

**CURRICULUM VITAE
OF
DR. GANG QUAN**

ELECTRICAL AND COMPUTER DEPARTMENT

EDUCATION

- **Ph.D** University of Notre Dame, Notre Dame, IN, USA, Computer Science & Engineering, January 2002,
- **M.S** Chinese Academy of Sciences, Institute of Remote Sensing and Applications, Beijing, China, Information Systems, August 1994
- **B.S** Tsinghua University, Beijing, China, Electronic Engineering, July 1991

EMPLOYMENT

- Florida International University, Professor, Electrical and Computer Engineering Department, July 2017 – present
- Florida International University, Associate Professor, Electrical and Computer Engineering Department, July 2009 – June 2017
- University of South Carolina, Assistant Professor, Department of Computer Science & Engineering, January 2002- July 2009
- University of Notre Dame, Research Assistant, Department of Computer Science & Engineering, August 1997- December 2001
- Chinese Academy of Sciences, Senior Software Engineer, Beijing, China, 1994-1997

RESEARCH INTERESTS

- Real-time embedded systems, advanced computer architecture, power/thermal aware design, data centers and cloud computing, electronic design automation, reconfigurable computing

FUNDED RESEARCH/TEACHING PROJECTS

- **PI: Shaolei Ren, Co-PI: Gang Quan**, “CSR: Small: Making Virtualized Data Center Less ‘Thirsty’ via Online Resource Management”, **\$333,495 (\$133,400 for Dr. Gang Quan), NSF**, 10/1/2014 – 9/30/2016.
- **PI: G. Quan**, “Collaborated Research: Application-aware Many-core Virtualization for Real-time Embedded Computing”, **\$201,000 (for Dr. Gang Quan), NSF**, 8/1/2010 – 7/31/2013.

- **PI: Gang Quan**, “Collaborated Research: Application-aware Many-core Virtualization for Real-time Embedded Computing” (REU Supplement), **\$16,000, NSF**, 4/30/2014 - 5/1/2015.
- **PI: G. Quan**, “Leakage-Aware Temperature-Constrained Real-Time Scheduling”, **\$250,000, NSF**, 10/1/2009 – 9/30/2012
- **PI: G. Quan**, “Leakage-Aware Temperature-Constrained Real-Time Scheduling” (REU Supplement), **\$16,000, NSF**, 9/7/2011 - 9/30/2012.
- **PI: G. Quan**, “**CAREER: Power-Aware Real-Time Embedded System Design**,” **\$400,000, NSF-CAREER**, 2/1/2006—1/31/2011
- **PI: G. Quan**, “Power-Aware Real-Time Embedded System Design” (REU Supplement), **\$16,000, NSF**, 7/15/2009 - 7/14/2010.
- **PI: G. Quan, Co-PI: John Bowles**, “CCLI: Novel Instruction Material Development for Embedded System Education in Undergraduate Curriculum,” **\$150,000 (PI share: \$130,000), NSF**, 3/1/2007—2/28/2010 (**one of 100 funded projects among total 907 submissions**)
- **PIs: G. Quan (50%), C. Liu (50%)**, “Innovative Teaching Material Development on Multi-Core Architecture for Computer Engineering Education”, **\$138,624, Florida International University Technology Committee**, 1/1/2011 – 12/31/2013
- **PIs: G. Quan(33.3%), J. Fan (33.3%), C. Liu (33.3%)**, “Computer Engineering Lab Development Initiative”, **\$ 246,220, Florida International University Technology Committee**, 1/1/2010 – 12/31/2012
- **PI: D. Buell, Co-PI: J. Davis, G. Quan**, “Library Development and Experiments using Prototype Reconfigurable Computing Machines”, **\$415,000, NSA**, 4/1/2002-5/31/2004.
- **PI: G. Quan**, “Using 500 Million-Gate Virtex XCV1000 FPGAs for Research and Educational Usage in the University of South Carolina,” **\$244,295 (equipment fund), Xilinx Inc.**, 4/2003.
- **PI: G. Quan**, Research Productive Scholarship Award, **\$14,000, University of South Carolina Research Office**, 4/1/2005 – 6/30/2006

PUBLICATIONS IN DISCIPLINE

Book Chapters

1. Thant Zin Oo, Nguyen H. Tran, Choong Seon Hong, Shaolei Ren and Gang Quan, “Power Management in Data Centers: Cost, Sustainability, and Demand Response”, in **Energy Efficiency in Data Center**, 2016 (accepted)
2. G. Quan and X. Hu, “Minimum Energy Fixed-Priority Scheduling for Variable Voltage Processors,” in **Design, Automation, and Test in Europe - The Most Influential Papers of 10 Years DATE**, R. Lauwereins and J. Madsen (Eds.), Springer, March 2008.
3. G. Quan and X. Hu, “Static Dynamic Voltage/Frequency Scheduling”, in **Embedded Processor and System Design-A Low Power Perspective**, J. Henkel and S. Parameswaran, (Eds.), Kluwer Academic Publishers, scheduled for publication in July 2007.

4. X. Hu and G. Quan, "Fundamentals of Power-Aware Scheduling," in ***Embedded Processor and System Design-A Low Power Perspective***, J. Henkel and S. Parameswaran (Eds.), Kluwer Academic Publishers, scheduled for publication in July 2007.

