Dimitrios S. Nikolopoulos

Curriculum Vitae

June 2017

Address: School of Electronics, Electrical Engineering and Computer Science
Queen's University of Belfast
Office: 01.007, 14 Malone Road, Belfast BT9 5BN

Email: d.nikolopoulos@qub.ac.uk
Web: Home Page
Pure
Phone: +44 (0) 28 90974647

Personal Data

Place of birth:	Hamburg, West Germany
Date of birth:	August 25, 1973
Citizenship:	Greek (Citizen), UK (Permanent Resident)
Marital status:	Married to Kostoula Christina Daniilidi, one child (Stelios)

Employment history

02.16–present	**Head of School** School of Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast
01.12–present	**Professor & Chair in High Performance and Distributed Computing** School of Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast
09.15–present	**Royal Society Wolfson Research Fellow** School of Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast
07.16–present	**Acting Director** Centre for Data Science and Scalable Computing – ECIT, Queen's University of Belfast
01.12–07.16	**Director of Research** High Performance and Distributed Computing Research Cluster, Queen's University of Belfast
10.13–present	**Adjunct Professor** Department of Computer Science, Old Dominion University
09.09–01.12	**Associate Professor** Department of Computer Science, University of Crete
01.08–02.13	**Associate Researcher** Institute of Computer Science Foundation for Research and Technology – Hellas (FORTH)
08.06–08.09	**Associate Professor** Department of Computer Science, Virginia Tech
08.02–08.06	**Assistant Professor** Department of Computer Science, College of William and Mary
01.01–08.02	**Visiting Research Assistant Professor** Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign

Education

2000	PhD, Computer Engineering and Informatics, University of Patras
1997	MEng, Computer Engineering and Informatics, University of Patras
1996	BEng, Computer Engineering and Informatics, University of Patras

Research interests

System software: parallel programming languages; runtime systems; virtualisation; large-scale data analytics; scalable services.
Computing systems architecture: many-core systems; heterogeneous systems; micro-servers; datacentres; memory technologies.
Modelling of computing systems: performance; energy; reliability.

Personal Honours and awards

2017 **Fellow of the IET**
2015 **Royal Society Wolfson Research Merit Award**
2015 **SFI-DEL Investigator Award**
2014 **Fellow of the British Computer Society**
2014 **IEEE Outstanding Service Award**
IEEE Computer Society in recognition of contributions to the 14th CCGrid Conference
2012 **Chair in High Performance and Distributed Computing**
Queen's University of Belfast
2007 **IBM Faculty Award**
2005 **DOE Early Career Principal Investigator Award**
2004 **NSF CAREER Award**
2011 **ACM Senior Member**
2010 **IEEE Senior Member**
2009 **Marie Curie Fellow**
2008 **HiPEAC Fellow**
2013 **Best Paper Award**
ACM International Workshop on Code Optimisation for Multi and Many Cores (COSMIC)
2007 **Best Paper Award**
ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPOPP)
2006 **Best Paper Nomination**
ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC)
2005 **Best Paper Award**
International Workshop on OpenMP (IWOMP)
2003 **Best Paper Award**
International Symposium on High Performance Computing (ISHPC)
2002 **Best Paper Award**
IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGRID)
2002 **Best Paper Award**
IEEE/ACM International Parallel and Distributed Processing Symposium (IPDPS)
2001 **Best Paper Nomination**
ACM International Conference on Supercomputing (ICS)
2000 **Best Paper Award**
IEEE/ACM Supercomputing: High Performance Networking and Computing Conference (SC)
1999 **Best Paper Nomination**
ACM International Conference on Supercomputing (ICS)
1996 **Outstanding Academic Performance Award**
Technical Chamber of Greece
1992 **Outstanding Academic Performance Award**
Greek Scholarship Foundation

Institutional Honours and awards

2017 **Investors in People Silver Award**

Refereed Publications

Journal Articles

1. Hong, C.-H., I. A. Spence, and D. Nikolopoulos (2017). FairGV: Fair and Fast GPU Virtualization. ***IEEE Transactions on Parallel and Distributed Systems***. In press.
2. O'Neill, E., J. McGlone, P. Kilpatrick, and D. Nikolopoulos (2017). Managed Acceleration for In-Memory Database Analytic Workloads. ***International Journal of Parallel, Emergent and Distributed Systems*** **32**(4). DOI:10.1080/17445760.2016.1170832, 406–427.
3. Chalios, C., G. Georgakoudis, K. Tovletoglou, G. Karakonstantis, H. Vandierendonck, and D. Nikolopoulos (2017). DARE: Data Access Aware Refresh via Spatio-Temporal Application Resilience on Commodity Servers. ***International Journal of High Performance Computing Applications***. In press.
4. Hong, C.-H., I. Spence, and D. Nikolopoulos (2017). GPU Virtualization and Scheduling Methods: A Comprehensive Survey. ***ACM Computing Surveys***. In press.
5. Mukhanov, L., P. Petoumenos, Z. Wang, N. Parasyris, D. Nikolopoulos, B. de Supinski, and H. Leather (2017). ALEA: A Fine-Grain Energy Profiling Tool. ***ACM Transactions on Architecture and Code Optimization*** **14**(1).
6. Montella, R., G. Giunta, G. Laccetti, M. Lapegna, C. Palmieri, C. Ferraro, V. Pelliccia, C.-H. Hong, I. Spence, and D. S. Nikolopoulos (2016). On the Virtualization of CUDA based GPU Remoting on ARM and X86 Machines in the GVirtuS Framework. ***International Journal of Parallel Programming***. DOI: 10.1007/s10766-016-0462-1.
7. Vassiliadis, V., C. Chalios, K. Parasyris, C. D. Antonopoulos, S. Lalis, N. Bellas, H. Vandierendonck, and D. Nikolopoulos (2016). Exploiting Significance of Computations for Energy-Constrained Approximate Computing. ***International Journal of Parallel Programming*** **44**(5), 1078–1098.
8. Chalios, C., S. Catalán, E. S. Quintana-Orti, and D. S. Nikolopoulos (2016). Evaluating Asymmetric Multicore Systems-on-Chip and the Cost of Fault Tolerance using Iso-Metrics. ***IET Computers & Digital Techniques*** **10**(2), 85–92.
9. Georgakoudis, G., C. J. Gillan, A. Sayed, I. Spence, R. Faloon, and D. S. Nikolopoulos (2016). Methods and Metrics for Fair Server Assessment under Real-Time Financial Workloads. ***Concurrency and Computation: Practice and Experience*** **28**(3), 916–928.
10. Georgakoudis, G., C. J. Gillan, A. Sayed, I. Spence, R. Faloon, and D. S. Nikolopoulos (2015). Iso-Quality of Service: Fairly Ranking Servers for Real-Time Data Analytics. ***Parallel Processing Letters*** **25**(3). 1541004, earlier version available as CoRR:abs/1501.03481, url=http://arxiv.org/abs/1501.03481.
11. Khasymski, A. and D. S. Nikolopoulos (2015). Scalable Black-Box Prediction Models for Multi-Dimensional Adaptation on NUMA Multi-Cores. ***International Journal of Parallel, Emergent and Distributed Systems*** **30**(3), 193–210.
12. Manousakis, I., F. Zakkak, P. Pratikakis, and D. Nikolopoulos (2015). TProf: An Energy Profiler for Task-Parallel Programs. ***Sustainable Computing: Informatics and Systems*** **5**, 1–13.
13. Gschwandtner, P., C. Chalios, D. S. Nikolopoulos, H. Vandierendonck, and T. Fahringer (2015). On the Potential of Significance-Driven Execution for Energy-Aware HPC. ***Computer Science – Research and Development*** **30**(2), 197–206.
14. Symeonidou, C., P. Pratikakis, D. S. Nikolopoulos, and A. Bilas (2014). Distributed Region-Based Memory Allocation and Synchronization. ***International Journal of High Performance Computing Applications*** **28**(4), 406–414.
15. Vandierendonck, H., A. Hassan, and D. Nikolopoulos (2015). On The Energy-Efficiency of Byte-Addressable Non-Volatile Memory. ***IEEE Computer Architecture Letters*** **14**(2). DOI: 10.1109/LCA.2014.2355195, 144–147.
16. Papagiannis, A. and D. Nikolopoulos (2014). Hybrid Address Spaces: A Methodology for Implementing Scalable High-Level Programming Models on Non-Coherent Many-core Architectures. ***Journal of Systems and Software*** **97**, 47–64.
17. Lyberis, S., G. Kalokerinos, M. Lygerakis, I. Mavroidis, V. Papaefstathiou, M. Katevenis, D. Pnevmatikatos, and D. S. Nikolopoulos (2014). FPGA Prototyping of Emerging Manycore Architectures for Parallel Programming Research using Formic Boards. ***Journal of Systems Architecture*** **60**(6), 481–493.

18. Vandierendonck, H., G. Tzenakis, and D. Nikolopoulos (2013). Analysis of Dependence Tracking Algorithms for Task Dataflow Execution. ***ACM Transactions on Architecture and Code Optimisation*** **10**(4). Article No. 61, 1–24.
19. Li, D., B. D. Supinski, M. Schulz, D. Nikolopoulos, and K. Cameron (2013). Strategies for Energy Efficient Resource Management of Hybrid Programming Models. ***IEEE Transactions on Parallel and Distributed Systems*** **24**(1), 144–157.
20. Kavadias, S., M. Katevenis, and D. Nikolopoulos (2012). Cache-Integrated Network Interfaces: Flexible On-chip Communication and Synchronization for Large-scale CMPs. ***International Journal of Parallel Programming*** **40**(6), 583–604.
21. Su, C.-Y., D. Li, D. Nikolopoulos, M. Grove, K. Cameron, and B. D. Supinski (2012). Critical Path-Based Thread Placement for NUMA Systems. ***ACM SIGMETRICS Performance Evaluation Review*** **40**(2), 106–112.
22. Manousakis, I. and D. Nikolopoulos (2012). EPC: A Power Instrumentation Controller for Embedded Applications. ***ACM SIGBED Review*** **9**(2), 28–32.
23. Rafique, M. M., A. Butt, and D. Nikolopoulos (2011). A Capabilities-Aware Framework for Using Computational Accelerators in Data-Intensive Computing. ***Journal of Parallel and Distributed Computing*** **71**(2), 185–197.
24. Ferrer, R., P. Bellens, J. Yeom, S. Schneider, K. Koukos, M. Alvanos, V. Beltran, M. González, X. Martorell, R. Badia, D. Nikolopoulos, A. Bilas, and E. Ayguadé (2010). Parallel Programming Models for Heterogeneous Multi-Core Architectures. ***IEEE Micro*** **30**(5), 42–53.
25. Katevenis, M., V. Papaefstathiou, S. Kavadias, D. Pnevmatikatos, F. Silla, and D. Nikolopoulos (2010). Explicit Communication and Synchronization in SARC. ***IEEE Micro*** **30**(5), 30–41.
26. Schneider, S., J. Yeom, and D. Nikolopoulos (2009). Programming Multiprocessors with Explicitly Managed Memory Hierarchies. ***IEEE Computer*** **42**(12), 28–34.
27. Antonopoulos, C., F. Blagojevic, A. Chernikov, N. Chrisochoides, and D. Nikolopoulos (2009). A Multi-grain Delaunay Mesh Generation Method for Multicore SMT-based Architectures. ***Journal of Parallel and Distributed Computing*** **69**(7), 589–600.
28. Antonopoulos, C., F. Blagojevic, A. Chernikov, D. Nikolopoulos, and N. Chrisochoides (2009). Algorithm, Software, and Hardware Optimizations for Delaunay Mesh Generation on Simultaneous Multithreaded Architectures. ***Journal of Parallel and Distributed Computing*** **69**(7), 601–612.
29. Rafique, M., B. Rose, A. Butt, and D. Nikolopoulos (2009). Supporting MapReduce on Asymmetric Multi-core Clusters. ***ACM SIGOPS Operating Systems Review*** **43**(2), 25–34.
30. Curtis-Maury, M., F. Blagojevic, C. Antonopoulos, and D. Nikolopoulos (2008). Prediction-Based Power-Performance Adaptation of Multithreaded Scientific Codes. ***IEEE Transactions on Parallel and Distributed Systems*** **19**(10), 1396–1410.
31. Blagojevic, F., D. Nikolopoulos, A. Stamatakis, C. Antonopoulos, and M. Curtis-Maury (2007). Runtime Scheduling of Dynamic Parallelism on Accelerator-Based Multi-core Systems. ***Parallel Computing*** **33**(10–11), 700–719.
32. Stamatakis, A., F. Blagojevic, D. Nikolopoulos, and C. Antonopoulos (2007). Exploring new Search Algorithms and Hardware for Phylogenetics: RAxML meets the IBM Cell. ***Journal of VLSI Signal Processing*** **48**(3), 271–286.
33. Mills, R., C. Yue, A. Stathopoulos, and D. Nikolopoulos (2007). Runtime and Programming Support for Memory Adaptation in Scientific Applications via Local Disk and Remote Memory. ***Journal of Grid Computing*** **5**(2), 213–234.
34. Nikolopoulos, D. (2004). Dynamic Tiling for Effective Use of Shared Caches on Multithreaded Processors. ***International Journal of High Performance Computing and Networking*** **2**(1), 22–35.
35. Nikolopoulos, D. (2003). Quantifying Contention and Balancing Memory Load on Hardware DSM Multiprocessors. ***Journal of Parallel and Distributed Computing*** **63**(9), 866–886.
36. Nikolopoulos, D., E. Artiaga, E. Ayguadé, and J. Labarta (2003). Scaling Non-Regular Shared-Memory Codes by Reusing Custom Loop Schedules. ***Scientific Programming*** **11**(2), 143–158.
37. Nikolopoulos, D. and C. Polychronopoulos (2003). Adaptive Scheduling under Memory Constraints on Non-Dedicated Computational Farms. ***Future Generation Computer Systems*** **19**(4), 505–519.

