BTeV DAQ and Trigger System – Some Throughput, Usability and Fault Tolerance Aspects,” *Computing in High Energy Physics Conference*, Beijing, China, 2001.
68. H. Aydin, R. Melhem, D. Mossé, and P. Mejia Alvarez, “Determining Optimal Processor Speeds for Periodic Real-Time Tasks with Different Power Characteristics,” *European Conference of Real-Time Systems*, June 2001
69. L. Dong, Daniel Mossé, and Rami Melhem, “Effect of Scheduling Jitter on End-to-End Delay in TDMA Protocols,” *Real-Time Computing Systems and Applications (RTCSA)*, Dec 2000
70. P. Mejia Alvarez, Hakan Aydın, Daniel Mossé, and Rami Melhem “Scheduling Optional Computations in Fault-Tolerant Real-Time Systems,” *Real-Time Computing Systems and Applications (RTCSA)*, Dec 2000

71. Hakan Aydın, Daniel Mossé, and Rami Melhem,
"Optimal Scheduling of Imprecise Computation Tasks in the Presence of Multiple Faults," *Real-Time Computing Systems and Applications (RTCSA)*, Dec 2000
72. P. Mejia Alvarez, R. Melhem, and D. Mossé, "An Incremental Approach to Scheduling during Overloads in Real-Time Systems," *Real-Time Systems Symposium*, Dec 2000
73. T. Okumura, M. Moir, and D. Mossé, "`netnice: nice` is not only for CPUs: A Simple Subnetwork Bandwidth Management Scheme," *International Conference on Computer Communications and Networks, (ICCCN'00)*, Oct 2000
74. H. Aydın, R. Melhem, and D. Mossé, "Tolerating Faults While Maximizing Reward," *European Conference of Real-Time Systems*, June 2000
75. L. Dong, R. Melhem, and D. Mossé, "Scheduling Algorithms for Dynamic Message Streams with Distance Constraints in TDMA protocol," *European Conference of Real-Time Systems*, June 2000
76. H. Aydın, P. Mejia Alvarez, R. Melhem, and D. Mossé, "Incorporating Error Recovery into the Imprecise Computation Model," *Real-Time Computing Systems and Applications*, June 1999
77. F. Hoymani and D. Mossé, "Virtual Channel Management in ATM Networks," *GlobeCom*, Dec 1999.
78. H. Aydın, P. Mejia Alvarez, R. Melhem, and D. Mossé, "Optimal Reward-Based Scheduling of Periodic Real-Time Tasks," *Real-Time Systems Symposium*, Dec 1999
79. Y. Ronen, D. Mossé, and M. Pollack, "Value-Density Algorithms to Handle Transient Overloads in Scheduling," *European Conference of Real-Time Systems*, June 1999
80. F. Liberato, S. Lauzac, R. Melhem, and D. Mossé, "Global Fault Tolerant Real-Time Scheduling on Multiprocessors," *European Conference of Real-Time Systems*, June 1999
81. P. Mejia Alvarez and D. Mossé, "Responsiveness Approach for Scheduling Fault Recovery Operations in Real-Time Systems," *Real-Time Technology and Applications Symposium (RTAS'99)*, June 1999
82. L. Dong, S. Ghosh, R. Melhem, D. Mosse, W. Heimerdinger, "FTRTMach and DEOS: A Tech Transfer Approach," *Real-Time Technology and Applications Symposium (RTAS'99)*, June 1999
83. J. Oh and D. Mossé, "Teaching Real Time OSs with DORITOS," *SIG Computer Science Education Technical Symposium (SIGCSE 99)*, Mar 1999
84. S. Komandur, J. Crowcroft, and D. Mossé, "Performance Comparison of CRAM, SPAM, and SEAM," *International Conference on Computer Communications and Networks (ICCCN'98)*, Oct 1998
85. J. Oh and D. Mossé, "DORITOS (Distributed object-based Real-time Instructional Operating System): A complete package for Teaching Principles and Practices of a Real-Time Operating System," *1998 Frontiers in Education (FIE'98) (work in progress session)*, Nov 1998
86. S. Komandur, J. Crowcroft, and D. Mossé, "CRAM: Cell Re-labelling at Mergepoints for ATM Multicast," *IEEE International Conference on ATM - ICATM'98*, June 1998