Selected Journals

1. Soamar Homs, Shuo Liu, Gustavo A. Chaparro-Baquero, Ou Bai, Shaolei Ren, Gang Quan, "Workload Consolidation for Cloud Data Centers with Guaranteed QoS Using Request Reneging". ***IEEE Trans. Parallel Distrib. Syst.*** 28(7): 2103-2116 (2017)
2. Tianyi Wang, Soamar Homs, Linwei Niu, Shaolei Ren, Ou Bai, Gang Quan, Meikang Qiu, "Harmonicity-Aware Task Partitioning for Fixed Priority Scheduling of Probabilistic Real-Time Tasks on Multi-Core Platforms". ***ACM Trans. Embedded Comput. Syst.*** 16(4): 101:1-101:21(2017)
3. Mohammad A. Islam, Shaolei Ren, Gang Quan, Muhammad Z. Shakir, Athanasios V. Vasilakos, "Water-Constrained Geographic Load Balancing in Data Centers." ***IEEE Trans. Cloud Computing*** 5(2): 208-220 (2017)
4. Qiushi Han, Ming Fan, Bai Ou, Shaolei Ren and Gang Quan, "Temperature-Constrained Feasibility Analysis for Multi-core Scheduling", ***IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems***, 35(12): 2082-2092, 2016
5. M. Islam, K. Ahmed, H. Xu, N. Tran, G. Quan, S. Ren, "Exploiting Spatio-Temporal Diversity for Water Saving in Geo-Distributed Data Centers", ***IEEE Trans. On Cloud Computing***, 2016.
6. M. A. Islam, S. Ren, A. H. Mahmud and G. Quan, "Online Energy Budgeting for Cost Minimization in Virtualized Data Center," ***IEEE Transactions on Services Computing***, vol. 9, no. 3, pp. 421-432, May-June 1 2016.
7. M. Qiu, Z. Chen, J. Niu, Z. Zong, G. Quan, X. Qin and L. Yang, "Data Allocation for Hybrid Memory with Genetic Algorithm", ***IEEE Trans. On Emerging Topics in Computing***, 3(4): 544-555, 2015.
8. L. Niu and G. Quan, "Peripheral-conscious energy-efficient scheduling for weakly hard real-time systems", ***International Journal of Embedded Systems***, v. 7, no. 1, pp.11-25, January 2015
9. Zhi Chen, Meikang Qiu, Yongxin Zhu and Xiao Qin and Gang Quan, "Improving phasor data concentrators reliability for smart grid", ***Transactions on Emerging Telecommunications Technologies***, 26(7): 1039-1049, 2015
10. Ming Fan, Rong Rong, Shuo Liu, Gang Quan, "Energy calculation for periodic multi-core scheduling in system thermal steady state with consideration of leakage and temperature dependency", ***The Journal of Supercomputing*** (Springer), 71(7): 2565-2584, 2015
11. Zheng Li, Shangping Ren, Gang Quan, "Energy minimization for reliability-guaranteed real-time applications using DVFS and checkpointing techniques." ***Elsevier Journal of Systems Architecture - Embedded Systems Design***, 61(2): 71-81, 2015

12. Ming Fan, Qiushi Han, Shuo Liu, Shaolei Ren, Gang Quan, Shangping Ren, "Enhanced fixed-priority real-time scheduling on multi-core platforms by exploiting task period relationship", *Elsevier Journal of Systems and Software*, v. 99, pp.85-96, January 2015
13. Qiushi Han, Linwei Niu, Gang Quan, Shaolei Ren, Shangping Ren, "Energy efficient fault-tolerant earliest deadline first scheduling for hard real-time systems." *Real-Time Systems Journal* (Springer), 50(5-6): 592-619 (2014)
14. M. Fan, and G. Quan, "Harmonic-Aware Multi-Core Scheduling For Fixed-Priority Real-Time Systems", *IEEE Transactions on Parallel and Distributed System*, vol. 25, no. 6, pp. 1476-1488, June 2014
15. H. Huang, V. Chaturvedi, G. Quan, J. Fan and M. Qiu "Throughput Maximization for Periodic Real-Time Systems under the Maximal Temperature Constraint", *ACM Transactions on Embedded Computing Systems (TECS)*, 13(2s): 70 (2014)
16. H. Huang, M., Fan, and G. Quan, "Leakage and Temperature Aware Energy Minimization Scheduling for Hard Real-Time Systems", *Elsevier Journal of Sustainable Computing: Informatics and Systems (SUSCOM)*, V. 3, 274-285, 2013
17. Linwei Niu, Gang Quan, "Leakage-aware scheduling for embedded real-time systems with (m, k)-constraints." *International Journal of Embedded Systems*, 5(4): 189-207 (2013)
18. Meikang Qiu, Zhong Ming, Jiayin Li, Jianning Liu, Gang Quan, Yongxin Zhu, "Informer homed routing fault tolerance mechanism for wireless sensor networks". *Elsevier Journal of Systems Architecture - Embedded Systems Design*, 59(4-5): 260-270, 2013
19. Guanglei Liu, Ming Fan, Gang Quan, and Meikang Qiu , "On-Line Predictive Thermal Management Under Peak Temperature Constraints for Practical Multi-Core Platforms", *Journal of Low Power Electronics*, Vol. 8, No. 5, 565-578, 2012
20. V. Chaturvedi, H. Huang, S. Ren, G. Quan, "On the Fundamentals of Leakage Aware Real-Time DVS Scheduling for Peak Temperature Minimization", *Elsevier Journal of Systems Architecture*, v. 58, no.10, 387-397, 2012
21. H. Huang, V. Chaturvedi, G. Liu and G. Quan, "Leakage Aware Scheduling On Maximum Temperature Minimization For Periodic Hard Real-Time Systems", *Journal of Low Power Electronics*, No. 8, 378-393, 2012
22. S. Liu, G. Quan, and S. Ren, "On-Line Real-Time Service-Oriented Task Scheduling using TUF", *ISRN Journal of Software Engineering*, Volume 2012, Article ID 681985, 12 pages, 2012
23. S. Li, S. Ren, Y. Yu, X. Wang, and G. Quan, "Profit and Penalty Aware Scheduling for Real-Time On-line Services", *IEEE Trans. Industrial Informatics*, Vol 8, No. 1, 78-89, 2012
24. Jiayin Li, Meikang Qiu, Zhong Ming, Gang Quan, Xiao Qin, Zonghua Gu: Online optimization for scheduling preemptable tasks on IaaS cloud systems. *Elsevier Journal of Parallel Distributed Computing*, Vol 72, No.5, 666-677, 2012
25. J. Li, Z. Ming, M. Qiu, G. Quan, X. Qin, T. Chen, "Resource allocation robustness in multi-core embedded systems with inaccurate information", *Elsevier Journal of Systems Architecture*, Vol 57, No, 9, 840-849, April 2011