38. Nikolopoulos, D., E. Ayguadé, and C. Polychronopoulos (2002). Runtime vs. Manual Data Distribution for Architecture-Agnostic Shared-Memory Programming Models. ***International Journal of Parallel Programming*** **30**(4), 225–254.
39. Nikolopoulos, D., T. Papatheodorou, C. Polychronopoulos, J. Labarta, and E. Ayguadé (2002). Scheduler-Activated Dynamic Page Migration for Multiprogrammed DSM Multiprocessors. ***Journal of Parallel and Distributed Computing*** **62**(6), 1069–1103.
40. Nikolopoulos, D., E. Artiaga, E. Ayguadé, and J. Labarta (2001). Exploiting Memory Affinity in OpenMP through Schedule Reuse. ***ACM Computer Architecture News*** **29**(5), 49–55.
41. Nikolopoulos, D. and T. Papatheodorou (2001). The Architectural and Operating System Implications on the Performance of Synchronization on ccNUMA Multiprocessors. ***International Journal of Parallel Programming*** **29**(3), 249–282.
42. Nikolopoulos, D., T. Papatheodorou, C. Polychronopoulos, J. Labarta, and E. Ayguadé (2000). A Transparent Runtime Data Distribution Engine for OpenMP. ***Scientific Programming*** **8**(3), 143–162.

Articles in Archival Proceedings

43. Sun, J., H. Vandierendonck, and D. Nikolopoulos (2017). Accelerating Graph Analytics by Utilising the Memory Locality of Graph Partitioning. In: *Proceedings of the 46th International Conference on Parallel Processing* ***(ICPP)***. In press.
44. Tovletoglou, K., D. Nikolopoulos, and G. Karakonstantis (2017). Relaxing DRAM Refresh Rate through Access Pattern Scheduling: A Case Study on Stencil-based Algorithms. In: *Proceedings of the 23rd IEEE International Symposium on On-Line Testing and Robust System Design* ***(IOLTS)***. In press.
45. Sun, J., H. Vandierendonck, and D. Nikolopoulos (2017). GraphGrind: Addressing Load Imbalance of Graph Partitioning. In: *Proceedings of the ACM International Conference on Supercomputing* ***(ICS)***. In press.
46. Barlaskar, E., P. Kilpatrick, I. Spence, and D. Nikolopoulos (2017). MyMinder: A User-Centric Decision Making Framework for Inter-Cloud Migration. In: *Proceedings of the 7th International Conference on Cloud Computing and Services Science* ***(CLOSER)***. In press.
47. Wu, Y., C. Gillan, A. Novakovic, K. Tovletoglou, G. Tzenakis, H. Vandierendonck, G. Karakonstantis, D. Nikolopoulos, S. Barbhuiya, and U. Minhas (2017). Heterogeneous Servers based on Programmable Cores and Dataflow Engines. In: *Proceedings of the First Workshop on Energy-Efficient Servers for Cloud and Edge Computing* ***(ENESCE)***. In conjunction with the HiPEAC'17 Conference. Stockholm, Sweden.
48. Tovletoglou, K. et al. (2017). An Energy-Efficient and Error-Resilient Server Ecosystem Exceeding Conservative Scaling Limits. In: *Proceedings of the First Workshop on Energy-Efficient Servers for Cloud and Edge Computing* ***(ENESCE)***. In conjunction with the HiPEAC'17 Conference. Stockholm, Sweden.
49. Arif, M., H. Vandierendonck, D. Nikolopoulos, and B. de Supinski (2016). A Scalable and Composable Map-Reduce System. In: *Proceedings of the Third Workshop on Advances in Software and Hardware for Big Data to Knowledge Discovery (****ASH****)*. 2016 IEEE International Conference on Big Data **(Big Data)**. Washington, D.C., pp.2233–2242.
50. Playfair, D., A. Trehan, and D. Nikolopoulos (2016). Big Data Availability: Selective Partial Checkpointing for In-Memory Database Queries. In: *Proceedings of the Fourth Workshop on Scalable Cloud Data Management* ***(SCDM)***. 2016 IEEE International Conference on Big Data **(Big Data)**. Washington, D.C., pp.2785–2794.
51. Vandierendonck, H., K. Murphy, M. Arif, and D. Nikolopoulos (2016). HPTA: High-Performance Text Analytics. In: *Proceedings of the 2016 IEEE International Conference on Big Data (****IEEE BigData 2016****)*. Washington, DC, pp.416–423.
52. Varghese, B., N. Wang, S. Barbhuiya, P. Kilpatrick, and D. Nikolopoulos (2016). Challenges and Opportunities in Edge Computing. In: *Proceedings of the 2016 IEEE International Conference on Smart Cloud* ***IEEE SmartCloud***, pp.20–26.
53. Dichev, K. and D. Nikolopoulos (2016). TwinCG: Dual Thread Redundancy with Forward Recovery for Preconditioned Conjugate Gradient Methods. In: *IEEE International Conference on Cluster Computing* ***CLUSTER***. Taipei, Taiwan, pp.162–163.
54. Dichev, K. and D. Nikolopoulos (2016). TwinPCG: Dual Thread Redundancy with Forward Recovery for Preconditioned Conjugate Gradient Methods. In: *Second International Workshop on Fault Tolerant*

Systems, ***IEEE FTS***. Held in conjunction with the IEEE International Conference on Cluster Computing, **CLUSTER**. Taipei, Taiwan, pp.506–514.

55. Wu, Y., D. Nikolopoulos, and R. Woods (2016). Runtime Support for Adaptive Power Capping on Heterogeneous SoCs. In: *Proceedings of the 16th International Conference on Embedded Computer Systems: Architectures, Modelling and Simulation **(SAMOS-XVI)***. Samos, Greece, pp.71–78.
56. Georgakoudis, G., C. Gillan, A. Hassan, U. Minhas, G. Tzenakis, I. Spence, H. Vandierendonck, R. Woods, D. Nikolopoulos, M. Shyamsundar, P. Barber, M. Russell, A. Bilas, S. Kaloutsakis, H. Giefers, P. Staar, C. Bekas, N. Horlock, R. Faloon, and C. Pattison (2016). NanoStreams: Codesigned Microservers for Edge Analytics in Real Time. In: *Proceedings of the 16th International Conference on Embedded Computer Systems: Architectures, Modelling and Simulation **(SAMOS-XVI)***. Samos, Greece, pp.180–187.
57. Trehan, C., G. Karakonstantis, D. Nikolopoulos, and H. Vandierendonck (2016). Energy Optimization of Memory Intensive Parallel Workloads. In: *Proceedings of the 28th ACM Symposium on Parallelism in Algorithms and Architectures **(SPAA)***. Asilomar State Beach, CA, pp.251–252.
58. Harvey, P., K. Bakanov, I. Spence, and D. Nikolopoulos (2016). A Scalable Runtime for FPGA-Based Heterogeneous Exascale Hardware. In: *Proceedings of the Sixth International Workshop on Runtime and Operating Systems for Supercomputers **(ROSS)***. Article No. 7, DOI: 10.1145/2931088.2931090. Kyoto, Japan.
59. Kachris, C., D. Soudris, G. Gaydadjiev, H.-N. Nguyen, D. S. Nikolopoulos, A. Bilas, N. Morgan, C. Strydis, C. Tsalidis, J. Balafas, R. Jiménez-Peris, and A. Almeida (2016). The VINEYARD Project: Versatile, Integrated, Accelerator-Based, Heterogeneous Data Centres. In: *Proceedings of the Fifth International Conference on Modern Circuits and Systems Technologies **(MOCAST)***. Thessaloniki, Greece, pp.1–4.
60. Kachris, C., D. Soudris, G. Gaydadjiev, H.-N. Nguyen, D. S. Nikolopoulos, A. Bilas, N. Morgan, C. Strydis, C. Tsalidis, J. Balafas, R. Jiménez-Peris, and A. Almeida (2016). The VINEYARD Approach: Versatile, Integrated, Accelerator-Based, Heterogeneous Data Centres. In: *Proceedings of the 12th International Symposium on Applied Reconfigurable Computing **(ARC)***. Vol. 9625. Lecture Notes in Computer Science. Mangaratiba, Brazil, pp.3–13.
61. Marcu, M., O. Boncalo, M. Ghenea, A. Amaricai, J. Weinstock, R. Leupers, Z. Wang, G. Georgakoudis, D. S. Nikolopoulos, L. B. Cosmin Cernazanu-Glavanand, and M. Ionascu (2016). Low-Cost Hardware Infrastructure for Runtime Thread Level Energy Accounting. In: *Proceedings of the 2016 International Conference on Architecture of Computing Systems **(ARCS)***. Vol. 9637. Lecture Notes in Computer Science, pp.277–289.
62. Vandierendonck, H., K. Murphy, M. Arif, J. Sun, and D. Nikolopoulos (2016). Operator and Workflow Optimization for High-Performance Analytics. In: *Proceedings of the First International Workshop on Multi-Engine Data Analytics **(MEDAL)***. EDBT/ICDT Workshops. Bordeaux, France.
63. Trehan, C., H. Vandierendonck, G. Karakonstantis, and D. S. Nikolopoulos (2016). Energy Optimization of Parallel Workloads on Unreliable Hardware. In: *Proceedings of the Second Workshop on Approximate Computing **(WAPCO)***. In conjunction with the HiPEAC 2016 Conference. Prague, Czech Republic.
64. Mavroidis, I., I. Papaefstathiou, L. Lavagno, D. S. Nikolopoulos, D. Koch, J. Goodacre, I. Sourdis, V. Papaefstathiou, M. Coppola, and M. Palormino (2016). ECOSCALE: Reconfigurable Computing and Runtime System for Future Exascale Systems. In: *Proceedings of the 2016 International Conference on Design, Automation and Test in Europe **(DATE)***. Dresden, Germany, pp.696–671.
65. Petoumenos, P., L. Mukhanov, Z. Wang, H. Leather, and D. Nikolopoulos (2015). Power Capping: What Works, What Does Not. In: *Proceedings of the 21st IEEE International Conference on Parallel and Distributed Systems **(ICPADS)***. Melbourne, Australia, pp.525–534.
66. Hassan, A., H. Vandierendonck, and D. S. Nikolopoulos (2015). Energy-Efficient Hybrid DRAM/NVM Main Memory. In: *Proceedings of the 24th International Conference on Parallel Architectures and Compilation Techniques **(PACT)***. ACM Student Research Competition (SRC). San Francisco, CA, pp.492–493.
67. Mukhanov, L., D. S. Nikolopoulos, and B. R. de Supinski (2015). ALEA: Fine-Grain Energy Profiling with Basic Block Sampling. In: *Proceedings of the 24th International Conference on Parallel Architectures and Compilation Techniques **(PACT)***. San Francisco, CA, pp.87–98.