87. S. Lauzac, R. Melhem, and D. Mossé, "Comparison of Global and Partitioning Schemes for Scheduling Rate Monotonic Tasks on a Multiprocessor," *10th Euromicro Real-Time Workshop*, June 1998
88. L. Dong, R. Melhem, and D. Mossé, "Time Slot Allocation for Real-Time Messages with Negotiable Distance Constrained Requirements (short paper)," *Real-Time Technology and Applications Symposium (RTAS'98)*, June 1998
89. S. Lauzac, R. Melhem, and D. Mossé, "An Efficient RMS Admission Control and its Application to Multiprocessor Scheduling," *Int'l Parallel Processing Symposium, (IPPS'98)*, April 1998
90. F. Hoymani and D. Mossé, "A Simulation Study of Packet Forwarding Methods over ATM: SBR Evaluation," *InfoCom*, April 1998.
91. R. Friedman and D. Mossé, "Load Balancing Schemes for High-Throughput Distributed Fault-Tolerant Servers," *16th Symposium on Reliable Distributed Systems, (SRDS'97)*, Oct 1997
92. S. Komandur and D. Mossé, "SPAM: A Data Forwarding Model for Multipoint-to-Multipoint Connection Support in ATM Networks," *International Conference on Computer Communications and Networks (ICCCN'97)*, Sept 1997
93. J. Fayman, E. Rivlin, and D. Mossé, "Providing Fault Tolerance for Active Vision Systems in Real-Time," *IEEE International Conference on Robotics and Automation (ICRA 1997)*, Apr 1997
94. J. Fayman, E. Rivlin, and D. Mossé, "Fault Tolerant Active Vision in Real-Time," *13th Israeli Symp on Artificial Intelligence*, Feb 1997
95. F. Hoymany and D. Mossé, "Switch-Borne Router for High-Performance Packet Forwarding of Connectionless Traffic," *5th Annual International Conference on Computer Communications and Networks (ICCCN'96)*, Oct 1996
96. J. Fayman, E. Rivlin, and D. Mossé, "Real-Time Active Vision with Fault Tolerance," *13th International Conference on Pattern Recognition (ICPR 1996)*, Aug 1996
97. R. Gupta, D. Mossé, and R. Suchoza, "Real-Time Scheduling using Compact Task Graphs," *16th ICDCS–International Conference on Distributed Computing Systems*, May 1996
98. B. Field, D. Mossé, and T. Znati, "Simulation of V-NET, a Versatile Network Architecture for Real-time and Non-Real-Time Traffic," *29th Annual Simulation Symposium*, Apr 1996
99. D. Chen, R. Colwell, H. Gelman, P. Chrysanthis, and D. Mossé, "A Framework for Experimenting with QoS for Multimedia Services," *IS&T/SPIE Multimedia Computing and Networking (MMCN'96)*, Jan 1996
100. F. Hoymany and D. Mossé, "More Powerful Connectionless Support Using AAL5+," *2nd IASTED International Conference on Networks*, Jan 1996
101. S. Ghosh, R. Melhem, and D. Mossé, "Enhancing Real-Time Schedules to Tolerate Transient Faults," *IEEE* 16th *Real-Time Systems Symposium*, Dec 1995
102. R. Botafogo and D. Mossé, "The Morena Model for Hypermedia Authoring and Browsing," *IEEE International Conference on Multimedia Computing Systems*, May 1995

103. B. Field, T. Znati, and D. Mossé, "V-NET: A Framework for a Versatile Network Architecture to Support Real-Time Communication Performance Guarantees," *InfoCom*, Apr 1995
104. D. Mossé, R. Melhem, and S. Ghosh, "Analysis of a Fault-Tolerant Multiprocessor Scheduling Algorithm," 24^{th} *International Symposium on Fault-Tolerant Computing,* Jun 1994
105. D. Mossé, "Mechanisms for System-Level Fault Tolerance in Real-Time Systems," *International Conference on Robotics, Vision, and Parallel Processing for Industrial Automation,* May 1994
106. S. Ghosh, R. Melhem, and D. Mossé, "Fault-Tolerant Scheduling on Hard Real-Time Multiprocessor Systems," 8^{th} *International Parallel Processing Symposium,* Apr 1994
107. D. Liang, D. Mossé, Y. Shi, and A. K. Agrawala, "Development and Analysis of Fault Tolerant Applications," 3^{rd} *International Symposium on Software Reliability Engineering*, Oct 1992
108. J. da Silva, Ó. Gudmundsson, and D. Mossé, "Performance of a Parallel Network Backup Manager," *USENIX Conference*, Jun 1992
109. S-T. Levi, D. Mossé, and A. K. Agrawala, "Allocation of Resources under Fault Tolerance Constraints," *IEEE* 9^{th} *Real-Time Systems Symposium*, Dec 1988

Refereed Workshop and Poster Papers

1. M. Zhou, Y. Du, B. Childers, R. Melhem and D. Mossé, "Writeback-aware Partitioning and Replacement for Last-Level Caches in Phase Change Main Memory Systems," *Non-Volatile Memories Workshop*, Univ. of California, San Diego, March 2012.
2. M. Iskander, A. Lee, and D. Mossé, "Privacy and Robustness for Data Aggregation in Wireless Sensor Networks, " *poster at ACM Conference on Computer and Communications Security (CCS) 2010*, Chicago, IL, Oct. 2010.
3. V. Petrucci, O. Loques, and D. Mossé, "Dynamic Configuration Support for Power-Aware Virtualized Server Clusters," *ECRTS 2009 WIP*, Dublin Ireland, June 2009,
4. Vinicius Petrucci, Orlando Loques and Daniel Mossé, "A dynamic configuration model for power-efficient virtualized server clusters," *in Brazilian Workshop on Real-Time Systems (WTR 2009)*, Recife, Brazil, May 2009.
5. S. Gobriel, R. Cleric and D. Mossé "Adaptations of TDMA Scheduling for Wireless Sensor Networks," in *International Workshop on Real-Time Networks (RTN'08)*, held in conjunction with ECRTS 08, Prague, July 2008.
6. A. Beal and D. Mossé, "From E-Business Strategy to IT Resource Management: A Strategy-Centric Approach to Timely Scheduling Web Requests in B2C Environments", Third IEEE International Workshop on Business-driven IT Management (BDIM 2008), Salvador, Brazil, April 2008. (in conjunction with NOMS 2008).
7. L. Bertini, J. Leite, and D. Mossé, "SISO PIDF Controller in an Energy-efficient Multi-tier Web Server Cluster for E-commerce", Second IEEE International Workshop on Feedback Control Implementation and Design in Computing Systems and Networks (Febid 2007), Munich, Germany, June 2007.