26. G. Quan, V. Chaturvedi, "Feasibility Analysis for Temperature-Constraint Hard Real-time Periodic Tasks", *IEEE Transactions on Industrial Informatics*, Vol 6, No. 3, pp. 329 – 339, Aug 2010.
27. G. Quan, L. Niu, B. Mochocki and X. Hu, "Fixed-priority scheduling for reducing both the dynamic and leakage energy on variable voltage processors," *International Journal of Embedded Systems*, Vol. 4, No 2, 127-140, 2009
28. L. Niu, G. Quan, "Energy-Aware Scheduling for Practical Mode Real-Time Systems with QoS Guarantee", *Journal of Computer Science and Information Engineering*, Vol. 3, 428-432, 2009
29. B. Mochocki, X. Hu and G. Quan, "Transition overhead aware voltage scheduling for fixed-priority real-time systems," *ACM Transactions on Design Automation of Electronic Systems*, Vol 12, No. 2, April, 2007
30. G. Quan and X. Hu, "Energy efficient DVS schedule for fixed-priority real-time systems," *ACM Transactions on Embedded Computing Systems*, Vol. 6, No. 4, 31 pages, September 2007
31. G. Quan, G. Greenwood, D. Liu and X. Hu, "Searching for multi-objective preventive maintenance schedules: Combining preferences with evolutionary algorithms," *European Journal of Operational Research*, Vol. 177, No. 3, pp. 1969-1984, March 2007
32. L. Niu and G. Quan, "Energy minimization for real-time systems with (m,k)-guarantee", *IEEE Transactions on Very Large Scale Integration Systems*, Vol. 14, No.7, 717-729, 2006
33. L. Niu and G. Quan, "System Wide Dynamic Power Management for weakly Hard Real-Time Systems", *Journal of Low Power Electronics*, Vol 2, No 3, pp. 342-355, 2006
34. B. Mochocki and X.S. Hu and G. Quan, "A unified approach to variable voltage scheduling for non-ideal DVS processors," *IEEE Transactions on Computer-Aided Design for Integrated Circuits and Systems*, Vol 23, No.9, 1370- 1377, 2004.
35. G. Quan and X. S. Hu, "Minimum Energy Fixed Priority Scheduling for Variable Voltage Processors," *IEEE Transactions on Computer-Aided Design for Integrated Circuits and Systems*. vol 22, No.8, 1062-1071, Aug 2003.

Selected Peer-Reviewed Conference Proceedings

1. Shi Sha, Wujie Wen, Shaolei Ren, Gang Quan, "A Thermal-Balanced Variable-Sized-Bin-Packing Approach for Energy Efficient Multi-Core Real-Time Scheduling". *ACM Great Lakes Symposium on VLSI 2017*: 257-262
2. Zihao Liu, Wujie Wen, Lei Jiang, Yier Jin, Gang Quan, "A statistical STT-RAM retention model for fast memory subsystem designs", *IEEE Asia and South Pacific Design Automation Conference (ASP-DAC)*, 720-725, 2017 (acceptance rate: 31%)
3. Gustavo A. Chaparro-Baquero, Shi Sha, Soamar Homs, Wujie Wen, Gang Quan , "Processor/Memory Co-scheduling Using Periodic Resource Server for Real-Time System