68. Aliaga, J. I., S. Catalán, C. Chalios, D. Nikolopoulos, and E. S. Quintana-Orti (2015). Performance and Fault Tolerance of Preconditioned Iterative Solvers on Low-Power ARM Architectures. In: *Workshop on Energy and Resilience in Parallel Programming **(ERPP)***. Held in conjunction with the **ParCo2015** Conference. Edinburgh, United Kingdom.
69. Su, C.-Y., D. Roberts, E. A. León, K. W. Cameron, B. R. de Supinski, G. Loh, and D. Nikolopoulos (2015). HpMC: An Energy-Aware Management System for Multi-Level Memory Architectures. In: *Proceedings of the First International Symposium on Memory Systems **(MEMSYS)***. DOI: 10.1145/2818950.2818974. Washington, DC, pp.167–178.
70. Alessi, F., P. Thoman, G. Georgakoudis, T. Fahringer, and D. Nikolopoulos (2015). Application-Level Energy Awareness for OpenMP. In: *Proceedings of the 11th International Workshop on OpenMP **(IWOMP)***. Vol. 9342. Lecture Notes in Computer Science. Aachen, Germany, pp.219–232.
71. Svorobej, S., J. Byrne, P. Liston, P. Byrne, C. Stier, H. Groenda, Z. Papazachos, and D. S. Nikolopoulos (2015). Towards Automated Data Driven Cloud Computing Simulation Model Creation. In: *Proceedings of the Eighth International Conference on Simulation Tools and Techniques **(SIMUTOOLS)***. DOI: 10.4108/eai.24-8-2015.2261129. Athens, Greece, pp.248–255.
72. Hassan, A., H. Vandierendonck, and D. S. Nikolopoulos (2015). Energy-Efficient In-Memory Data Stores on Hybrid Memory Hierarchies. In: *Proceedings of the 11th International Workshop on Data Management on New Hardware **(DAMON)**, in conjunction with ACM SIGMOD/PODS 2015*. Aricle No. 1, DOI: 10.1145/2771937.2771940. Melbourne, Australia.
73. Barbhuiya, S., D. Nikolopoulos, P. Kilpatrick, and Z. Papazachos (2015). A Lightweight Tool for Anomaly Detection in Cloud Data Centres. In: *Proceedings of the Fifth International Conference on Cloud Computing and Services Science **(CLOSER)***. DOI: 10.5220/0005453403430351, **Best Paper Award Nominee**. Lisbon, Portugal, pp.343–351.
74. Vassiliadis, V., C. Chalios, K. Parasyris, C. Antonopoulos, S. Lalis, N. Bellas, H. Vandierendonck, and D. S. Nikolopoulos (2015). A Significance-Driven Programming Framework for Energy-Constrained Approximate Computing. In: *Proceedings of the ACM International Conference on Computing Frontiers **(CF)***. Article 9, DOI: 10.1145/2742854.2742857. Ischia, Italy.
75. Hassan, A., H. Vandierendonck, and D. S. Nikolopoulos (2015). Software-Managed Energy-Efficient Hybrid DRAM/NVM Main Memory. In: *Proceedings of the ACM International Conference on Computing Frontiers **(CF)***. Article 23, DOI: 10.1145/2742854.2742886. Ischia, Italy.
76. Lorenzo, O. G., T. F. Pena, J. C. Cabaleiro, J. C. Pichel, F. F. Rivera, and D. S. Nikolopoulos (2015). Power and Energy Implications of the Number of Threads Used on the Intel Xeon Phi. In: *Proceedings of the Second Congress on Multicore and GPU Programming **(PPMG)***. ISBN: 978-84-606-6036-1. Caceres, Spain, pp.1–8.
77. Chalios, C., E. S. Quintana-Orti, and D. Nikolopoulos (2015). Evaluating Asymmetric Multi-core Systems-on-Chip using Iso-Metrics. *CoRR*. Presented at the *First HiPEAC Workshop on Energy Efficiency with Heterogeneous Computing **(EEHCO)*** , DOI: 10.13140/RG.2.1.3042.5120.
78. Vassiliadis, V., K. Parasyris, C. Chalios, C. D. Antonopoulos, S. Lalis, N. Bellas, H. Vandierendonck, and D. S. Nikolopoulos (2015). A Programming Model and Runtime System for Significance-Aware Energy-Efficient Computing. In: *Proceedings of the 20th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming **(PPoPP)***. San Francisco, CA, USA, pp.275–276. Extended version *CoRR* **abs/1412.5150**, presented in *First HiPEAC Workshop on Approximate Computing **(WAPCO)***, Amsterdam, The Netherlands, January 2015.
79. Gillan, C. J., D. Nikolopoulos, G. Georgakoudis, R. Faloon, G. Tzenakis, and I. Spence (2014). On the Viability of Microservers for Financial Analytics. In: *Proceedings of the Seventh ACM SIGHPC Workshop on High Performance Computational Finance **(WHPCF)***. New Orleans, LA, USA, pp.29–36.
80. Östberg, P.-O. et al. (2014). The CACTOS Vision of Context-Aware Cloud Topology Optimization and Simulation. In: *Proceedings of the Sixth IEEE International Conference on Cloud Computing Technology and Science **(CloudCom)***. Singapore, pp.26–31.
81. Wu, Y., J. Nunez-Yanez, R. Woods, and D. Nikolopoulos (2014). Power Modelling and Capping for Heterogeneous ARM/FPGA SoCs. In: *Proceedings of the 2014 International Conference on Field-Programmable Technology **(FPT)***. Shanghai, China, pp.231–234.

82. Imamura, S., K. Inoue, H. Sasaki, and D. Nikolopoulos (2014). Power-Capped DVFS and Thread Allocation with ANN Models on Modern NUMA Systems. In: *Proceedings of the 32nd IEEE International Conference on Computer Design **(ICCD)***. Seoul, Korea, pp.324–331.
83. Gillan, C., D. Nikolopoulos, I. Spence, A. Bilas, and C. Bekas (2014). Advancing the Hardware and Software Stack for Real-Time Analytics on Fast Data Streams. In: *Proceedings of the IEEE 2014 **eChallenges e-2014** Conference*. Belfast, UK, pp.1–8.
84. Georgakoudis, G., D. Nikolopoulos, H. Vandierendonck, and S. Lalis (2014). Fast Dynamic Binary Rewriting for Flexible Thread Migration on Shared-ISA Heterogeneous MPSoCs. In: *Proceedings of the International Conference on Embedded Computer Systems: Architectures, Modeling and Simulation **(IC-SAMOS)***, pp.156–163.
85. Yeom, J.-s., A. Batele, K. Bisset, E. Bohm, A. Gupta, L. Kale, M. Marathe, D. Nikolopoulos, M. Schulz, and L. Wesolowski (2014). Overcoming the Scalability Challenges of Epidemic Simulations on Blue Waters. In: *Proceedings of the 28th IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***. Acceptance rate: 21%. Phoenix, AZ, USA, pp.755–764.
86. Vandierendonck, H., K. Chronaki, and D. Nikolopoulos (2013). Deterministic Scale-Free Pipeline Parallelism with Hyperqueues. In: *Proceedings of Supercomputing: International Conference for High Performance Computing, Networking, Storage and Analysis **(SC)***. Article No. 32, DOI: 10.1145/2503210.2503233. Denver, CO, USA: ACM.
87. Zakkak, F., D. Chasapis, P. Pratikakis, A. Bilas, and D. Nikolopoulos (2013). Inference and Declaration of Independence in Task-Parallel Programs. In: *Proceedings of the 10th International Conference on Advanced Parallel Processing Technology **(APPT)***. Vol. 8299. Lecture Notes in Computer Science. Stockholm, Sweden, pp.1–16.
88. Tzenakis, G., A. Papatriantafyllou, H. Vandierendonck, P. Pratikakis, and D. Nikolopoulos (2013). BDDT: Block-Level Dynamic Dependence Analysis for Deterministic Task-Based Parallelism. In: *Proceedings of the 10th International Conference on Advanced Parallel Processing Technology **(APPT)***. Vol. 8299. Lecture Notes in Computer Science. Stockholm, Sweden, pp.17–31.
89. Symeonidou, C., P. Pratikakis, D. Nikolopoulos, and A. Bilas (2013). DRASync: Distributed Region-Based Memory Allocation and Synchronization. In: *Proceedings of the 20th International Conference on Recent Advances in Message Passing Interface **(EuroMPI)***. Madrid, Spain, pp.49–54.
90. Papaefstathiou, V., M. Katevenis, D. Nikolopoulos, and D. Pnevmatikatos (2013). Prefetching and Cache Management using Task Lifetimes. In: *Proceedings of the 27th ACM International Conference on Supercomputing **(ICS)***. Acceptance rate: 21%. Eugene, OR, USA, pp.325–334.
91. Georgakoudis, G., D. Nikolopoulos, and S. Lalis (2013). Fast Dynamic Binary Rewriting to Support Thread Migration in Shared-ISA Asymmetric Multicores. In: *Proceedings of the First International Workshop on Code Optimisation for Multi and Many Cores **(COSMIC)***. Article No. 4, DOI: 10.1145/2446920.2446924, **Best Paper Award**. Shenzhen, China: ACM.
92. Su, C.-Y., D. Li, D. Nikolopoulos, K. Cameron, B. de Supinski, and E. Leon (2012). Model-Based, Memory-Centric Performance and Power Optimization on NUMA Multiprocessors. In: *Proceedings of the 2012 IEEE International Symposium on Workload Characterization **(IISWC)***. San Diego, CA, pp.164–173.
93. Manousakis, I. and D. Nikolopoulos (2012). BTL: A Framework for Measuring and Modeling Energy in Memory Hierarchies. In: *Proceedings of the 24th International Symposium on Computer Architectures and High Performance Computing **(SBAC-PAD)***. Acceptance rate: 25%. New York City, NY, pp.139–146.
94. Zakkak, F., D. Chasapis, P. Pratikakis, D. Nikolopoulos, and A. Bilas (2012). Inference and Declaration of Independence: Impact on Deterministic Task Parallelism. In: *Proceedings of the 21st International Conference on Parallel Architectures and Compilation Techniques **(PACT)***. Minneapolis, MN, USA, pp.453–454.
95. Khasymski, A., M. M. Rafique, A. Butt, S. Vazhkudai, and D. Nikolopoulos (2012). On the Use of GPUs in Realizing Cost-Effective Distributed RAID. In: *Proceedings of the 20th IEEE International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems **(MASCOTS)***. Washington, DC, USA, pp.469–478.
96. Lyberis, S., P. Pratikakis, D. Nikolopoulos, M. Schulz, T. Gamblin, and B. R. de Supinski (2012). The Myrmics Memory Allocator: Hierarchical Message-Passing Allocation for Global Address Spaces. In:

*Proceedings of the 2012 ACM SIGPLAN International Symposium on Memory Management **(ISMM)***. Beijing, China, pp.15–24.

97. Georgakoudis, G., S. Lalis, and D. Nikolopoulos (2012). Dynamic Binary Rewriting and Migration for Shared-ISA Asymmetric, Multicore Processors. In: *Proceedings of the 21st International ACM Symposium on High Performance Parallel and Distributed Computing **(HPDC)***. Acceptance rate: 21%. Delft, The Netherlands, pp.127–128.
98. Lyberis, S., G. Kalokerinos, M. Lygerakis, V. Papaefstathiou, D. Tsaliagkos, M. Katevenis, D. Pnevmatikatos, and D. Nikolopoulos (2012). Formic: Cost-Efficient and Scalable Prototyping of Manycore Architectures. In: *Proceedings of the 20th Annual International IEEE Symposium on Field-Programmable Custom Computing Machines **(FCCM)***. Acceptance rate: 31%. Toronto, Ontario, Canada, pp.61–64.
99. Tzenakis, G., A. Papatriantafyllou, J. Kesapides, P. Pratikakis, H. Vandierendonck, and D. Nikolopoulos (2012). Block-level Dynamic Dependence Analysis for Deterministic Task-Based Parallelism. In: *Proceedings of the 17th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming **(PPOPP)***. New Orleans, LA, USA, pp.301–302.
100. Vandierendonck, H., G. Tzenakis, and D. Nikolopoulos (2011). A Unified Scheduler for Recursive and Task-Based Parallelism. In: *Proceedings of the 20th International Conference on Parallel Architectures and Compilation Techniques*, ***(PACT)***. Acceptance rate: 16%. Galveston, TX, USA, pp.1–11.
101. Alvanos, M., G. Tzenakis, A. Bilas, and D. Nikolopoulos (2011). Design and Evaluation of a Task-based Parallel H.264 Video Encoder for Heterogeneous Processors. In: *Proceedings of SAMOS XI: International Conference on Embedded Computer Systems: Architectures, Modeling and Simulation **(IC-SAMOS)***. Samos, Greece, pp.217–224.
102. Papagiannis, A. and D. Nikolopoulos (2011). Scalable Runtime Support for Data-Intensive Applications on the Single-Chip Cloud Computer. In: *Proceedings of the 3rd Intel Many-core Applications Research Community Symposium **(MARC)***. Ettlingen, Germany, pp.25–30.
103. Pratikakis, P., H. Vandierendonck, and D. Nikolopoulos (2011). A Programming Model for Deterministic Task-based Parallelism. In: *Proceedings of the 2011 ACM SIGPLAN Workshop on Memory Systems Performance and Correctness **(MSPC)***. San Jose, CA, USA, pp.7–12.
104. Vandierendonck, H., P. Pratikakis, and D. Nikolopoulos (2011). Parallel Programming of General-Purpose Programs using Task-Based Programming Models. In: *Proceedings of the 3rd USENIX Workshop on Hot Topics on Parallelism **(HotPar)***. Berkeley, CA, USA, pp.1–6.
105. Li, D., D. Nikolopoulos, K. Cameron, B. D. Supinski, and M. Schulz (2011). Scalable Memory Registration for High Performance Networks Using Helper Threads. In: *Proceedings of the 8th ACM International Conference on Computing Frontiers **(CF)***. Article No. 38, DOI: 10.1145/2016604.2016652, Acceptance rate: 22%. Ischia, Italy: ACM.
106. Tendulkar, P., V. Papaefstathiou, G. Nikiforos, S. Kavadias, D. Nikolopoulos, and M. Katevenis (2011). Fine-Grain OpenMP Runtime Support with Explicit Communication Hardware Primitives. In: *Proceedings of the 2011 International Conference on Design, Automation & Test in Europe **(DATE)***. Grenoble, France, pp.891–894.
107. Yeom, J. and D. Nikolopoulos (2010). Strider: Runtime Support for Optimizing Strided Data Accesses on Multi-cores with Explicitly Managed Memories. In: *Proceedings of ACM/IEEE Supercomputing'2010: International Conference on High Performance Computing, Networking, Storage, and Analysis **(SC)***. DOI: 10.1109/SC.2010.52, Acceptance rate: 20%. New Orleans, LA, USA: IEEE, pp.1–11.
108. Papagiannis, A. and D. Nikolopoulos (2010). Rearchitecting MapReduce for Heterogeneous Multicore Processors with Explicitly Managed Memories. In: *Proceedings of the 39th International Conference on Parallel Processing **(ICPP)***. San Diego, CA, USA, pp.121–130.
109. Singh, K., M. Curtis-Maury, S. McKee, F. Blagojevic, D. Nikolopoulos, B. D. Supinski, and M. Schulz (2010). Comparing Scalability Prediction Strategies on an SMP of CMPs. In: *Proceedings of the 16th International European Conference on Parallel and Distributed Computing **(EUROPAR)***. Vol. 6271. Lecture Notes in Computer Science. Ischia, Italy, pp.143–155.