8. L. Bertini, J. Leite, and D. Mossé, “Coordinated DVS for QoS Control in Energy-efficient Server Clusters”, Brazilian Workshop on Real-Time Systems (WTR 2007), Belém, Brazil, May 2007.
9. N. AbouGhazaleh, A. Ferreira, C. Rusu, R. Xu, Bruce Childers, R. Melhem and D. Mossé, “Integrated CPU and L2 Cache Frequency/Voltage Scaling using Supervised Learning”, in *HiPEAC Workshop on Statistical and Machine Learning Approaches Applied to Architectures and Compilation (SMART’07)*, Ghent, Belgium, January 2007
10. A. Berfield and D. Mossé, “Efficient Scheduling for Sensor Networks,” *Proceedings of the First International Workshop on Advances in Sensor Networks (IWASN 2006)*, San Jose, California, July 2006
11. S. Khattab, D. Mossé, R. Melhem, “Honeybees: Combining Replication and Evasion for Mitigating Base-station Jamming in Sensor Networks,” *Proceedings of the 14th International Workshop on Parallel and Distributed Real-Time Systems (WP-DRTS’06)*, IPDPS 2006, Rhodes Island, Greece, April 2006
12. S. Khattab, D. Mossé, R. Melhem, T. Znati, “Honeypot Back-propagation for Mitigating Spoofing Distributed Denial-of-Service Attacks,” *Proceedings of the 2nd International Workshop on Security in Systems and Networks (SSN’06)*, IPDPS 2006, Rhodes Island, Greece, April 2006
13. T. Okumura, A. Amer and D. Mossé, “Prioritizing Write Acknowledgment inside Network Fileservers (poster),” *IEEE Global Telecommunications Conference (GLOBECOM 2005)*, St. Louis, MI, Nov 2005
14. R. Xu, D. Mossé, and R. Melhem, “Evaluating a DVS Scheme for Real-Time Embedded Systems,” *Second International Power-Aware Real-Time Systems Workshop*, PARC ’05, Jersey City, New Jersey, USA, Sept 2005
15. R. Xu, D. Mossé, and R. Melhem, “Minimizing Expected Energy in Real-Time Embedded Systems (poster),” *ACM Int’l Conf on Embedded Software*, EMSoft 2005, New York, Sept 2005
16. R. Xu, Cosmin Rusu, Dakai Zhu, D. Mossé, and R. Melhem, “Practical Energy-Efficient Policies for Server Clusters,” *Brazilian Workshop on Real-Time*, Gramado, Brazil, May 2004
17. D. Mossé, R. Melhem, S. Gleason and C. Mason, “Implementation of a Static Power Management Scheduler in RKLinux, a Real-time Operating System,” *Brazilian Workshop on Real-Time*, Natal, Brazil, May 2003
18. N. AbouGhazaleh, P. Lanigan, S. Gobriel, D. Mossé, and R. Melhem, “Dynamic Rate-Selection for Extending the Lifetime of Energy-Constrained Networks,” *Workshop on Energy Efficient Wireless Communication Networks* (in conjunction with IPCCC), Phoenix, Arizona, May 2004
19. T. Okumura and D. Mossé, “A Framework for Semantics-Based Network Management: Semantics-Aware Internetworking with Agent-Oriented Network Programmability” (poster), *International Workshop on Active Network Technologies and Applications*, with ANTA 2003, Osaka, Japan, May 2003.
20. V. Ramasubramanian and DṀossé, “Statistical Analysis of Connectivity in Unidirectional Mobile Ad-Hoc Networks,” *Workshop on Ad-hoc Networks (IWAHN’02)*, with ICPP’02. Vancouver, BC, August 2002

21. P. Mejia-Alvarez, E. Levner, D. Mossé, "An Integrated Heuristic Approach to Power-Aware Real-Time Scheduling," *Workshop on Power-Aware Computer Systems (PACS'02)*, Boston, Feb 2002
22. N. AbouGhazaleh, D. Mossé, B. Childers and R. Melhem, "Toward The Placement of Power Management Points in Real Time Applications," *Workshop on Compilers and Operating Systems for Low Power (COLP'01)*, Barcelona, Spain, 2001
23. André Allavena and D. Mossé, "Scheduling of Frame-based Embedded Systems with Rechargeable Batteries," *IEEE Workshop on Power Management for Real-Time and Embedded Systems*, with RTAS'01, Taipei, Taiwan, May 2001
24. Philippe Bonnet, Chang Won Choi and D. Mossé, "Distributed Query Planning in a Sensor Network," *DIMACS Workshop on Pervasive Networking*, Piscataway, NJ, May 2001
25. D. Mossé, "Timeliness and Reliability of Large-Scale Networks: A Dynamically-forming, Self-Organizing Hierarchy," *NSF/DARPA Workshop on New Visions for Large-Scale Networks*, Washington DC, March 2001,
26. D. Mossé, H. Aydin, B. Childers, and R. Melhem, "Compiler-Assisted Dynamic Power-Aware Scheduling for Real-Time Applications," *Workshop on Compiler and OS for Low Power*, with COLP'00, Philadelphia, Oct 2000
27. S. Komandur, Matt Doar, and D. Mossé, "The Domainserver Hierarchy for MulticastRouting in ATM Networks," *6^{th} IFIP Workshop on Performance Modeling and Evaluation of ATM Networks*, UK, Jul 1998
28. S. Lauzac, R. Melhem, and D. Mossé, "Adding Fault-Tolerance to P-Fair Real-Time Scheduling," *Workshop on Embedded Fault-Tolerant Systems*, Boston, May 1996
29. K. Tew, P. Chrysanthis and D. Mossé, "Empirical Evaluation of Task and Resource Scheduling in Dynamic Real-Time Systems," *Work-In-Progress Session of the IEEE Real-Time Systems Symposium*, Washington DC, Dec 1996
30. D. Mossé and H. Ly, "User to Network QoS Parameter Transformation in Networked Multimedia Systems," *Workshop on Resource Allocation Problems in Multimedia Systems*, RTSS'96, Washington DC, Dec 1996
31. B. Field and D. Mossé, "Towards Resource Usage Adjustments for Real-Time Traffic (poster)," *5^{th} Annual International Conference on Computer Communications and Networks*, ICCCN'96, Rockville, MD, Oct 1996
32. S. Komandur and D. Mossé, "Support for Shared Trees Over ATM Networks," *2^{nd} International Workshop on High Speed Network Computing*, HiNet'96, Hawaii, Apr 1996
33. Y-J. Chen, D. Mossé, and S-K. Chang, "An Object-Based Model for Dependable Real-Time Distributed Systems," *2^{nd} IEEE Workshop on Object-Oriented Real-Time Dependable Systems*, WORDS'96, Laguna Beach, CA, Feb 1996
34. Y-J. Chen, D. Mossé, and S-K. Chang, "A Framework for Modeling Dependable Real-Time Distributed Systems," *2^{nd} IFAC Workshop on Safety and Reliability in Emerging Control Technologies*, Daytona Beach, FL, Nov 1995
35. D. Mossé, "Creating Resilient Real-Time Applications," *20^{th} IFAC/IFIP Workshop on Real-Time Programming*, Nov 1995
36. D. Roesch, D. Mossé, and R. Botafogo, "Facilitating Navigation of the WWW (poster)," 4^{th} *World-Wide Web Symposium*, Boston, Mass, Nov 1995