- Under Peak Temperature Constraints”, *IEEE International Symposium on Quality Electronic Design*, 2017
4. Tianyi Wang, Shi Sha, Wujie Wen, Gang Quan, Meigang Qiu, “On Harmonic Fixed-Priority Periodic Real-Time Tasks with Explicit Deadlines”, *IEEE/ACM Design Automation Conference (DAC)*, 2016. (accepted, acceptance rate: 18%)
 5. Gustavo A. Chaparro-Baquero, Soamar Homs, Omara Vichot, Shaolei Ren, Gang Quan, Shangping Ren, “Cache allocation for fixed-priority real-time scheduling on multi-core platforms”, *International Conference on Computer Design (ICCD)*, 2015 (acceptance rate < 30%).
 6. Qiushi Han, Tianyi Wang and Gang Quan, “Enhanced Fault-Tolerant Fixed-Priority Scheduling of Hard Real-Time Tasks on Multi-Core Platforms”, *International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA)*, 2015 (accepted, regular paper acceptance rate < 30%).
 7. Shuo Liu, Soamar Homs, Ming Fan, Shaolei Ren, Gang Quan and Shangping Ren, “Power Minimization for Data Center with Guaranteed QoS”, *IEEE/ACM Design, Automation & Test in Europe Conference & Exhibition (DATE)*, 2015 (regular presentation acceptance rate ~ 22.4%)
 8. Qiushi Han, Ming Fan, Linwei Niu and Gang Quan, “Energy Minimization for Fault Tolerant Scheduling of Periodic Fixed-Priority Applications on Multiprocessor Platforms”, *IEEE/ACM Design, Automation & Test in Europe Conference & Exhibition (DATE)*, 2015 (regular presentation acceptance rate ~ 22.4%)
 9. Tianyi Wang, Linwei Niu, Shaolei Ren and Gang Quan, “Multi-Core Fixed-Priority Scheduling of Real-Time Tasks with Statistical Deadline Guarantee”, *IEEE/ACM Design, Automation & Test in Europe Conference & Exhibition (DATE)*, 2015 (regular presentation acceptance rate ~ 22.4%)
 10. Ming Fan, Qiushi Han, Shuo Liu, Gang Quan: On-line reliability-aware dynamic power management for real-time systems. *IEEE International Symposium on Quality Electronic Design (ISQED)*, 2015: 361-365
 11. Miao Song, Shuhui Li, Shangping Ren, Gang Quan, "Delay-Impact-Based Local Deadline Assignment for Online Scheduling of Distributed Soft Real-Time Applications", *the 33rd IEEE International Performance Computing and Communications Conference (IPCCC)*, 2014.
 12. S. Liu, S. Homs, M. Fan, S. Ren, G. Quan, and S.-P. Ren, “Scheduling Time-Sensitive Multi-Tier Services with Probabilistic Performance Guarantee,” *IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, 2014 (acceptance rate ~ 96/322=29.8%)
 13. Mohammad Islam, Kishwar Ahmed, Shaolei Ren, Gang Quan, “Exploiting Temporal Diversity of Water Efficiency to Make Data Center Less ‘Thirsty’”, *IEEE International Conference on Autonomic Computing*, 2014 (acceptance rate ~ 23%)

14. Mohammad Islam, Kishwar Ahmed, Shaolei Ren, Gang Quan, "Exploiting Temporal Diversity of Water Efficiency to Make Data Center Less 'Thirsty'", **IEEE International Conference on Autonomic Computing**, 2014 (acceptance rate ~ 23%)
15. K. Ahmed, M. A. Islam, S. Ren, and G. Quan, "Can Data Center Become Water Self-Sufficient?" **6th Workshop on Power-Aware Computing and Systems (HotPower, co-located with OSDI)**, 2014. (9 out of 26 accepted)
16. Ming Fan, Qiushi Han, Gang Quan, Shangping Ren: Multi-core partitioned scheduling for fixed-priority periodic real-time tasks with enhanced RBound. **IEEE International Symposium on Quality Electronic Design**, pp. 284-291, 2014
17. Tianyi Wang, Ming Fan, Gang Quan, Shangping Ren: Heterogeneity exploration for peak temperature reduction on multi-core platforms. **IEEE International Symposium on Quality Electronic Design**, pp. 107-114, 2014
18. Qiushi Han, Ming Fan and Gang Quan, "Energy minimization for fault tolerant real-time applications on multiprocessor platforms using checkpointing", **IEEE International Symposium on Low Power Electronics and Design (ISLPED)**, 2013 (Best paper nominee: 3/167)
19. Ming Fan, V. Chaturvedi and G. Quan, "An Analytical Solution For Multi-core Energy Calculation With Consideration Of Leakage And Temperature Consideration", **IEEE International Symposium on Low Power Electronics and Design (ISLPED)**, 2013 (acceptance rate: 35%)
20. Mohammad A. Islam, Shaolei Ren, Gang Quan, "Online Energy Budgeting for Virtualized Data Centers", **IEEE 21ST International Symposium on Modeling Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS)**, 2013 (acceptance rate ~ 27%)
21. Shuhui Li, Miao Song, Zheng Li, Shangping Ren, Gang Quan: Maximizing online service profit for time-dependent applications. **International Conference on Embedded and Real-Time Computing Systems and Applications**, pp. 342-345, 2013 (acceptance rate ~ 29%)
22. Shuo Liu, Shaolei Ren, Ming Zhao, Gang Quan, Shangping Ren, "Profit Aware Load Balancing for Distributed Cloud Data Centers", **27th IEEE International Parallel & Distributed Processing Symposium**, 2013 (acceptance rate =106/494= 21%)
23. T. Wang, G. Quan, S. Ren, M. Qiu, "Topology Virtualization for Throughput Maximization on Many-Core Platforms", **IEEE/ACM International Conference on Parallel and Distributed Systems**, 8 pages, 2012. (accepted, acceptance rate ~ 29.6%)
24. J. Li, M. Qiu, P. Zhang and G. Quan, "Optimizing Scheduling in Embedded CMP Systems with Phase Change Memory," **IEEE/ACM International Conference on Parallel and Distributed Systems**, 8 pages, 2012. (accepted, acceptance rate ~ 29.6%)
25. L. Wang, S. Ren, G. Quan, "Overall System Value Maximization for Resource Constrained Heterogeneous Real-Time Embedded Systems", **IEEE 10th International Conference on Embedded and Ubiquitous Computing (IEUC)**, 2012