110. Schneider, S., H. Andrade, B. Gedik, K.-L. Wu, and D. Nikolopoulos (2010). Evaluation of Streaming Aggregation on Parallel Hardware Architectures. In: *Proceedings of the Fourth ACM International Conference on Distributed Event-Based Systems **(DEBS)***. Cambridge, United Kingdom, pp.248–257.
111. Kavadias, S., Manolis G. H. Katevenis, M. Zampetakis, and D. Nikolopoulos (2010). On-chip Communication and Synchronization Mechanisms with Cache-Integrated Network Interfaces. In: *Proceedings of the Seventh ACM International Conference on Computing Frontiers **(CF)***. Acceptance rate: 26%. Bertinoro, Italy, pp.217–226.
112. Rafique, M. M., A. Butt, and D. Nikolopoulos (2010). Designing Accelerator-Based Distributed Systems for High Performance. In: *Proceedings of the 10th IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing **(CCGRID)***. Acceptance rate: 23%. Melbourne, Australia, pp.165–174.
113. Li, D., D. Nikolopoulos, K. Cameron, B. D. Supinski, and M. Schulz (2010). Power-aware MPI Task Aggregation Prediction for High-End Computing Systems. In: *Proceedings of the 24th IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***. DOI: 10.1109/IPDPS.2010.5470464, Acceptance rate: 24%. Atlanta, GA, USA: IEEE, pp.1–12.
114. Li, D., B. D. Supinski, M. Schulz, K. Cameron, and D. Nikolopoulos (2010). Hybrid MPI/OpenMP Power-Aware Computing. In: *Proceedings of the 24th IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***. DOI: 10.1109/IPDPS.2010.5470463, Acceptance rate: 24%. Atlanta, GA, USA: IEEE, pp.1–12.
115. Tzenakis, G., K. Kapelonis, M. Alvanos, K. Koukos, D. Nikolopoulos, and A. Bilas (2010). Tagged Procedure Calls (TPC): Efficient Runtime Support for Task-Based Parallelism on the Cell Processor. In: *Proceedings of the Fifth International Conference on High-Performance Embedded Architectures and Compilers **(HIPEAC)***. Vol. 5952. Lecture Notes in Computer Science. Acceptance rate: 24%. Pisa, Italy, pp.307–321.
116. Yeom, J. and D. Nikolopoulos (2009). "A Runtime Framework for Optimizing Multi-dimensional Array Accesses on Multi-core Processors". Presented in *First International Workshop on Programming Models for Emerging Architectures **(PMEA)***, held in conjunction with the *18th International Conference on Parallel Architectures and Compilation Techniques **(PACT)***, DOI: 10.13140/2.1.4304.2086. Raleigh, NC, USA.
117. Blagojevic, F., C. Iancu, K. Yelick, D. Nikolopoulos, B. Rose, and M. Curtis-Maury (2009). Scheduling Dynamic Parallelism on Accelerators. In: *Proceedings of the Sixth ACM International Conference on Computing Frontiers **(CF)***. Acceptance rate: 23%. Ischia, Italy, pp.161–170.
118. Rafique, M., B. Rose, A. Butt, and D. Nikolopoulos (2009). CellMR: A Framework for Supporting MapReduce on Asymmetric Cell-based Clusters. In: *Proceedings of the 23rd IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***. DOI: 10.1109/IPDPS.2009.5161062. Acceptance rate: 23%. Rome, Italy: IEEE, pp.1–12.
119. Schneider, S., J. Yeom, B. Rose, J. Linford, A. Sandu, and D. Nikolopoulos (2009). A Comparison of Programming Models for Multiprocessors with Explicitly Managed Memory Hierarchies. In: *Proceedings of the 14th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming **(PPOPP)***. Acceptance rate: 20%. Raleigh, NC, USA, pp.131–140.
120. Curtis-Maury, M., A. Shah, F. Blagojevic, D. Nikolopoulos, B. de Supinski, and M. Schulz (2008). Prediction Models for Multi-dimensional Power-Performance Optimization on Many Cores. In: *Proceedings of the 17th International Conference on Parallel Architectures and Compilation Techniques **(PACT)***. Acceptance rate: 19%. Toronto, Ontario, Canada, pp.250–259.
121. Blagojevic, F., M. Curtis-Maury, J.-S. Yeom, S. Schneider, and D. Nikolopoulos (2008). Scheduling Asymmetric Parallelism on a PlayStation3 Cluster. In: *Proceedings of the 8th IEEE International Symposium on Cluster Computing and the Grid **(CCGRID)***. Acceptance rate: 32%. Lyon, France, pp.146–153.
122. Rafique, M., A. Butt, and D. Nikolopoulos (2008). DMA-based Prefetching for I/O-Intensive Workloads on the Cell Architecture. In: *Proceedings of the Fifth ACM International Conference on Computing Frontiers **(CF)***. Acceptance rate: 27%. Ischia, Italy, pp.23–32.
123. Aji, A., F. Blagojevic, W. Feng, and D. Nikolopoulos (2008). Cell-Swat: Modeling and Scheduling Wavefront Computations on the Cell BE. In: *Proceedings of the Fifth ACM International Conference on Computing Frontiers **(CF)***. Acceptance rate: 27%. Ischia, Italy, pp.13–22.

124. Nikolopoulos, D., G. Back, J. Tripathi, and M. Curtis-Maury (2008). VT-ASOS: Holistic System Software Customization for Many Cores. In: *Proceedings of the Workshop on the NSF Next Generation Software Program **(NSFNGS)***. Held in conjunction with the *22nd IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***, DOI: 10.1109/IPDPS.2008.4536390. Miami, FL, USA: IEEE, pp.1–5.
125. Rafique, M., A. Butt, and D. Nikolopoulos (2008). "Supporting I/O-intensive Workloads on the Cell Architecture". Presented in *6th USENIX Conference on File and Storage Systems **(FAST)***, DOI: 10.13140/2.1.1682.7689. San Jose, CA, USA.
126. Blagojevic, F., X. Feng, K. Cameron, and D. Nikolopoulos (2008). Modeling Multi-grain Parallelism on Heterogeneous Multicore Processors: A Case Study of the Cell BE. In: *Proceedings of the Third International Conference on High-Performance Embedded Architectures and Compilers **(HIPEAC)***. Vol. 4917. Lecture Notes in Computer Science. Acceptance rate: 29%. Göteborg, Sweden, pp.38–52.
127. Chernikov, A., C. Antonopoulos, N. Chrisochoides, S. Schneider, and D. Nikolopoulos (2007). Experience with Memory Allocators for Parallel Mesh Generation on Multi-core Architectures. In: *Proceedings of the 10th International Conference on Numerical Grid Generation **(ISGG)***. Heraklion, Greece, pp.159–168.
128. Curtis-Maury, M., K. Singh, S. McKee, F. Blagojevic, D. Nikolopoulos, B. de Supinski, and M. Schulz (2007). Identifying Energy-Efficient Concurrency Levels using Machine Learning. In: *Proceedings of the First International Workshop on Green Computing **(GREENCOM)***. Held in conjunction with the *2007 IEEE International Conference on Cluster Computing **(CLUSTER)***. Austin, TX, USA, pp.488–495.
129. Nikolopoulos, D. and K. Cameron (2007). "Synthesizing Parallel Programming Models for Asymmetric Multi-Core Systems". Presented in *11th Workshop on High Performance Embedded Computing **(HPEC)***, DOI: 10.13140/2.1.3779.9200. Lexington, MA, USA.
130. Blagojevic, F., A. Stamatakis, C. Antonopoulos, and D. Nikolopoulos (2007). RAxML-CELL: Parallel Phylogenetic Tree Construction on the Cell Broadband Engine. In: *Proceedings of the 21st IEEE/ACM International Parallel and Distributed Processing Symposium **(IPDPS)***. DOI: 10.1109/IPDPS.2007.370267. Acceptance rate: 26%. Long Beach, CA, USA: IEEE, pp.1–10.
131. Blagojevic, F., D. Nikolopoulos, A. Stamatakis, and C. Antonopoulos (2007). Dynamic Multigrain Parallelization on the Cell Broadband Engine. In: *Proceedings of the 12th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming **(PPOPP)***. **Best Paper Award**, Acceptance rate: 33%. San Jose, CA, USA, pp.90–100.
132. Back, G. and D. Nikolopoulos (2007). "Application-Specific Customization on Many-Core Platforms: The VT-ASOS Framework". Presented in *Second Workshop on Software and Tools for Multi-Core Systems **(STMCS)***, held in conjunction with the *2007 International Symposium on Code Generation and Optimization (CGO)*. San Jose, CA, USA.
133. Curtis-Maury, M., C. Antonopoulos, and D. Nikolopoulos (2007). A Comparison of Online and Offline Strategies for Program Adaptation. In: *Proceedings of the 45th Annual ACM Southeast Conference **(ACMSE)***. Winston-Salem, NC, USA, pp.162–167.
134. Curtis-Maury, M., D. Nikolopoulos, and C. Antonopoulos (2006). "Dynamic Program Stirring on Multiple Cores: How Hardware Performance Monitors Can Help Regulate Performance, Power, and Temperature Simultaneously". Presented in *Second Workshop on Functionality of Hardware Performance Monitors **(FHPM)***, held in conjunction with the *39th IEEE/ACM International Symposium on Microarchitecture **(MICRO)***. Orlando, FL, USA.
135. Curtis-Maury, M., C. Antonopoulos, and D. Nikolopoulos (2006). PACMAN: A Performance Counters Manager for Intel Hyperthreaded Processors. In: *Proceedings of the 3rd International Conference on the Quantitative Evaluation of Systems **(QEST)***. Riverside, CA, USA, pp.141–144.
136. Curtis-Maury, M., J. Dzierwa, C. Antonopoulos, and D. Nikolopoulos (2006). Online Power-Performance Adaptation of Multithreaded Programs using Event-Based Prediction. In: *Proceedings of the 20th ACM International Conference on Supercomputing **(ICS)***. Acceptance rate: 26%. Queensland, Australia, pp.157–166.
137. Yue, C., R. Mills, A. Stathopoulos, and D. Nikolopoulos (2006). Runtime Support for Memory Adaptation in Scientific Workloads via Local Disk and Remote Memory. In: *Proceedings of the 15th IEEE International Symposium on High Performance Distributed Computing **(HPDC)***. **Best Paper Award Nominee** (one of five papers). Acceptance rate: 15%. Paris, France, pp.183–194.