37. P. Chrysanthis and D. Mossé, "Management and Delivery of Multimedia Traffic," *2nd International Workshop on Community Networking Integrated Multimedia Services to the Home*, Jun 1995
38. D. Mossé, R. Melhem, and S. Ghosh, "Transient Fault Tolerance in Real-Time Schedules," *Workshop on Composability of Fault-Resilient Real-Time Systems,* Dec 1994
39. R. Gupta, D. Mossé, and P. Gopinath, "Composable Software Integrated Circuits for Reliable Real-Time Systems," *Workshop on Composability of Fault-Resilient Real-Time Systems,* Dec 1994
40. S-K. Chang, Y-J. Chen, and D. Mossé, "Smart Objects for Dependable Real-Time Systems," 1st *IEEE Workshop on Object-Oriented Real-Time Dependable Systems (WORDS'94),* Oct 1994
41. D. Mossé and R. Botafogo, "Applications that Do and DO NOT Need Real Time," *Workshop on The Role of Real-Time in Multimedia/Interactive Computing*, with RTSS'03, Irvine, CA, Dec 1993
42. D. Mossé, "Tools for Visualizing Scheduling Algorithms," *IFIP WG 3.2 Working Conference on Visualization in Scientific Computing: Uses in University Education*, Irvine, CA, Jul 1993
43. D. Mossé, S. H Noh, B. Trinh, and A. K. Agrawala, "Multiple Resource Allocation for Multiprocessor Distributed Real-Time Systems," *First Workshop on Parallel and Distributed Real-Time Systems (PDRTS)*, IEEE IPPS'93, Newport Beach, CA, Apr 1993
44. D. Mossé and A. K. Agrawala, "On Fault Tolerance in Real-Time Systems," *1992 Workshop on Realistically Dependable and Parallel Computations*, Stony Brook, NY, Jul 1992
45. D. Mossé, M. Saksena, and A. K. Agrawala, "The Design of the MARUTI System," *Complex Systems Engineering Synthesis and Assessment Technology Workshop*, Silver Spring, MD, Jul 1992
46. R. Botafogo and D. Mossé, "Analyzing Hypertext Structures," *Workshop on Hypertext Activities*, with HyperOz'92, Australia, Feb 1992
47. D. Mossé, S. H Noh, B. Trinh, and A. K. Agrawala, "Multiple Resource Allocation and Scheduling for Multiprocessor Real-Time Distributed Systems," *Workshop of Architectural Support for Real-Time Systems*, Dec 1991
48. D. Mossé, Ó. Gudmundsson, and A. K. Agrawala, "Prototyping Real Time Operating Systems," *IEEE-CS First International Workshop on Rapid System Prototyping*, May 1991
49. Ó Gudmundsson, D. Mossé, A. K. Agrawala, and S. K. Tripathi, "MARUTI: A Hard Real-Time Operating System," *IEEE Workshop on Experimental Distributed Systems*, Oct 1990

Invited Papers, Talks and Courses

1. "Towards Mixing Smart Homes and the Cloud," Invited Talk, CISTER Group at INESC-TEC, Porto, Portugal *Feb 2012*
2. "Power Management in Embedded Systems", Keynote speaker 2011 ICESS (IEEE International Conference on Embedded Software and Systems) Changcha, China, *Nov 2011*
3. "New Main Memories for Saving Energy in Servers: Increasing Lifetime and Access Time of Hybrid PCM Main Memories," Invited Talk, Facebook *Oct 2011*
4. TECBio Research and Career Seminar Series, Invited Talk to REUs in Computational Biology,Univ. of Pittsburgh *July 2011*
5. "Power Management in Phase-Change Memories", Invited Talk, CS Department, Notre Dame University, South Bend, IN *Jan 2011*
6. "Uncertainty and Dependability in CPS", position paper by Daniel Mossé and Hakan Aydin, National Workshop for Research on Transportation Cyber-Physical Systems: Automotive, Aviation, and Rail, Vienna, VA, *Nov 2008*
7. "Wireless Networks for CPSd", *July 2008* Keynote Speaker for the Workshop on Real-Time Networks, with ECRTS 2008
8. "Power Management Research at the Univ of Pittsburgh", *June 2008* Siemens Research Center, Princeton
9. "Software Performance and Power Management in Large Scale Servers" *June 2008* Daniel Mosse and Alexandre Ferreira, at the Seventh ACM International Workshop on Software and Performance, WOSP 2008
10. "Power Management in Chip Multiprocessor Devices", *November 2007* Distinguished Seminar, Universidade Federal Fluminense, UFF
11. "There are more problems in Wireless Networks than we thought", *November 2007* Universidade Federal da Bahia, Keynote Speaker for the LaSid Annual Workshop
12. "Power Management in Server Farms and Embedded Devices", *August 2007* Microsoft Research
13. "Power Management and Denial-of-Service Mitigation", *May 2007* Google Pittsburgh
14. Brazilian Workshop on Real-Time Systems (WTR 2006) keynote speaker *June 2006*
15. D. Mossé, "Power-Aware Cached DRAMs," the Dagstuhl Seminar for Low-Power Systems, Germany *April 2005*
16. D. Mossé, "Secure Critical Information Technology Infrastructure," Workshop on Managing Extreme Events: Transatlantic Perspectives University of Pittsburgh, *March 2006*
17. D. Mossé, "Recent Power-management research in Real-Time Systems," Universidade de Aveiro, Portugal *Dec 2004*
18. D. Mossé, "On Power and Resource Management in Mobile Devices," Nokia Seminar on Embedded Software and Multimedia *Jun 2004*
19. Workshop on Hazard Reduction and Response in Metropolitan Regions, Pittsburgh *S-CITI: a A Secure Critical IT Infrastructure for Disaster Management 2003*