26. L. Wang, S. Ren, S. Li and G. Quan, "Minimizing Execution Cost for Applications with Deadline and Reliability Constraint in Utility Grid", *The 24th IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS)*, 2012
27. M. Fan, G. Quan, "Harmonic Semi-Partitioned Scheduling For Fixed-Priority Real-Time Tasks On Multi-Core Platform", *IEEE/ACM Design, Automation & Test in Europe Conference & Exhibition (DATE)*, 503-508, 2012 (regular presentation acceptance rate ~ 16%)
28. G. Liu, M. Fan, G. Quan, "Neighbor-Aware Dynamic Thermal Management for Multi-core Platform", *IEEE/ACM Design, Automation & Test in Europe Conference & Exhibition (DATE)*, 187-192, 2012 (short presentation acceptance rate ~ 25%)
29. H. Huang, M. Fan, G. Quan, "On-Line Leakage-Aware Energy Minimization Scheduling for Hard Real-Time Systems", *17th IEEE Asia and South Pacific Design Automation Conference (ASP-DAC)*, 677-682, 2012 (acceptance rate 34%)
30. M. Fan and G. Quan, Harmonic-Fit Partitioned Scheduling For Fixed-Priority Real-Time Tasks On the Multiprocessor Platform, *IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC-2011)*, 27-32, 2011 (acceptance rate: 22.96%)
31. G. Liu, G. Quan, M. Qiu, Throughput Maximization for Intel Desktop Platform under the Maximum Temperature Constraint., *IEEE/ACM International Conference on Green Computing and Communications (GreenCom)*, 9-15, 2011 (32.5%)
32. Z. Li, L. Wang, S. Ren, G. Quan, Temperature, Power, and Makespan Aware Dependent Task Scheduling for Data Centers, *IEEE/ACM International Conference on Green Computing and Communications (GreenCom)*, 22-27, 2011 (acceptance rate: 32.5%)
33. H. Huang, G. Quan, J. Fan, M. Qiu, "Throughput Maximization for Periodic Real-Time Systems under the Maximal Temperature Constraint ", *IEEE/ACM Design Automation Conference (DAC)*, 363-368, 2011. (acceptance rate: 23%)
34. Shuo Liu, Gang Quan, Shangping Ren, "On-Line Real-Time Service Allocation and Scheduling for Distributed Data Center", 8th *IEEE International Conference on Services Computing*, 528-535, 2011.
35. Huang Huang and Gang Quan, "Leakage aware energy minimization for real-time systems under the maximum temperature constraint", *IEEE/ACM Design, Automation & Test in Europe Conference & Exhibition (DATE)*, 479-484, 2011 (acceptance rate: 25%)
36. Shuo Liu, Gang Quan, Shangping Ren, "On-line Scheduling of Real-Time Services with Profit and Penalty", *ACM Symposium on Applied Computing*, 1476-1481, 2011 (acceptance rate: 30%)
37. Vivek Chaturvedi, Gang Quan, "Leakage conscious DVS scheduling for peak temperature minimization". *16th IEEE Asia and South Pacific Design Automation Conference (ASP-DAC)*, 135-140, 2011 (acceptance rate: 35%)
38. V. Chaturvedi, H. Huang, G. Quan, "Leakage Aware Scheduling On Maximum Temperature Minimization For Periodic Hard Real-Time Systems", *IEEE International Conferences on Computer and Information Technology (CIT)*, 1802-1809, 2010 (acceptance rate: 28%)