138. Schneider, S., C. Antonopoulos, and D. Nikolopoulos (2006). Scalable Locality-Conscious Multithreaded Memory Allocation. In: *Proceedings of the 2006 ACM SIGPLAN International Symposium on Memory Management* ***(ISMM)***. Ottawa, Ontario,Canada, pp.84–94.
139. Curtis-Maury, M., J. Dzierwa, C. D. Antonopoulos, and D. Nikolopoulos (2006). Online Strategies for High-Performance Power-Aware Thread Execution on Emerging Multiprocessors. In: *Proceedings of the Second Workshop on High-Performance Power-Aware Computing* ***(HPPAC)***. Held in conjunction with the *20th IEEE International Parallel and Distributed Processing Symposium* ***(IPDPS)***, DOI: 10.1109/IPDPS.2006.1639598. Rhodes, Greece.
140. Ding, X., D. Nikolopoulos, S. Jiang, and X. Zhang (2006). MESA: Reducing Cache Conflicts by Integrating Static and Run-Time Methods. In: *Proceedings of the 2006 IEEE International Symposium on Performance Analysis of Systems and Software* ***(ISPASS)***. Acceptance rate: 29%. Austin, TX, USA, pp.189–198.
141. Schneider, S., C. Antonopoulos, and D. Nikolopoulos (2005). Factory: An Object-Oriented Parallel Programming Substrate for Deep Multiprocessors. In: *Proceedings of the 7th IEEE International Conference on High Performance Computing and Communications* ***(HPCC)***. Lecture Notes in Computer Science. Vol. 3726. Acceptance rate: 28%. Sorrento, Italy, pp.223–232.
142. Curtis-Maury, M., T. Wang, C. Antonopoulos, and D. Nikolopoulos (2005). Integrating Multiple Forms of Multithreaded Execution on SMT Processors: A Quantitative Study with Scientific Workloads. In: *Proceedings of the Second International Conference on the Quantitative Evaluation of Systems* ***(QEST)***. Acceptance rate: 28%. Torino, Italy, pp.199–209.
143. Lawson, B., C. Yue, E. Smirni, and D. Nikolopoulos (2005). Power-Aware Resource Allocation via Online Simulation with Multiple-Queue Backfilling. In: *Proceedings of the 7th Workshop on Performability Modeling of Computer and Communication Systems* ***(PMCCS)***. Held in conjunction with the *Second International Conference on the Quantitative Evaluation of Systems* ***(QEST)***, DOI: 10.13140/2.1.2026.8324. Torino, Italy.
144. Wang, T., C. Antonopoulos, and D. Nikolopoulos (2005). smt-SPRINTS: Software Precomputation with Intelligent Streaming for Resource-Constrained SMTs. In: *Proceedings of 11th 2005 International European Conference on Parallel and Distributed Computing* ***(EUROPAR)***. Lecture Notes in Computer Science. Vol. 3648. Acceptance rate: 31%. Lisbon, Portugal, pp.710–719.
145. Antonopoulos, C., X. Ding, A. Chernikov, F. Blagojevic, D. Nikolopoulos, and N. Chrisochoides (2005). Multigrain Parallel Delaunay Mesh Generation: Challenges and Opportunities for Multithreaded Architectures. In: *Proceedings of the 19th ACM International Conference on Supercomputing* ***(ICS)***. Acceptance rate: 27%. Cambridge, MA, USA, pp.367–376.
146. Curtis-Maury, M., X. Ding, C. Antonopoulos, and D. Nikolopoulos (2005). An Evaluation of OpenMP on Current and Emerging Multithreaded Processors. In: *Proceedings of the First International Workshop on OpenMP* ***(IWOMP)***. Lecture Notes in Computer Science. Vol. 4315. **Best Paper Award**. Eugene, OR, USA, pp.133–142.
147. McGregor, R., C. Antonopoulos, and D. Nikolopoulos (2005). Scheduling Algorithms for Effective Thread Pairing on Hybrid Multiprocessors. In: *Proceedings of the 19th IEEE International Parallel and Distributed Processing Symposium* ***(IPDPS)***. DOI: 10.1109/IPDPS.2005.390. Acceptance rate: 33%. Denver, CO, USA: IEEE, pp.28a.
148. Antonopoulos, C. and D. Nikolopoulos (2005). "Using Hardware Counters for Continuous Online Optimization: Lessons and Challenges". Presented in *First Workshop on Hardware Performance Monitor Design and Functionality* ***(FHPM)***, held in conjunction with the *11th International Symposium on High Performance Computer Architecture* ***(HPCA)***, DOI: 10.13140/2.1.4173.1362. San Francisco, CA, USA.
149. Antonopoulos, C., D. Nikolopoulos, and T. Papatheodorou (2004). Realistic Workload Scheduling Policies for Taming the Memory Bandwidth Bottleneck of SMPs. In: *Proceedings of the 11th International Conference on High Performance Computing* ***(HIPC)***. Lecture Notes in Computer Science. Vol. 3296. Acceptance rate: 22%. Bangalore, India, pp.286–296.
150. Wang, T., F. Blagojevic, and D. Nikolopoulos (2004). Runtime Support for Integrating Precomputation and Thread-Level Parallelism on Simultaneous Multithreaded Processors. In: *Proceedings of the 7th ACM SIGPLAN Workshop on Languages, Compilers and Runtime Support*

*for Scalable Systems **(LCR)***. Vol. 81. ACM International Conference Proceedings Series. DOI: 10.1145/1066650.1066667. Houston, TX, USA: ACM, pp.1–12.

151. Mills, R., A. Stathopoulos, and D. Nikolopoulos (2004). Adapting to Memory Pressure from within Scientific Applications on Multiprogrammed COWs. In: *Proceedings of the 18th IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***. DOI: 10.1109/IPDPS.2004.1303002, Acceptance rate: 31%. Santa Fe, NM, USA: IEEE.
152. Nikolopoulos, D. (2003). Code and Data Transformations for Improving Shared Cache Performance on SMT Processors. In: *Proceedings of the 5th International Symposium on High Performance Computing **(ISHPC)***. Lecture Notes in Computer Science. Vol. 2858. **Best Paper Award**. Acceptance rate: 24%. Tokyo-Odaiba, Japan, pp.54–69.
153. Antonopoulos, C., D. Nikolopoulos, and T. Papatheodorou (2003). Scheduling Algorithms with Bus Bandwidth Considerations for SMPs. In: *Proceedings of the 32nd International Conference on Parallel Processing **(ICPP)***. Kaohsiung, Taiwan, pp.547–554.
154. Nikolopoulos, D. (2003). Malleable Memory Mapping: User-Level Control of Memory Bounds for Effective Program Adaptation. In: *Proceedings of the 17th IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***. DOI: 10.1109/IPDPS.2003.1213074, Acceptance rate: 29%. Nice, France.
155. Nikolopoulos, D. and C. Polychronopoulos (2002). Adaptive Scheduling under Memory Pressure on Multiprogrammed Clusters. In: *Proceedings of the Second IEEE/ACM International Symposium on Cluster Computer and the Grid **(CCGRID)***. **Best Paper Award**. Acceptance rate: 25%. Berlin, Germany, pp.22–29.
156. Nikolopoulos, D. (2002). Quantifying and Resolving Remote Memory Access Contention on Hardware DSM Multiprocessors. In: *Proceedings of the 16th IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***. DOI: 10.1109/IPDPS.2002.1015503, **Best Paper Award**. Fort Lauderdale, FL, USA.
157. Nikolopoulos, D. and C. Polychronopoulos (2002). Adaptive Scheduling under Memory Pressure on Multiprogrammed SMPs. In: *Proceedings of the 16th IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***. DOI: 10.1109/IPDPS.2002.1015481. Fort Lauderdale, FL, USA.
158. Ko, W., M. Yankelevsky, D. Nikolopoulos, and C. Polychronopoulos (2002). Effective Cross-Platform Multilevel Parallelization via Dynamic Adaptive Execution. In: *Proceedings of the 7th International Workshop on High-Level Programming Models and Supportive Environments **(HIPS)***. Held in conjunction with the *16th IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***, DOI: 10.1109/IPDPS.2002.1016495. Fort Lauderdale, FL, USA.
159. Nikolopoulos, D., E. Ayguadé, and C. Polychronopoulos (2001). Scaling Irregular Parallel Codes with Minimal Programming Effort. In: *Proceedings of the ACM/IEEE Supercomputing'2001: High Performance Computing and Networking Conference **(SC)***. DOI: 10.1109/SC.2001.10013, **Best Paper Award Nominee**. Acceptance rate: 25%. Denver, CO, USA: IEEE, pp.5.
160. Antonopoulos, C., D. Nikolopoulos, and T. Papatheodorou (2001). Informing Algorithms for Efficient Scheduling of Synchronizing Threads on Multiprogrammed SMPs. In: *Proceedings of the 30th International Conference on Parallel Processing **(ICPP)***. Valencia, Spain, pp.123–130.
161. Venetis, I., D. Nikolopoulos, and T. Papatheodorou (2001). A Transparent Operating System Infrastructure for Embedding Adaptability to Thread-Based Programming Models. In: *Proceedings of the 7th International European Conference on Parallel and Distributed Computing **(EUROPAR)***. Lecture Notes in Computer Science. Vol. 2150. Acceptance rate: 33%. Manchester, United Kingdom, pp.504–513.
162. Nikolopoulos, D. and E. Ayguadé (2001). A Study of Transparent Implicit Data Distribution Mechanisms for OpenMP using the SPEC Benchmarks. In: *Proceedings of the Second International Workshop on OpenMP Applications and Tools **(WOMPAT)***. Lecture Notes in Computer Science. Vol. 2104. West Lafayette, IN, USA, pp.115–129.
163. Nikolopoulos, D., E. Ayguadé, J. Labarta, T. Papatheodorou, and C. Polychronopoulos (2001). The Trade-Off Between Implicit and Explicit Data Distribution in Shared-Memory Programming Paradigms. In: *Proceedings of the 15th ACM International Conference on Supercomputing **(ICS)***. Sorrento, Italy, pp.23–37.