20. Brazilian Fault-Tolerant Computing SympoFsium, Brazil mini-course *Jun 30, 1997*
21. Brazilian Fault-Tolerant Computing Symposium,
    Brazil keynote speaker *Jul 2, 1997*
22. Carnegie Mellon University, PA: Real-time Lecture Series *May 13, 1997*
23. Y. Ronen, D. Mossé, and M. Pollack, "Value-Density Algorithms for the Deliberation-Scheduling Problem," *ACM SIGART Bulletin*, v 7, No. 2 *1996*
24. Bar-Ilan University, Israel: Colloquium Series *Dec 14, 1995*
25. Israel Institute of Technology (Technion), Israel: Colloquium Series *Nov 28, 1995*
26. Weizman Institute, Israel: Latex2e short course *Nov 23-30, 1995*
27. University of Pittsburgh, PA: Colloquium Series *Oct 27, 1995*
28. Matsushita Information Technologies Lab, Princeton: Invited Lecture *Jun 19, 1995*
29. West Virginia University, WV: Distinguished Lecture Series *Oct 27, 1992*
30. Carnegie Mellon University, PA: Real-time Lecture Series *May 14, 1992*
31. Queens University, Canada: Invited Lecture *Feb 11, 1992*
32. D. Mossé, Ó Gudmundsson, and A. K. Agrawala,
    "The MARUTI System and its Implementation,"
    IEEE Tech Committee on Operating Systems Newsletter, v 5, No. 3 *1991*

- **STUDENTS and COMMITTEES**
  - PhD Student Supervision and Co-Supervision

    Santiago Bock: Non-volatile Memory Analysis

    Miao Zhou: Non-volatile Memory Structures

    James Larkby-Lahet: ExoKernels for Web Servers

    David Wilkinson: Memory-FileSystem co-design for Non-volatile memories

    David Essary: Co-advising with Ahmed Amer
    Effectivie Grouping for Energy and Performance:
    Contruction of Adaptive, Sustainable, and Maintainable Data Storage *2011*

    Alexandre Ferreira: Distributed Thermal Computing and
    Memory Power Management *2011*

    Ruibin Xu: Energy-Aware Scheduling for
    Streaming Applications *2010*

    Luciano Bertini: Co-advising with Julius Leite (UFF, Brazil)
    Power Management for Server Farms *2009*

    Nevine AbouGazaleh: Compiler-Operating System Dynamic
    Voltage Scaling *2008*

    Sherif M. Khattab: Roaming Servers and Honeypots for Mitigation
    of DoS Attacks *2008*

    Sameh Gobriel: Wireless Models for Power-Aware Ad-Hoc Networks *2008*

    Takashi Okumura: Virtualization of Network I/O
    on Modern Operating Systems, *2007*

    Cosmin Rusu: Reward-Power tradeoffs in Real-Time Systems *2006*

    Dakai Zhu: Multiprocessor Power-Aware Scheduling *2004*

    Hakan Aydın: Fault-tolerant, power-aware, optimal Reward-Based Scheduling *2001*

    Libin Dong: Real-time Scheduling with Distance Constraints *2001*

    Sylvain Lauzac: Fault-Tolerant Real-Time Scheduling for Multiprocessors *2000*

    Sridhar Komandur: ATM Multicasting *1999*

    Fahad Hoymany: Communication Protocols for ATMs *1997*

    Yeong-Jia Chen: Specification of Fault-Tolerant Real-Time Systems
    using Timed Petri-Nets *1996*

    Sunondo Ghosh: Real-Time Fault-Tolerant Scheduling Algorithms *1996*

  - M. S. Students

    Raymond Giorgi: Power management in three-tiered web clusters *2011*

    Mark Zalar: measurements in rate changing wireless cards *2007*

    Matt Craven: power management in embedded clusters *2005*

    Ramesh Mishra: Linux network control using netnice *2002*

    Namrata Rastogi: power management for distributed systems *2002*

    Takashi Okumura: Network Control in and out of UNIX *2000*

    Hugo Varotto: Multiprocessor Real-Time Scheduling *1999*

Kamran Farshchi: Network Traffic Control Algorithms *1999*
David Kutz: FT-RT-Mach and Persistent Threads for RT Train Control *1998*
Anthony Egan: Implementation of real-time communication server *1997*
Kanaka Komandur: Fault detection algorithms *1997*
Dmitry Mikulin: Implementation of fault-tolerant real-time schedulers *1997*
Ha Ly: User-to-network transformations for real-time communication *1996*
Ken Tew: Multi-resource distributed scheduling for real-time systems, MS *1996*
Yohnes Hartoyo: Fault-tolerant real-time scheduling survey *1996*
Adel Jomah: Experimentation with Real-Time Communication Thesis *1996*
Andal Kasturi: Resource adjustments in RT communication channels *1996*
Yuhua Luo: Implementation of real-time communication in RT-Mach *1996*
Douglas Roesch: WWW navigation *1995*
Edward Cymbalak: Implementation of time-line scheduler in RT-Mach *1994*
Bruce Stadd: Fault-tolerant real-time application specification *1993*