39. L. Niu, G. Quan, "Leakage-aware Scheduling for Real-Time Systems with (m,k)-Constraints", **IEEE International Conferences on Computer and Information Technology (CIT)**, 1810-1817, 2010 (acceptance rate: 28%)
40. H. Huang, G. Quan, J. Fan, "Leakage Temperature Dependency Modeling in System Level Analysis", **IEEE/ACM International Symposium on Quality Electronic Design (ISQED)**, 447-452, 2010
41. S. Liu, G. Quan, S. Ren, "On-line Scheduling of Real-time Services for Cloud Computing", **Proceedings of the 6th World Congress on Services**, 6 pages, 2010
42. G. Quan and Y. Zhang, "Leakage Aware Feasibility Analysis for Temperature-Constrained Hard Real-Time Periodic Tasks", **21st Euromicro Conference on Real-Time Systems (ECRTS'09)**, 2009 (acceptance ratio: 25%)
43. J. Bowles and G. Quan, "An FPGA-Based Embedded System Design Laboratory for the Undergraduate Computer Engineering Curriculum", **2009 American Society for Engineering Education**, 2009
44. G. Quan and Y. Zhang and W. Wiles and P. Pei, "Guaranteed Scheduling for Repetitive Hard Real-Time Tasks Under The Maximal Temperature Constraint", **IEEE/ACM International Conference on Hardware/Software Codesign and System Synthesis (ISSS+CODES)**, 2008 (acceptance ratio: 31%)
45. Y. Zhang and G. Quan, "Enhancing the adaptivity for multi-core embedded systems with dynamic performance scaling in FPGA", **International workshop on Adaptive and Reconfigurable Embedded Systems**, 2008 (acceptance ratio: 50%)
46. L. Niu and G. Quan, "Peripheral-Conscious Scheduling on Energy Minimization for Weakly Hard Real-time Systems", **IEEE/ACM Design Automation and Test in Europe (DATE)**, 791-796, 2007. (acceptance ratio: 28%)
47. G. Wang, A. Monti, G. Quan, "Out-of-core LU decomposition on a multiple-DSP platform", **IEEE Electric Ship Technologies Symposium(ESTS)**, 275-280, 2007
48. L. Niu and G. Quan, "System-wide dynamic power management for multimedia portable devices", **IEEE International Symposium on Multimedia(ISM)**, 2006. (acceptance ratio: 35%)
49. L. Niu and G. Quan, "A Hybrid Static/Dynamic DVS Scheduling for Real-time Systems With (m,k)-Guarantee", **IEEE Real-Time System Symposium (RTSS)**, 356-365, 2005. (acceptance ratio: 20%)
50. G. Quan and J. Davis and S. Devarkal and D. Buell, "High-level synthesis for large bit-width multipliers on FPGAs: A case study", **IEEE/ACM International Conference on Hardware/Software Codesign and System Synthesis (ISSS+CODES)**, 213-218, 2005. (acceptance ratio: 25%)
51. B. Mochocki and X.S. Hu and G. Quan, "Practical on-line DVS scheduling for a fixed-priority real-time system," **IEEE Real-Time and Embedded Technology and Application Symposium (RTAS)**, 224-233, 2005 (acceptance ratio: 33%)

52. L. Niu and G. Quan. "Leakage reduction for real-time scheduling on variable voltage processors," *IEEE International Conference on Compiler, Architecture and Synthesis for Embedded Systems (CASES)*, 140-148, 2004 (acceptance ratio: 30%)
53. G. Quan and L. Niu and X. S. Hu and B. Mochocki. "Fixed priority scheduling for reducing overall energy on variable voltage processors," *IEEE Real-Time System Symposium (RTSS)*, 309-318, 2004. (acceptance ratio: 22%)
54. D. A. Buell, J. P. Davis, G. Quan, S. Akella, S. Devarkal, P. Kancharla, E. A. Michalski and H. A. Wake, "Experiences with a Reconfigurable Computer," *Engineering of Reconfigurable Systems and Algorithms (ERSA)*, Las Vegas, Nevada, June 21-24, 2004.
55. Quan, L. Niu and J. P. Davis, "Power Aware Scheduling for Real-Time Systems with (m - k)-Guarantee," *Proceedings Communication Networks and Distributed Systems Modeling and Simulation Conference (CNDS)*, San Diego, CA, January 18-21, 2004.
56. G. Quan and X. S. Hu, "Minimum Energy Fixed Priority Scheduling for Variable Voltage Processors," *IEEE/ACM Design Automation & Test in Europe (DATE)*, 782-788, 2002.
57. Mochocki and X.S. Hu and G. Quan, "A realistic variable voltage scheduling model for real-time applications," *IEEE/ACM 2002 International Conference on Computer Aided Design (ICCAD)*, 726-732, 2002
58. G. Quan and X. S. Hu, "Energy efficient fixed-priority scheduling for real-time systems on variable voltage processors," *Proceedings of IEEE/ACM Design Automation Conference (DAC)*, 828-833, 2001.
59. G. Quan and X. (Sharon) Hu, "Enhanced fixed-priority scheduling with (m, k)-firm guarantee," *IEEE Real-Time Systems Symposium (RTSS)*, 79-88, 2000.
60. X. S. Hu and G. Quan, "Fast performance prediction for periodic task systems," Proceedings of *International Workshop on Hardware/Software Codesign(CODES)*, 72-76, 2000.
61. G. Quan, X. S. Hu, and G.Greenwood, "Preference-driven hierarchical hardware/software partitioning," *IEEE/ACM Proceedings of International Conference On Computer Design(ICCD)*, 652-657, 1999.
62. X. S. Hu, G.W. Greenwood, S. Ravichandran, and G. Quan, "A framework for user assisted design space exploration," *IEEE/ACM Proceedings of Design Automation Conference(DAC)*, pp 414-419, 1999.