164. Craig, D., F. Breg, S. Carroll, D. Nikolopoulos, and C. Polychronopoulos (2001). Improving Java Server Performance with Interruptlets. In: *Proceedings of the First International Conference on Computational Science **(ICCS)***. Lecture Notes in Computer Science. Vol. 2073. San Francisco, CA, USA, pp.223–232.
165. Nikolopoulos, D., T. Papatheodorou, C. Polychronopoulos, J. Labarta, and E. Ayguadé (2000). Is Data Distribution Necessary in OpenMP? In: *Proceedings of ACM/IEEE Supercomputing'2000: High Performance Computing and Networking Conference **(SC)***. Article No. 47, ISBN: ISBN:0-7803-9802-5, **Best Technical Paper Award**, Acceptance rate: 35%. Dallas, TX, USA.
166. Nikolopoulos, D., T. Papatheodorou, C. Polychronopoulos, J. Labarta, and E. Ayguadé (2000). Leveraging Transparent Data Distribution in OpenMP via User-Level Dynamic Page Migration. In: *Proceedings of the 3rd International Symposium on High Performance Computing **(ISHPC)***. Lecture Notes in Computer Science. Vol. 1940. Acceptance rate: 28%, pp.415–427.
167. Nikolopoulos, D., T. Papatheodorou, C. Polychronopoulos, J. Labarta, and E. Ayguadé (2000). User-Level Dynamic Page Migration for Multiprogrammed Shared-Memory Multiprocessors. In: *Proceedings of the 29th International Conference on Parallel Processing **(ICPP)***. Toronto, Ontario, Canada, pp.95–103.
168. Antonopoulos, C., I. Venetis, D. Nikolopoulos, and T. Papatheodorou (2000). Efficient Dynamic Parallelism with OpenMP on Linux-Based SMPs. In: *Proceedings of the 6th International Conference on Parallel and Distributed Processing Techniques and Applications **(PDPTA)***. Vol. V. Las Vegas, NV, USA, pp.2507–2514.
169. Nikolopoulos, D., T. Papatheodorou, C. Polychronopoulos, J. Labarta, and E. Ayguadé (2000). A Case for User-Level Page Migration. In: *Proceedings of the 14th ACM International Conference on Supercomputing **(ICS)***. Acceptance rate: 27%. Santa Fe, NM, USA, pp.119–130.
170. Nikolopoulos, D., T. Papatheodorou, C. Polychronopoulos, J. Labarta, and E. Ayguadé (2000). UPMlib: A Runtime System for Tuning the Memory Performance of OpenMP Programs on Distributed Shared Memory Multiprocessors. In: *Proceedings of the 5th ACM SIGPLAN Workshop on Languages, Compilers and Runtime Systems for Scalable Computers **(LCR)***. Lecture Notes in Computer Science. Vol. 1915. Rochester, NY, USA, pp.85–99.
171. Nikolopoulos, D. and T. Papatheodorou (2000). Fast Synchronization on Scalable Cache-Coherent Multiprocessors using Hybrid Primitives. In: *Proceedings of the 14th IEEE International Parallel and Distributed Processing Symposium **(IPDPS)***. Cancun, Mexico, pp.711–719.
172. Martorell, X., J. Corbalan, D. Nikolopoulos, N. Navarro, E. Polychronopoulos, and T. Papatheodorou (2000). A Tool to Schedule Parallel Applications on Multiprocessors: The NANOS CPU Manager. In: *Proceedings of the 6th International Workshop on Job Scheduling Strategies for Parallel Processing **(JSSPP)***. Lecture Notes in Computer Science. Vol. 1911. Cancun, Mexico, pp.87–112.
173. Nikolopoulos, D., C. Antonopoulos, I. Venetis, P. Hadjidoukas, E. Polychronopoulos, and T. Papatheodorou (1999). Achieving Multiprogramming Scalability of Parallel Programs on Intel SMP Platforms: Nanothreading in the Linux Kernel. In: *Parallel Computing Fundamentals and Applications: Proceedings of the International Conference ParCo'99 **(PARCO)***. Delft, The Netherlands, pp.623–630.
174. Polychronopoulos, E., D. Nikolopoulos, T. Papatheodorou, X. Martorell, N. Navarro, and J. Labarta (1999). An Efficient Kernel-Level Scheduling Methodology for Multiprogrammed Shared Memory Multiprocessors. In: *Proceedings of the 12th International Conference on Parallel and Distributed Computing Systems **(PDCS)***. Fort Lauderdale, FL, USA, pp.148–155.
175. Nikolopoulos, D. and T. Papatheodorou (1999). System Software Support for Reducing Memory Latency on Distributed Shared-Memory Multiprocessors. In: *Proceedings of the 7th Pan-Hellenic Conference on Informatics **(PCI)***. Vol. 4. Ioannina, Greece, pp.61–68.
176. Nikolopoulos, D., E. Polychronopoulos, and T. Papatheodorou (1999). Fine-Grain and Multiprogramming-Conscious Nanothreading with the Solaris Operating System. In: *Proceedings of the 5th International Conference on Parallel and Distributed Processing Techniques and Applications **(PDPTA)***. Vol. IV. Las Vegas, NV, USA, pp.1797–1803.
177. Nikolopoulos, D. and T. Papatheodorou (1999). A Quantitative Evaluation of Synchronization Algorithms and Disciplines on ccNUMA Systems: The Case of the SGI Origin2000. In: *Proceedings of the 13th ACM International Conference on Supercomputing **(ICS)***. Acceptance rate: 32%. Rhodes, Greece, pp.319–328.

178. Nikolopoulos, D., E. Polychronopoulos, and T. Papatheodorou (1998). Enhancing the Performance of Autoscheduling with Locality-Based Partitioning on Distributed Shared Memory Multiprocessors. In: *Proceedings of 4th International European Conference on Parallel and Distributed Computing **(EUROPAR)***. Lecture Notes in Computer Science. Vol. 1470. Acceptance rate: 29%. Southampton, United Kingdom, pp.491–501.
179. Polychronopoulos, E., X. Martorell, D. Nikolopoulos, T. Papatheodorou, J. Labarta, and N. Navarro (1998). Kernel-Level Scheduling for the Nano-Threads Programming Model. In: *Proceedings of the 12th ACM International Conference on Supercomputing **(ICS)***. Melbourne, Australia, pp.337–344.
180. Nikolopoulos, D., E. Polychronopoulos, and T. Papatheodorou (1998). Efficient Runtime Thread Management for the Nano-Threads Programming Model. In: *Proceedings of the Second International Workshop on Runtime Systems for Parallel Programming **(RTSPP)***. Lecture Notes in Computer Science. Vol. 1388. Acceptance rate: 33%. Orlando, FL, USA, pp.183–194.

Book Chapters

181. Barbhuiya, S., Z. Papazachos, P. Kilpatrick, and D. Nikolopoulos (2016). "LS-ADT: Lightweight and Scalable Anomaly Detection for Cloud Datacentres". In: ***Communications in Computer and Information Science: Cloud Computing and Services Science***. Ed. by D. F. Markus Helfert Víctor Méndez Muñoz. Vol. 581. ISBN: 978-3-319-29581-7. Springer International Publishing, Switzerland, pp.135–152.
182. Khasymski, A., M. M. Rafique, A. Butt, S. Vazhkudai, and D. Nikolopoulos (2015). "Realizing Accelerated Cost-Effective Distributed RAID". In: ***Handbook on Data Centers***. Ed. by S. Khan and A. Zomaya. ISBN: 978-1-4939-2091-4. Springer, pp.729–753.
183. Rafique, M. M., A. Butt, and D. Nikolopoulos (2014). "Programming and Managing Resources on Accelerator-Enabled Clusters". In: ***Programming Multi-core and Many-core Computing Systems***. Ed. by S. Pllana and F. Xhafa. Wiley Series on Parallel and Distributed Computing. ISBN: 978-0-470-93690-0. Wiley-Blackwell.
184. Curtis-Maury, M. and D. Nikolopoulos (2014). "Energy-efficient Multithreading through Runtime Adaptation". In: ***The Green Computing Book: Tackling Energy Efficiency at Large Scale***. Ed. by W. Feng. ISBN: 978-1439819876. Chapman & Hall/CRC Computational Science, pp.115–148.
185. Li, D., D. Nikolopoulos, and K. Cameron (2013). "Modeling and Algorithms for Scalable and Energy Efficient Execution on Multicore Systems". In: ***Scalable Computing: Theory and Practice***. Ed. by S. Khan, L. Wang, and A. Zomaya. ISBN: 978-1-118-16265-1. Wiley–IEEE Computer Society Press, pp.157–184.
186. Vandierendonck, H., D. Nikolopoulos, and P. Pratikakis (2013). "Parallel Programming". In: ***Encyclopedia of Software Engineering***. Taylor & Francis. Chap. 62, pp.1–14.
187. Nikolopoulos, C. A. D. and T. Papatheodorou (2005). "Scheduling Algorithms with Bus Bandwidth Considerations for SMPs". In: ***High Performance Computing: Paradigm and Infrastructure***. Ed. by L. Yang and M. Guo. ISBN: 978-0-471-65471-1. John Wiley & Sons. Chap. 16, pp.313–332.

Posters

188. Barbhuiya, S., Y. Wu, K. Murphy, H. Vandierendonck, G. Karakonstantis, and D. Nikolopoulos (2016). Accelerating Data Center Applications with Reconfigurable DataFlow Engines. In: *Proceedings of the Second International Workshop on Heterogeneous High Performance Reconfigurable Computing (**H2RC'16**)*. Accepted. Held in conjunction with the SC'16 International Conference on High Performance Computing, Networking, Storage and Analysis. Salt Lake City, UT.
189. Vassiliadis, V., K. Parasyris, C. D. Antonopoulos, N. Bellas, S. Lalis, U. Naumann, J. Riehme, J. Deussen, and D. S. Nikolopoulos (2016). SCoRPiO: Significance Based Computing for Reliability and Power Optimization. In: *Proceedings of the 2016 International Symposium on Code Generation and Optimization **(CGO)***. Barcelona, Spain.
190. Zakkak, F. S., D. Chassapis, P. Pratikakis, D. S. Nikolopoulos, and A. Bilas (2011). *C Source Level Transformations & Optimizations for Task-Based Parallelism*. Student Poster Session, 2011 International Symposium on Code Generation and Optimization ***(CGO)***. Chamonix, France.
191. Li, D., K. Cameron, D. Nikolopoulos, M. Schulz, and B. D. Supinski (2009). *Model-Based Hybrid MPI/OpenMP Power-Aware Computing*. Poster Session, ACM/IEEE Supercomputing'2009: High-performance Computing, Networking, Storage and Analysis ***(SC)***. Portland, OR, USA.

192. Blagojevic, F., C. Iancu, K. A. Yelick, D. Nikolopoulos, B. Rose, and M. Curtis-Maury (2009). *Scheduling Dynamic Parallelism on the Cell BE*. Proceedings of the 15th Meeting of the IBM HPC Systems Scientific Computing User Group ***(SCICOMP)***. Barcelona, Spain.
193. Yankelevsky, M., W. Ko, D. Nikolopoulos, and C. Polychronopoulos (2001). *Using Machine Descriptors to Select Parallelization Models and Strategies on Hierarchical Systems*. Poster Session, ACM/IEEE Supercomputing'2001: High Performance Networking and Computing Conference ***(SC)***. Acceptance rate: 24%. Denver, CO, USA.

Non-Refereed Publications

Edited Volumes and Proceedings

194. Nikolopoulos, D. and C. Antonopoulos, eds. (2015). *Mini-Symposium on Energy and Resilience in Parallel Programming, Parallel Computing on the Road to Exascale, Proceedings of the International Conference on Parallel Computing*, ***ParCo 2015***. Edinburgh, Scotland, pp. 709–709.
195. Cameron, K., T. Gamblin, and D. S. Nikolopoulos, eds. (2016). ***VarSys Introduction.*** *First IEEE International Workshop on Variability in Parallel and Distributed Systems.* Held in conjunction with the 2016 IEEE International Parallel and Distributed Processing Symposium. Chicago, IL, p. 1068.
196. Núñez-Yáñez, J. L., J. M. Moreno, and D. S. Nikolopoulos (2015). Guest Editorial: Special Issue on Energy Efficient Computing with Adaptive and Heterogeneous Architectures. ***IET Computers & Digital Techniques*** **9**(1), 1–2.
197. Cameron, K. W., A. Hoisie, D. J. Kerbyson, D. K. Lowenthal, D. S. Nikolopoulos, S. Yalamanchili, and A. Marquez (2014). In: *Proceedings of the 2nd International Workshop on Energy Efficient Supercomputing*, ***(E2SC'14)***. ISBN 978-1-4799-7036-0. New Orleans, Louisiana, USA: IEEE.
198. Supinski, B. R. de, B. Krammer, K. Fürlinger, J. Labarta, and D. S. Nikolopoulos (2013). Topic 1: Support Tools and Environments - (Introduction). In: ***Euro-Par 2013 Parallel Processing*** *- 19th International Conference, Aachen, Germany, August 26-30, 2013. Proceedings*. Ed. by F. Wolf, B. Mohr, and D. an Mey. Vol. 8097. Lecture Notes in Computer Science, pp.3.
199. Ramírez, A., D. S. Nikolopoulos, D. R. Kaeli, and S. Matsuoka (2012). Topic 16: GPU and Accelerators Computing. In: *Euro-Par 2012 Parallel Processing - 18th International Conference*, ***Euro-Par 2012***, *Rhodes Island, Greece, August 27-31, 2012. Proceedings*. Vol. 7484. Lecture Notes in Computer Science, pp.857–858.
200. Cotronis, Y., A. Danalis, D. S. Nikolopoulos, and J. Dongarra, eds. (2011). ***Recent Advances in the Message Passing Interface - 18th European MPI Users' Group Meeting, EuroMPI 2011.*** *Proceedings*. Lecture Notes in Computer Science. Vol. 6960. Santorini, Greece: Springer.

Invited Keynote Addresses

201. Nikolopoulos, D. S. (2016). Energy Efficient Computing using Computational Significance Abstractions. In: *UK-China Workshop on Shaping Low Carbon Energy Future*. Keynote talk. Belfast, UK.
202. Nikolopoulos, D. S. (2016). Using Computational Significance and Resilience in System Software Stacks. In: *First Workshop on Energy-Aware High Performance Computing*. Keynote talk. Held in conjunction with the 2016 International Supercomputing Conference **(ISC)**. Frankfurt, Germany.
203. Nikolopoulos, D. S. (2015). Why Energy-Efficient High Performance Computing is Harder than Energy-Efficient Embedded Computing. In: *Workshop on Power & Energy-Aware High Performance Computing on Emerging Technology*. Keynote talk. Held in conjunction with the 2015 International Supercomputing Conference **(ISC)**. Frankfurt, Germany.
204. Nikolopoulos, D. (2013). Programming the Energy Efficiency of HPC Systems. In: *Proceedings of the 4th International Conference on Energy-Aware High Performance Computing*. **Keynote Talk**. Dresden, Germany.
205. Nikolopoulos, D. (2013). Connecting the Dots between Parallel Programming and Energy. In: *Proceedings of the 21st Euromicro International Conference on Parallel, Distributed and Network-Based Processing*. **Keynote Talk**. Belfast, Northern Ireland, UK.
206. Nikolopoulos, D. (2011). To Program or not to Program the Memory Hierarchy? In: *Fourth Workshop on Programmability Issues for Heterogeneous Multicores* ***(MULTIPROG)***. **Keynote Address**. Heraklion, Greece.