– Undergraduate Students

William Klieber: Memory voltage scaling *2005*
Joseph Gallo: Automatic/online data structure reorganization *2005*
Aaron Watson: power management in embedded systems *2004*
Robert Fisher: power management in server farms *2004*
Nicholas Swierczek: compiler/operating system interaction for power management *2004*
Emil Macarie: network security with roaming servers *2003-2004*
Nicolas Baldi: wireless communication with energy savings *2003*
Eric Humenay: attending PhD program at University of Virginia *2003-2004*
Uri Moszkowicz (at Cornell): rechargeable power-aware systems obtained Intel Research Scholarship for project, attended graduate school at Cornell *2000-2002*
Joe Atzinger (Computer Engineering project:) Install Linux in a custom power-aware IBM-made Pecan Bord, measure the energy used by the system in that board. *2002*
Regis Colwell: (supported by NSF-REU, co-advised with P. fsanthis) attended graduate school in Princeton *1994-1996*
Jonathan Hill: (supported by NSF-REU, co-advised with P. Chrysanthis) currently Ph.D. student at the University of Virginia *1996-1997*
Archna Kalra: (supported by Chancellor's Undergraduate Research Fellowship), attended graduate school at UMass, Amherst *1994-1995*
D. Broudy, D. Chen, A. Cranmer, J. Drescher, M. Fletcher, H. Gelman, D. Zorine (supported by NSF-REU and DARPA, co-advised with P. Chrysanthis, R. Gupta, and R. Melhem) *1994-present*

– General Advising

Graduate Students: 5 students per term, average

Undergraduate Students: 10 students per term, average

- PhD dissertation committees:
  CompSci Dept: Diana Chang, Brian Field (1995), Chun Gong (1996), Nimish Shrivastava (1999), Jae Oh (2001), Leo Selavo (2004), Haidong Xia (2008), Hui Ling (2010), Ihsan Qazi (2010)
  Pitt Ind Engg: Pamela Ajoku (2006), *CMU CompSci*: Saowanee Saewong (2005), *UNC-CH CompSci*: UmaMaheswari Devi (2006), *Concordia University, Canada*: Yun Wang (1999), *Universita di Pisa, Italy*: Claudio Scordino (2007), *CMU CompSci*: Anthony Rowe (2009), *Linkopings University, Sweden*: Calin Curescu (2005), *Pitt, School of Information Science*: Parasak Chokesatean (2007)
- M.S. thesis committees: Jacques Alves da Silva, at UFF, Brazil (2008); Bryan Mills (2007)

- **COURSES TAUGHT**
  - CS2510, Computer Operating Systems *Spring 1997, 1998, 2001, Fall 2010, Fall 2011*
  - CS007, Introduction to Computer Programming *Fall 2008*
  - CS3550, Advanced Topics in Distributed and Real Time Systems *Fall 2008*
  - Course Buy-Out *Spring 2003, Spring 2004, Spring 2005, Spring 2006*
  - GAFA course reduction *Spring 2009*
  - Sabattical *Fall 2007, Spring 2008*
  - CS 2001 Research Topics in Computer Engineering *Fall 2006, 2007*
  - CS1567, Programming and System Design on a Mobile Robot Platform *Spring 2007, Spring 2010*
  - Engineering Project, CoE/ECE 1898 *Fall 2005*
  - Freshmen Studies, FS0001 *Fall 1994*
  - CS0110, Computers and Networks *Spring 2000*
  - CS0447, Assembly Language Programming (2 sessions) *Fall 1993*
  - CS1550, Systems Programming *Fall 1992, Spring 1993*
  - CS1550, Introduction to Operating Systems (new curriculum) *Fall 1994, Spring 1999, Fall 2001, Fall 2002, Fall 2003, Spring 2005, Spring 2006*
  - CS1590, Social Implications of Computing (New Writing course) *Spring 1995, Spring 1997, Spring 2000*
  - CS1651, Advanced Systems Software (new curriculum) *Spring 1996, Fall 1996, 1997, and 1998, 1999, Spring 2004 (co-taught with Ahmed Amer), Fall 2005 (co-taught with Ahmed Amer)*
  - CS2511, Advanced Computer Operating Systems *Spring 1994*
  - CS2511, Advanced Computer Operating Systems (new curriculum) *Spring of 1995, 1996*

- CS2590, Distributed Operating Systems *Fall 1994*
- CS3350 Real-Time and Distributed Systems *Spring of 1993, 1997, Fall 1998, Fall 2004*
- CS3510, Advanced Topics in Operating Systems *Spring 2003*

- **PROFESSIONAL SERVICE**

  Chair positions in conferences:

  - IEEE Technical Committee on Real-time systems, Executive Committee, Chair of Conference Affairs sub-committee *2010*
  - International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA):,Toyama, Japan: General co-Chair *2011*
  - International Green Computing Conference, Orlando Florida Technical Program Co-chair *2011*
  - Real-Time Systems Symposium, Rio de Janeiro, Brazil: General Chair *2006*
  - Real-Time Systems Symposium, Miami: Program Chair *2005*
  - Brazilian Workshop on Real-Time Systems, Fortaleza, Brazil: Program Chair *2005*
  - Special session in PDCS on Applications of Game Theory and Artificial Intelligence Techniques on Distributed Computing and Internet-wide Computing with the Int'l Conf on Parallel and Distributed Computing Systems (PDCS-2004): Co-organizer (with Jae Oh) *2004*
  - Workshop on Games and Emergent Behaviors in Distributed Computing Environments with PPSN (Parallel Problem-Solving in Nature): General and program co-chair with Jae Oh *2004*
  - Workshop on Power-Aware Real-Time Computing (PARC'04) : General and program co-chair, with EMSoft 2004, *2004*
  - Workshop on Constraint-Aware Embedded Software (CAES'03): General and program co-chair *2003*
  - Real-Time Technology and Applications Symposium (RTAS'02): General co-chair *2002*
  - Real-Time Technology and Applications Symposium (RTAS'01): co-chair *2001*
  - Workshop on Dependable and Real-Time E-Commerce Systems (DARE'98): Publicity Chair *1998*
  - Real-Time Education Workshop (RTEW'97): General Chair and Program Co-Chair *1997*
  - Real-Time Technology and Applications Symposium (RTAS'97): Publicity Chair *1997*

Program Committee Positions:

- International Conference on Computer and Management (CAMAN 2013) *2013*
- International Conference on Smart Grids and Green IT Systems (SMARTGREENS) *2012*
- International Workshop on Embedded Multicore Systems (ICPP-EMS) *2012*
- International Workshop on Cooperative Robots and Sensor Networks (RoboSense 2012) *2012*
- International Worskshop on Networks of Cooperating Objects, Co-located with CPS (CONET): *2012*
- International Workshop on Real-Time Networks (RTN): *2008, 2010, 2012*
- IEEE International Conference on Embedded Software and Systems (ICESS): *2010, 2011, 2012*
- Conference on Smart Grids, Green Communications and IT Energy-aware Technologies(ENERGY): *2011,2012*
- XIII Workshop de Testes e Tolerncia a Falhas (SBRC 2012 WTF): *2012*
- IEEE International Conference on Emerging Technologies and Factory Automation (ETFA):,Real-Time and Networked Embedded Systems Track (RTNES): *2003-2010, 2012*
- IEEE Real-Time Technology and Applications Symposium (RTAS): *1997-2006,2010,2012*
- International Conference on Embedded and Ubiquitous Computing, Real Time Systems Track (ICEUC): *2011*
- Seventh Workshop on Hot Topics in System Dependability (HotDep '11): *2011*
- International Worshop on Feedback Control Implementation and Design in Computing Systems and Network (FeBID) : *2011*
- ICT as Key Technology for the Fight Against Global Warming Conference (ICT-GLOW): *2010, 2011*
- XI Workshop de Testes e Tolerancia a Falhas (SBRC 2010 WTF): *2010*
- International Conference on Network and Services Management (ICNS): *2011*
- Track on Emerging, Newtorking, Tracking and Sensing in the International conference on Ambient Systems, Networks and Techologhies (ANT-2011) : in conjunction with Mobile Web Information Systems (MobiWIS): *2011*
- Conference on Communication System Software and Middleware (COMSWARE): *2011*
- The First International Workshop on Cyber-Physical Networking Systems (CPNS) : *2011*
- Real-Time Systems Track in ACM Symposium on Applied Computing (SAC): *2011*
- Technical Program Committee,Power-Aware Design and Optimization (PADO) : Track in ACM Symposium on Applied Computing (SAC): *2011*
- International Conference on Real-Time and Network Systems (RTNS): *2007-2011*

- IEEE Real-Time Systems Symposium (RTSS): *2000-2004, 2007-2011*
- International Conference on Cloud Computing, GRIDs, and Virtualization *2010*
- IEEE/ACM International Conference on Green Computing and Communications, Hangzhou, China
  (GreenCom) *2010*
- Brazilian Workshop on Fault-Tolerant Systems *2009-2010*
- Brazilian Workshop on Real-Time Systems (WTR-SBESC) *2002-2010*
- European Conference of Real-Time Systems (ECRTS) *2003-2007, 2010*
- EMSOFT: ACM Int'l Conf on Embedded Software *2003–2007, 2010*
- 24rd ACM Symposium on Applied Computing (SAC)
  Track on Power Aware Optimizations *2010*
- International Conference on Embedded Software and Systems (ICESS): *2009-2010*
- First ACM International Workshop on Medical-Grade Wireless Networks (WiMD 2009)
  colocated with Mobihoc *2009*
- Workshop on Compositional Theory and Technology for Real-Time Embedded Systems (CRTS) *2008-2010*
- International Workshop on Software Support for Portable
  Storage (IWSSPS):, *2005-2009*
- 23rd ACM Symposium on Applied Computing (SAC)
  Track on Real-Time Systems *2008-2009*
- IEEE International Symposium on Object-oriented Real-time Distributed
  Computing (ISORC) *2000-2001, 2009*
- IEEE Conference on Sensor, Mesh, and Ad Hoc Communications and Networks (SECON) *2008*
- IEEE Workshop on Parallel and Distributed Real-Time Systems
  (WPDRTS) *2003-2008*
- Workshop on Operating Systems Platforms for Embedded Real-Time
  Applications (OSPERT) *2006-2007*
- The 12th IEEE International Conference on Embedded and Real-Time
  Computing Systems and Applications (RTCSA'06) *2006*
- Workshop on Power-Aware Real-Time Computing (PARC) *2005*
- Latin-American Workshop on Dependable Automation Systems (WDAS) *2005*
- ACM/IEEE Mobiquitous:
  Int'l Conference on Mobile Ubiquitous Systems *2005-2008*
- Workshop on Performance Issues in Mobile Devices, with HiPC *2004*
- Int'l Conf on Embedded and Ubiquitous Computing (EUC) *2004-2005*
- IEEE Workshop on Compilers and Operating Systems for Low Power (COLP) *2003*
- IEEE Workshop on Power-Aware Computer Systems (PACS) *2003, 2004*
- Conference on Multimedia Computing and Networking (MMCN'03) *2003*
- IEEE Workshop on Wireless Sensor Networks and Applications
  (with MobiCom 2002) *2002*