STUDENT SUPERVISION

Ph.D Graduates/Students

- **Qiushi Han, Ph.D., (Graduated in summer 2015, FIU)**
 - *Dissertation: Energy Aware Fault Tolerant Scheduling of Hard Real-time Systems*
 - *First employer: Broadcom Inc., San Jose, CA*
- **Tianyi Wang, Ph.D., (Graduated in summer 2015, FIU)**

- *Dissertation: On the Design of Real-Time Systems on Multi-Core Platforms under Uncertainty*
- *First employer: MathWorks, Boston MA*
- **Shuo Liu, Ph.D., (Graduated in December 2014, FIU)**
 - *Dissertation: Delay-Sensitive Service Request Scheduling for Cloud Computing*
 - *First employer: Pelco, Clovis, California*
- **Ming Fan, PhD, (graduated in May 2014, FIU)**
 - *Dissertation: Real-time scheduling of embedded applications on multi-core platforms*
 - *First Employer: Broadcom Inc., San Jose, CA*
- **Vivek Chaturvedi, PhD, (graduated in May 2013, FIU)**
 - *Dissertation: Leakage Temperature Dependency Aware Real-Time Scheduling for Power and Thermal Optimization*
 - *First Employer: Research Fellow, Nanyang Technological University*
- **Guanglei Liu, Ph.D. (graduated in August 2012)**
 - *Dissertation: Practical Dynamic Thermal Management on Intel Desktop Computers*
 - *First Employer: Certatim, LLC, Fort Lauderdale, FL*
- **Huang Huang, Ph.D. (graduated in 2012, FIU)**
 - *Dissertation: Power and Thermal-Aware Scheduling for Real-time Computing Systems*
 - *First Employer: Qualcomm, Inc, San Diego, CA*
- **L. Niu, Ph.D. (graduated in 2006, USC, currently a tenure-track assistant professor at the California State University at Bakersfield).**
 - *Dissertation: Power Aware Scheduling for Real-time Embedded Systems*
 - *First Employer: Tenure track assistant professor, Claflin University, SC, USA*
- **Mohammad A. Islam, Ph.D. student, FIU (Co-Advise with Dr. Shaolei Ren)**
 - *Topics: On-line resource management for applications on cloud platforms*
 - *Expected graduation date: Fall, 2016*
- **Shi Sha, Ph.D. student, FIU**
 - *Topics: Power/thermal real-time system design on 3-D platform*
 - *Expected graduation date: Spring 2018*
- **Gustavo Chaparro-Baquero, Ph.D. student, FIU**
 - *Topics: Memory oriented real-time system design on multicore platform*
 - *Expected graduation date: Spring, 2018*

- **Soamar Homsy, Ph.D. student, FIU**
 - *Topics: QoS Guarantee for real-time applications on cloud platforms*
 - *Expected graduation date: Spring, 2019*

M.S/M.E graduates

- **Ashley Dierivot, MS student, FIU (graduated in May 2014)**
 - **Thesis: *A Multi-Core Testbed on Desktop Computer for Research on Power/Thermal Aware Resource Management***
 - **First Employer: Lockheed Martin, NJ, USA**
- **Mohammad Alshamlan, MS, FIU (graduated in May 2014)**
 - **Thesis: *A Regression Approach to Execution Time Estimation for Programs Running on Multi-Core Systems***
 - **First Employer: PACE PLC, FL, USA**
- **Joaquin Prendes, ME, FIU (graduated in 2012, FIU, currently self-employed)**
 - **Graduate project: *Real-time application design optimization on CC2540***
 - **First Employer: Business owner (self-employed)**
- **Yawen Hao, M.E. (graduated in 2011, FIU)**
 - **Graduate project: *Parallel Programming using CUDA on GPUs***
 - **First Employer: GLP, Xi'an, China**
- **Mohan Shivashanker, M.S. (graduated in 2011, FIU).**
 - **Thesis: *The Development of Hardware Multi-core Test-bed on Field Programmable Gate Array***
 - **First Employer: Embedded Software Engineer at AK Aerotek Softwares, India**
- **S. Devarkal, M.S. (graduated 2004, USC)**
 - **Thesis: *Design space exploration of elliptic curve arithmetic on a reconfigurable platform***
 - **First Employer: Qualcomm Technology Company**
- **W. Wiles, M.S. (graduated December 2007, USC)**
 - **Thesis: *An Experimental Study of Real-Time Scheduling Using a Commercial Hardware Platform***
 - **First Employer: HP Company**
- **B. Govindarajan, M.S (graduated December 2004, USC)**
 - **Thesis: *The Development of a Real Time Embedded System on a Reconfigurable Platform***
 - **First Employer: N/A**

- **P. Pei , M.E.** (graduated December 2008, USC, Microsoft)
 - **First Employer: Microsoft, WA**
- **L. Saurabh, M.E.** (graduated 2009, USC, Software Developer at Research In Motion)
 - **First Employer: Samsung research America, San Francisco, CA USA.**