207. Nikolopoulos, D. (2006). Facing the Challenges of Multicore Processor Technologies using Autonomic System Software. In: *Proceedings of the 7th Workshop on Parallel and Distributed Scientific and Engineering Computing with Applications* ***(PDSEC)***. Held in conjunction with the 20th IEEE International Parallel and Distributed Processing Symposium (IPDPS), 1pp., **Keynote Address**. Rhodes, Greece.

Invited Papers, Magazine Articles, and Brief Announcements

208. Duranton, M. et al. (2011). *Computing Systems: Research Challenges Ahead: The HiPEAC Vision 2011/2012*. Tech. rep.
209. Nikolopoulos, D., H. Vandierendonck, N. Bellas, C. Antonopoulos, S. Lalis, G. Karakonstantis, A. Burg, and U. Naumann (2014). Energy Efficiency through Significance-Based Computing. ***IEEE Computer*** **47** (7), 82–85.
210. Nikolopoulos, D. (2014). NanoStreams: A Hardware and Software Stack for Real-Time Analytics on Fast Data Streams. *HiPEAC Info* (38), 15–16.
211. Nikolopoulos, D. (2009). Green Building Blocks: Software Stacks for Energy-efficient Clusters and Data Centres. *ERCIM News* (79), 29–30.
212. Nikolopoulos, D. (2008). Set-top Supercomputing: Scalable Software for Scientific Simulations on Game Consoles. *ERCIM News* (74), 44–45.
213. Nikolopoulos, D. (2012). Reconciling Explicit with Implicit Parallelism. In: *Abstracts of the 2012 SIAM Conference on Parallel Processing for Scientific Computing* ***(SIAM PP)***. Savannah, Georgia, USA.
214. Nikolopoulos, D. (2012). Region-Based Memory Management for Task Dataflow Models. In: *Joint ENCORE & PEPPHER Workshop on Programmability and Portability for Emerging Architectures* ***(EPoPPEA)***. Held in conjunction with the 7th International Conference on High Performance and Embedded Architectures and Compilers (HIPEAC). Paris, France.
215. Kesapides, J., D. Nikolopoulos, and A. Bilas (2010). ADAM: Automatic Dependence Analysis & Monitoring. In: *Proceedings of the Sixth International Summer School on Advanced Computer Architecture and Compilation for Embedded Systems* ***(ACACES)***. 4pp. Barcelona, Spain.
216. Nikolopoulos, D. and M. Katevenis (2009). Processors: The Challenge of Cooperation. ***Economist*** (71). In Greek.
217. Alvanos, M., G. Tzenakis, D. Nikolopoulos, and A. Bilas (2009). Parallelization and Performance of an H.264 Video Encoder on the Cell B.E. In: *Proceedings of the Fifth International Summer School on Advanced Computer Architecture and Compilation for Embedded Systems* ***(ACACES)***. 4pp. Barcelona, Spain.
218. Nikolopoulos, D. (2008). Unified Scheduling of Polymorphic Parallelism on the Cell Processor. In: *Abstracts of the 2008 SIAM Conference on Parallel Processing for Scientific Computing, Miniworkshop on the Cell Processor* ***(SIAM PP)***. Atlanta, GA, USA.
219. Nikolopoulos, D. (2007). System Software Challenges and Opportunities on Asymmetric Multi-core Processors. In: *Proceedings of the 2007* ***Fall Creek Falls Conference*** *– Panel on Key Challenges Presented by Next Generation Hardware Systems*. Nashville, TN, USA.
220. Blagojevic, F. and D. Nikolopoulos (2006). *Exploring Programming Models and Optimizations for the Cell Broadband Engine using RAxML*. 2006 Virginia Tech **High-End Computing Challenge**. 14 pp. **Awarded Best Entry for Performance**.
221. Antonopoulos, C., N. Chrisochoides, and D. Nikolopoulos (2005). 2-D Parallel Constrained Delaunay Mesh Generation: A Multigrain Approach on Deep Multiprocessors. In: *Abstracts of the Workshop in Programming Models for HPCS Ultra-Scale Applications* ***(PMUA)***. Held in conjunction with the 19th ACM International Conference on Supercomputing (ICS). Invited presentation. Cambridge, MA, USA.
222. Antonopoulos, C., N. Chrisochoides, and D. Nikolopoulos (2004). Exploiting Simultaneous Multithreading for Parallel Mesh Generation: A Multigrain Approach on Deep Multiprocessors. In: *13th International Meshing Roundtable* ***(IMR)***, *Poster Session*. Williamsburg, VA, USA.
223. Nikolopoulos, D. and A. Stathopoulos (2004). Application Awareness in Adaptation Middleware: Balancing Transparency with Performance and Adaptivity. In: *Abstracts of the 2004 SIAM Conference on Parallel Processing for Scientific Computing* ***(SIAM PP)***, *Miniworkshop on Adaptivity in Parallel and Distributed Computing through Interoperating Systems and Applications*. 1 pp. San Francisco, CA, USA.

224. Nikolopoulos, D. (2003). Programming Environments for Multigrain Parallelization. In: *Abstracts of the 2003 **EURESCO** Conference on Advanced Environments and Tools for High-Performance Computing*. Invited presentation. Albufeira, Portugal.

PhD Thesis

225. Nikolopoulos, D. (2000). "System Software Support for Reducing Memory Latency on CC-NUMA Architectures". PhD Dissertation. Department of Computer Engineering and Informatics, University of Patras.

Citation Metrics (Google Scholar)

Citations: 2921, h-index: 29, i-10 index: 82

Research Grants[1]

Total amount of research awards as PI or CoI:	**£42.794m**
Total amount of research awards lead as PI:	**£11.945m**

1. **Biohaviour: Building the Blind Watchmaker**. Sponsor: EPSRC. Grant ID: EP/R003564/1. Role: CoI. Grant amount: £778,226. CoI grant share: £194,556. Dates of activity 01/2018–06/2021.
2. **Scalable, Virtualized Data Centre Acceleration**. Sponsor: Intel. Role: CoI Grant amount: £3,945 CoI grant share: £795 Dates of activity 1/2017–12/2020.
3. **OPRECOMP: Open Transprecision Computing**. Sponsor: EU, Horizon 2020. Grant ID: H2020-732631. Role: CoI. Grant amount: €5,999,510 (£5,091,933) QUB and PI grant share: €705,625 (£599,781) Dates of activity 1/2017–12/2020.
4. **UNISERVER: A Universal Micro-server Ecosystem by Exceeding the Energy and Performance Scaling Boundaries**. Sponsor: EU, Horizon 2020. Grant ID: H2020-688540. Role: CoI. Grant amount: €4,815,810 (£4,333,717) QUB and PI grant share: €322,648 (£222,516) Dates of activity 2/2016–1/2019.
5. **VINEYARD: Versatile Integrated Accelerator-based Heterogeneous Datacentres**. Sponsor: EU, Horizon 2020. Grant ID: H2020-687628. Role: PI. Grant amount: €6,283,895 (£4,467,972) QUB and PI grant share: €663,625 (£471,850) Dates of activity 2/2016–1/2019.
6. **Principles and Practice of Near Data Computing**. Sponsor: Royal Society Wolfson Research Merit Award. Grant ID: WM150009. Role: PI. Grant amount and QUB grant share : £50,000 Dates of activity 10/2015–9/2020.
7. **Meeting the Future Challenges of Heterogeneous and Extreme Scale Parallel Computing**. Sponsor: SFI-DEL, Investigator Awards. Grant ID: 14/IA/2474. Role: PI. Grant amount and QUB grant share : £521,947 Dates of activity 9/2015–9/2018.
8. **ECOSCALE: Energy Efficient Heterogeneous Computing at Exascale**. Sponsor: EU, Horizon 2020. Grant ID: H2020-671632. Role: PI. Grant amount: €4,237,398 (£2,922,346) QUB and PI grant share: €696,750 (£480,518) Dates of activity 10/2015–10/2018.
9. **ALLScale: An Exascale Programming, Multi-objective Optimisation and Resilience Management Environment Based on Nested Recursive Parallelism**. Sponsor: EU, Horizon 2020. Grant ID: H2020-671603. Role: PI. Grant amount: €3,366,196 (£2,463,217) QUB and PI grant share: €438,578 (£320,930) Dates of activity 10/2015–10/2018.
10. **SERT: Scale-Free, Energy-Efficient and Resilient CSE Software for Mega-Core Systems**. Sponsor: EPSRC (Software for the Future II). Grant ID: EP/M01147X/1. Role: PI. Grant amount: £963,929. QUB and PI grant share: £694,909. Dates of activity 3/2015–3/2018.
11. **RAPID: Heterogeneous Secure Multi-level Remote Acceleration Service for Low-Power Integrated Systems and Devices**. Sponsor: EU, Horizon 2020. Grant ID: H2020-644312. Role:

[1] *Total amount of research awards* includes grant shares of partners in collaborative projects. *Total amount of research awards as PI* includes only grant shares allocated to Professor Nikolopoulos.

PI. Grant amount: €2,203,800 (£1,695,231). QUB and PI grant share: €326,925 (£251,481). Dates of activity 01/2015–01/2018.

12. **DIVIDEND: Distributed Heterogeneous Vertically Integrated Energy Efficient Data Centres**. Sponsor: EPSRC, CHIST-ERA. Grant ID: EP/M015742/1. Role: PI. Grant amount: €1,346,885 (£1,077,508). QUB and PI grant share: €279,646 (£223,717). Dates of activity 01/2015–01/2018.
13. **HPDCJ: Heterogeneous Parallel and Distributed Computing with Java**. Sponsor: EPSRC, CHIST-ERA. Grant ID: EP/M015750/1 Role: PI. Grant amount: €1,721,010 (£1,376,808). QUB and PI grant share: €178,159 (£142,527). Dates of activity 10/2014–10/2017.
14. **ASAP: An Adaptive, Highly Scalable Analytics Platform** Sponsor: European Commission, FP7-ICT. Grant ID: FP7-619706. Role: Co-PI. Grant amount: €2,245,128 (£1,909,122). QUB grant share: €407,720 (£346,701). Co-PI grant share: €183,548 (£156,078). Dates of activity: 3/2014–3/2017.
15. **US-Ireland R&D Partnership Planning Grant: Cloud based Electronic Integration of Patient Records (CLEAR)** Grant ID: PG20 Role: PI Grant amount: £1,356 QUB grant share: £1,356. PI grant share: £1,356. Dates of activity: 1/2014–2/2014.
16. **ENPOWER: Energy-Proportional Computing with Heterogeneous and Reconfigurable Processors** Sponsor: EPSRC. Grant ID: EP/L004232/1. Role: PI. Grant amount: £741,043. QUB grant share: £348,325. PI grant share: £174,163. Dates of activity: 10/2013–10/2016.
17. **ALEA: Abstraction-Level Energy Accounting and Optimisation in Many-Core Programming Languages** Sponsor: EPSRC, System Approaches to Distributed and Embedded Architectures. Grant ID: EP/L000555/1. Role: Coordinator & PI. Grant amount: £669,561. QUB grant share: £394,025. PI grant share: £359,377. Dates of activity: 9/2013–9/2016.
18. **NanoStreams: A Hardware and Software Stack for Real-Time Analytics on Fast Data Streams**. Sponsor: European Commission, FP7-ICT, Objective 3.4 Advanced Computing, Embedded and Control Systems. Grant ID: FP7-610509. Role: Coordinator & PI. Grant amount: €3,300,000. QUB grant share: €723,565. PI grant share: €470,317. Dates of activity: 9/2013–9/2016.
19. **CACTOS:Context-Aware Cloud Topology Optimisation and Simulation**. Sponsor: European Commission, FP7-ICT, Objective 1.2: Software Engineering, Services and Cloud Computing. Grant ID: FP7-610811. Role: PI. Grant amount: €3,215,751. QUB grant share: €583,330. PI grant share: €243,600. Dates of activity: 10/2013–10/2016.
20. **SAP: PhD Project on High Availability for Petascale Systems**. Sponsor: SAP AG. Grant ID: UK-2013-009. Role: PI. Grant amount: £12,436 QUB grant share: £12,436 PI grant share: £12,436 Dates of activity: 08/2013–08/2019
21. **SCORPIO: Significance-Based Computing for Reliability and Power Optimization**. Sponsor: European Commission, FP7-FET-Open. Grant ID: FP7-323872. Role: PI. QUB Grant amount: €1,890,775. QUB and PI grant share: €273,400. Dates of activity: 06/2013–06/2016.
22. **NovoSoft: Software Management of Non-Volatile Memory Hierarchies**. Sponsor: European Commission, Marie Curie Intra-European Fellowship. Grant ID: FP7-327744. Role: Scientist in Charge (Hans Vandierendonck, PI and ERC Marie Curie Fellow). Grant amount: €309,235. Dates of activity: 04/2013–04/2015.
23. **Characterising and Optimising In-Memory Database Systems for Emerging Memory Technologies**. Sponsor: SAP UK Limited. Grant ID: R502. Role: Co-PI with Hans Vandierendonck PI. Grant amount: £34,298. Co-PI grant share: £17,149. Dates of activity: 03/2013–03/2016.
24. **GEMSCLAIM: Greener Mobile Systems by Cross Layer Integrated Energy Management**. Sponsor: EPSRC, CHIST-ERA. Grant ID: EP/K017594/1. Role: PI. Grant amount: €1,776,688. QUB and PI grant share: €436,884. Dates of activity 09/2012–09/2015.
25. **Exascale Mesh Generation Runtime Systems**. Sponsor: Royal Academy of Engineering, Distinguished Visiting Fellowships. Role: Host PI (Nikos Chrisochoides, Visiting Fellow). Grant amount: £4,100. Dates of activity 11/2012–06/2013.