- IEEE Workshop on Power Management for Real-Time and Embedded Systems, with RTAS *2001*
- International Conference on Distributed Computer Systems (ICDCS)
  Program committee member for Real-Time Area *2001*
  Program committee member for Cyber-Physical Systems Area *2008-2009*
- International Conference on Computer Communications and Networks (ICCCN): *1999-2002*
- IEEE Real-Time Education Workshop (RTEW'99): *1999*
- IEEE Workshop on Dependable and Real-Time E-Commerce Systems (DARE'98): *1998*

Other Service:

- Guest Co-editor of A Special Issue of the Journal of Susbtainable Computing for Green Computing, *2012*
- Scientific Advisory Board of INESC-TEC Technical Commitee Real-time Systems (TCRTS) *2012-present*
- Area Editor for Embedded Systems of the Journal on Real Time Networked Embedded Systems, *2012-present*
- EAB (external advisory board) of CISTER–Research Centre in Real-Time Computing Systems, Portugal 2011-present *2011-present*
- Journal of Real-Time Systems: associate editor *2003-present*
- NSF: panels for proposal review *1997, 1999, 2001-present*
- Technical Commitee Real-time Systems (TCRTS) *2010-2012*
- Co-editor with J. Leite and D. Kusic, Journal of Real-Time Systems Special Issue on Energy Management *2011*
- Workshop of Data Fusion and Quality of Information at CPS Week *2011*
- Advisory Editorial Board Member, "Sustainable Energy Developments" Book Series, Bundschuh *2010-2011*
- Industry Board Member, Computer Science Industry Board, University of Pittsburgh *2009-2011*
- Co-Guest Editor of IEEE Transactions on Industrial Informatics, Special Section on Power-Aware Computing *2010*
- Advisory Board Member, Technology Leadership Initiative, University of Pittsburgh *2009-2010*
- Advisory Committee, Symposium on Object/Component/Service-Oriented Real-Time Distributed Computing *2008-2009*
- International Journal on Embedded Systems (IJES): *2006*
  served on Guest Editorial Board
- Brazilian Workshop on Real-Time Systems: *2006*
  member of steering committee
- Workshop on Research Directions for Security and Networking in Critical Real-Time and Embedded Systems: *2006*
  member of steering committee and panelist

- Council for Physical Sciences: panel for proposal review *2005*
- Advisory Committee, Workshop on Methodologies in Low Power Design *2003-2004*
- IEEE Transactions on Computers: associate editor *2001-2003*
- ARTIST Project US Advisory Committee: *2002-2004*
  European project committed and mandated to providing a road map and a long term vision in the area of real-time software and systems in Europe.
- NSERC: proposal review *2007*
- ACM and IEEE Computer Society, member *1986-present*

- **DEPARTMENTAL AND UNIVERSITY OF PITTSBURGH SERVICE**

First Experiences in Research co-author with 4 undergraduate freshman on the issue of Women in Computer Science *Spring 2012*

Member of the Organizing Committee for Provost's New Chair Orientation *2010*

Introduction to A&S Poster Competition, judge *2008, 2010*

Freshman Midterm Progress Report, participant *2008*

CS Election Committee, Chair *2006*

FAS Tenure Council *2005*

Graduate Program and Exams Committee, Chair or co-Chair *2003-2006*

Ad-Hoc Tenure Committee *Spring 2004*

Council on Academic Computing, *2002-2006*
also in the Subcommittee for the Future of Computing and Security Subcommittee

Telecom Recruiting Committee, CS representative *2003 season*

Computer and Communications Committee, Chair *1998-1999, 2002-2003*

FOCUS Group Leader, to aid under-represented, first-year students *1997-1998*

Faculty Admissions Support Team, for special recruitment *1997-1998*
included activities in Pittsburgh and trip to other cities

Undergraduate Advising Committee *1995-1998*

Graduate Program and Examinations Committee *1994-1996*

Computer and Communications Committee *1994-2006*

Computing Needs Committee *1992-1994*

Teaching Assistant Training and Evaluation Committee *1992-1994*

New Undergraduate Systems Curriculum: contributed heavily to reformulation of undergraduate systems curriculum *1992-1994*

Graduate Systems Curriculum: coordinated revision of graduate curriculum *1993-1994*

Association for Computing Machinery: helped to establish student chapter *1993*

Parallel and Distributed Systems Lecture Series: coordinator *1993*

Unix Club: initiated and organized a series of lectures on Unix at Pitt *1993*

- **MISCELLANEOUS**

Academic Entrepreneurship: Business of Commercial Innovation for Faculty,
University of Pittsburgh Katz Graduate School of Business *2002*

Advisor, Turn Left, Independent Organization, Cornell Univ *2000-2001*

President of the Graduate Student Executive Council,
Department of Computer Science, University of Maryland *1989-1991*

President of the ACM, Student Chapter,
Department of Computer Science, University of Maryland *1988-1990*

Editor/Writer of the Graduate Student Newsletter,
Department of Computer Science, University of Maryland *1988-1989*

Languages: Portuguese, English, Spanish (fluent); French, Hebrew, Italian (speak, read)

Brazilian Music Radio Program, DJ, Pacifica Radio, Washington, DC *1988-1990*