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

- **FIU Top Scholar**, 2013
- One paper, *“Energy minimization for fault tolerant real-time applications on multiprocessor platforms using checkpointing,”* was nominated for the Best Paper Award by **IEEE International Symposium on Low Power Electronics and Design**, 2013
- One paper, *“Online optimization for scheduling preemptable tasks on IaaS cloud systems,”* was ranked No.1 for the **Top 25 Hottest Articles** in **Journal of Parallel and Distributed Computing**, 2012
- **National Science Foundation Career Award**, 2006
- **The Most Influential Papers** of 10 Years Design, Automation, and Test in Europe Conference (DATE), 2007. (*Three papers were selected each year between 1998-2007 from over 200 papers in each proceeding.*)
- **Best Paper Award** (38th Design Automation Conference), 2001 (*One of four selected from 410 submissions.*)
- **IEEE senior member**

OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

Service Activities

- **Journal Editorship**
 - Editorial board, Scientific World Journal (2012 -)
 - Editor, Journal of Energy (2012 -)
 - Editorial board, Thermal Energy and Power Engineering (2013 - 2016)
 - Editorial board, Journal of Energy Sources and Conversion (2017 -)
- **NSF Proposal Panel** : 2007, 2008, 2012
- **External expert reviewer for Foundation for Polish Science:** 2012
- **External expert reviewer for Research Grants Council of Hong Kong:** 2015-2017
- **External expert reviewer for Czech Science Foundation:** 2015
- **Conference Chairs and Technical Program Committee:**
 - International Real-Time Scheduling Open Problems Seminar (2017)
 - IEEE International Conference on Internet of Things (2017).
 - International Conference on Smart Cities and Green ICT Systems (SMARTGREENS 2013-2016)
 - IEEE International Conference on Embedded Software and Systems (ICESSE-2016)
 - IEEE/ACM Design Automation Conference (2014, 2015)

- Technical committee member for IEEE International Conference on computer design (ICCD 2013, 2014, 2015)
- IEEE International Conference on Embedded System and Software (2010, 2015)
- IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA 2014)
- Technical committee member for IEEE International Conference on Sustainable Computing and Communication (SusCom'2014)
- Vice chair for International Conference on Green Computing and Communications, "Metrics, Models, Algorithms, Systems, and Architecture." (2013)
- Program Vice Chair of International Conference on Embedded and Ubiquitous Computing (2008)
- Publicity Chair of IEEE/ACM Real-Time and Embedded Technology and Applications Symposium (2008)
- ACM International Conference on Applied Computing (SAC 2009, 2010, 2011)
- International Conference on Frontier of Computer Science and Technology (FCST-2011,2012, 2013)
- International Conference on Embedded and Ubiquitous Computing (EUC)(2007,2008,2009,2011,2012,2013,2014)
- International workshop on Thermal Modeling and Management: Chips to Datacenters (TEMM) (2011).
- IEEE International Conference on Embedded Computing (EmbeddCom2009)
- IEEE/ACM International Design Automation Conference Asia and South Pacific (ASP-DAC)(2009)
- IEEE/ACM International Design Automation Conference Asia and South Pacific (ASP-DAC) (2005)
- IEEE/ACM Great Lakes Symposium on VLSI (GVLSI)(2005)
- International Workshop on Power ware Real-Time Computing (WPARC)(2005)
- **Book review:**
 - Two textbook chapters (Wiley Publisher), one textbook (Oxford University Press)
- **Journal review:**

IEEE Transactions on Computer Aided System Design for Integrated Circuits, IEEE Transactions on Industrial Informatics, IEEE Transactions on Computers, IEEE Transactions on VLSI, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Software Engineering, ACM Transactions on Embedded Computing Systems, ACM Transactions on Design of Automated Electronic Systems, European Journal of Operational Research, Journal of Design Automation for Embedded Systems, IEEE Transactions on Multimedia, Real-Time System Journal, International Journal on Embedded Systems, IEEE Transactions on Automation Science and Engineering, IEICE Transactions on Information and Systems, Journal of Combinatorial Optimization

- **Conference review:**

Design Automation Conference (DAC), International Conference on Computer Aided Design (ICCAD), Real-time system symposium (RTSS), International Conference on System Synthesis (ISSS), International Conference on Hardware/Software Codesign (CODES), International Conference on Design Automation and Test in Europe (DATE), Asia Pacific Design Automation Conference (ASP-DAC), Great Lake Symposium on VLSI (GVLSI), International Conference on VLSI (VLSI), Workshop on Scheduling Techniques for Real-Time Systems (IWSRT), Power-Aware Real-time Computing (PARC)

University/College/Departmental Services

Faculty senate, FIU (2013 -2015)

Faculty search committee, FIU (2013, 2014, 2015)

Instructor search committee, FIU (2013, 2014, 2015)

Faculty council on governance, FIU (2012-2017)

Chair of department DAS committee, FIU (2013 -)

Computer engineering undergraduate curriculum committee, FIU (2010 -)

College chair search committee, FIU (2010, 2011)

Undergraduate committee , USC

Graduate committee, USC

Qualification exam committee , USC