26. **HOLISTIC: Hardware and Software Techniques for Multicore Processor Architectures Reliability Enhancement**. Sponsor: Greek Ministry of Education, Lifelong Learning and Religious Affairs, Thales Programme, grant ID: 1103. Role: PI with Manolis Katevenis (co-PI). Grant amount: €600,000. FORTH-ICS and PI grant share: €98,000. Dates of activity: 01/2012–01/2016.
27. **SCC–MR: Scalable and Energy-Efficient Runtime Support for the MapReduce Programming Model on the Intel SCC**. Sponsor: Intel Corporation. Equipment Donation. Role: PI. Dates of activity: 03/2010–03/2012.
28. **TEXT: Towards Exascale Applications**. Sponsor: European Commission, FP7-INFRASTRUCTURES Programme. Grant ID: ICT-261580. Role: PI. Grant amount: €2,470,000. FORTH-ICS and PI grant share: €299,364. Dates of activity: 06/2010–09/2012.
29. **ReMap: Rearchitecting MapReduce for Multicore Systems with Explicit Communication**. Sponsor: High Performance and Embedded Architectures and Compilers Network of Excellence, Cluster Collaboration Grant. Grant ID: ICT-217068. Role: PI with Eduard Ayguadé co-PI. FORTH-ICS and PI grant share: €3,000. Dates of activity: 06/2010–06/2011.
30. **ENCORE: Enabling Technologies for a Programmable Many-core**. Sponsor: European Commission, FP7-ICT, Objective 3.4: Advanced Computing, Embedded and Control Systems. Grant ID: ICT-248647. Role: co-PI with Manolis Katevenis (PI). Grant amount: €2,533,000. FORTH-ICS grant share: €533,000. co-PI grant share: €266,500. Dates of activity: 03/2010–03/2013.
31. **Coupled Models of Diffusion and Individual Behavior over Extremely Large Scale Social Networks**. Sponsor: NSF OCI PetaApps Program. Grant ID: OCI-0904844. Role: co-PI with Madhav Marathe (PI), Keith Bisset and Xizhou Feng (co-PIs). Grant amount: $1,182,798. Co-PI grant share: $200,000. Dates of activity: 08/2009–08/2013.
32. **I-Cores: Hypervisor-based Synthesis of Custom Execution Environments for Multi-core Systems**. Sponsor: European Commission, FP7 Programme, Marie Curie International Reintegration Grants. Grant ID: IRG-224759. Role: PI. Grant amount: €100,000. Dates of activity: 01/2009–01/2013.
33. **HiPEAC Fellowship: Runtime Systems for Parallel Programming**. Sponsor: European Commission, FP7 Programme, European Network of Excellence in High Performance and Embedded Architectures. Grant ID: ICT-217068. Role PI, hosted by Manolis Katevenis. FORTH-ICS and PI share: €8,600. Dates of activity: 01/2008–02/2008.
34. **VT-ASOS: Virtualization Technologies for Application-Specific Operating Systems on Many-Core HPC Systems**. Sponsor: NSF Computer Systems Research Program. Grant ID: CNS-0720673. Role: PI, with Godmar Back (Co-PI). Grant amount: $300,000. PI grant share: $150,000. Dates of activity: 07/2007–07/2010.
35. **Thermal Conductors: Runtime Software Support for Proactive Heat Management in Advanced Execution Systems**. Sponsor: NSF Computer Systems Research Program. Grant ID: CNS-0720750. Role: co-PI with Kirk W. Cameron (PI). Grant amount: $350,000. co-PI grant share: $175,000. Dates of activity: 07/2007–07/2010.
36. **Models and Adaptive Runtime Systems for Accessible Parallel Programming on IBM Multi-Core Systems**. Sponsor: IBM Faculty Award Program, Grant ID: VTF-874197. Role: PI. Grant amount: $15,000. Dates of activity: 05/2007–05/2008.
37. **MISER: A High-Performance, Power-Aware Cluster.** Sponsor: NSF Computing Research Infrastructure Program. Grant ID: CNS-0709025. Role: co-PI with Kirk W. Cameron (PI) and Adrian Sandu (Co-PI). Grant amount: $500,000. co-PI grant share: $166,667. Dates of activity: 07/2007–07/2008.
38. **Faculty Startup Grant.** Sponsor: Virginia Tech. Role: PI. Grant amount: $100,000. Dates of activity: 08/2006–08/2007.
39. **MELISSES: Liquid Services for Scalable Multithreaded and Multicore Execution on Emerging Supercomputers**. Sponsor: DOE Early Career Principal Investigator Award Program. Grant ID: DE-FG02-06ER25751, DE-FG02-05ER25689. Role: PI. Grant amount: $299,907. Dates of activity: 08/2005–08/2008.

40. **Acquisition of STEMS: A Laboratory for End-to-End Development of Software and Tools for Emerging Multigrain Supercomputers**. Sponsor: NSF Major Research Instrumentation Program. Grant ID: CNS-0521381. Role: PI with Nikos Chrisochoides (co-PI) and Bruce Lowekamp (co-PI). Grant amount: $228,134. PI grant share: $76,045. Dates of activity: 05/2005–05/2008.
41. **A Unified Framework for Multilevel Parallelization on Deep Computing Systems**. Sponsor: NSF Research Experiences for Undergraduates Program. Grant ID: CCF-0531887. Role: PI. Grant amount: $6,000. Dates of activity: 05/2005–08/2005.
42. **A Unified Framework for Multilevel Parallelization on Deep Computing Systems.** Sponsor: NSF CAREER Award Program. Grant ID: CCF-0346867, CCF-0715051. Role: PI. Grant amount: $419,835. Dates of activity: 01/2004–01/2009.
43. **An Application-Driven Approach for Runtime Scheduling of Multigrain Adaptive Computations.** Sponsor: NSF ITR Program. Grant ID: ACI-0312980. Role: co-PI with Nikos Chrisochoides (PI). Grant amount: $450,000. co-PI grant share: $225,000. Dates of activity: 09/2003–09/2006.
44. **Faculty Startup Grant.** Sponsor: College of William and Mary. Role: PI. Grant amount: $100,000. Dates of activity: 08/2002–08/2004.

Teaching

Courses Taught

Fall'15	ECS 2001: Second Stage Design Projects, Queen's University of Belfast
Spring'15	ECS 1002: Design Projects, Queen's University of Belfast
Spring'14	ECS 1002: Design Projects, Queen's University of Belfast
Fall'13	ECS 2001: Second Stage Design Projects, Queen's University of Belfast
Spring'13	ECS 1002: Design Projects, Queen's University of Belfast
Fall'12	ECS 2001: Second Stage Design Projects, Queen's University of Belfast
Fall'11	CS425: Computer Systems Architecture, University of Crete
Fall'11	CS100: Introduction to Computer Science, University of Crete (co-taught with Polyvios Pratikakis)
Spring'11	CS225: Computer Organization, University of Crete (co-taught with Christos Sotiriou)
Spring'11	CS529: Multi-core Systems Programming, University of Crete
Fall'10	CS425: Computer Systems Architecture, University of Crete
Spring'10	CS225: Computer Organization, University of Crete
Spring'10	CS529: Multi-core Systems Programming, University of Crete
Fall'09	CS425: Computer Systems Architecture, University of Crete
Spring'09	CS529: Multi-core Systems Programming, University of Crete
Spring'09	CS225: Computer Organization, University of Crete (co-taught with Manolis Katevenis)
Fall'08	CS425: Computer Systems Architecture, University of Crete
Spring'08	CS425: Computer Systems Architecture, University of Crete
Fall'07	CS5234: Advanced Parallel Computation, Virginia Tech
Fall'07	CS2504: Introduction to Computer Organization, Virginia Tech
Spring'07	CS2504: Introduction to Computer Organization, Virginia Tech
Fall'06	CS4234: Parallel Computation, Virginia Tech
Spring'06	CSCI644: Advanced Computer Architecture, College of William and Mary
Fall'05	CSCI444/544: Principles of Operating Systems, College of William and Mary
Spring'05	CSCI644: Advanced Computer Architecture, College of William and Mary
Fall'04	CSCI444/544: Principles of Operating Systems, College of William and Mary
Spring'04	CSCI644: Advanced Computer Architecture, College of William and Mary
Fall'03	CSCI444/544: Principles of Operating Systems, College of William and Mary
Spring'03	CSCI644: Advanced Computer Architecture, College of William and Mary
Fall'02	CSCI444/544: Principles of Operating Systems, College of William and Mary
Spring'02	ECE291: Computer Engineering II, University of Illinois at Urbana-Champaign (co-taught with Constantine D. Polychronopoulos)

Seminars Taught

Spring'12 Implementation of Multi-core Programming Models, Universitat Politecnica de Catalunya
Spring'10 Multi-core Systems Programming and Optimization, Universitat Politecnica de Catalunya
Spring'08 Multi-core Systems Programming and Optimization, Universitat Politecnica de Catalunya
Spring'07 Multi-core Systems Programming and Optimization, Universitat Politecnica de Catalunya
Spring'04 Multithreaded Architectures and Software, College of William and Mary

Curriculum Development

ECS2001: Software and Electronic Systems Engineering Design Projects (2nd Stage)	Developed from scratch, Queen's University of Belfast
ECS1002: Software and Electronic Systems Engineering Design Projects (1st Stage)	Developed from scratch, Queen's University of Belfast
CS529: Multicore Processor Programming	Developed from scratch, University of Crete
CS425: Computer Systems Architecture	Major revision (multi-core systems), University of Crete.
CS225: Computer Organization	Major revision (multi-core, cache coherence) , University of Crete
CS5234: Advanced Parallel Computation	Developed from scratch, Virginia Tech

Teaching Grants

1. **Advanced Topics in the Implementation of Multicore Programming Models**. Sponsor: Universitat Politecnica de Catalunya. Amount: €2,400 Role: PI. Dates of activity: 05/2012–06/2012.
2. **Multi-core Systems Programming**. Sponsor: Universitat Politecnica de Catalunya. Amount: €2,400 Role: PI. Dates of activity: 05/2010–06/2010.
3. **Multi-core Systems Programming**. Sponsor: Universitat Politecnica de Catalunya. Amount: €3,600. Role: PI. Dates of activity: 05/2008–06/2008.
4. **Multi-core Systems Programming and Optimization**. Universitat Politecnica de Catalunya. Funding amount: €3,600. Role: PI. Dates of activity: 05/2007–06/2007.

Individual Student and Researcher Guidance

Postdoctoral Research Fellows

1. **Dr. Damon Fenacci** – EEECS, Queen's University of Belfast. 01/17–present. Research themes: Memory management.
2. **Dr. Giorgis Georgakoudis** – EEECS, Queen's University of Belfast. 05/16–present. [61, 70, 9, 10, 79, 84, 91, 97] Research themes: System software and hardware/software interface.
3. **Dr. Blesson Varghese** – EEECS, Queen's University of Belfast. 01/16 – present. [52] Research themes: Energy-efficient and resilient high-performance computing.
4. **Dr. Kiril Dichev** – EEECS, Queen's University of Belfast. 10/15 – present. [53, 54] Research themes: Exascale resilience.
5. **Dr. Cheol-Ho Hong** – EEECS, Queen's University of Belfast. 06/15 – present. [4, 6] Research themes: Accelerator virtualisation.
6. **Dr. Lev Mukhanov** – EEECS, Queen's University of Belfast. 04/14 – present. [48, 5, 67, 65] Research themes: Abstraction-level energy accounting in many-core programming languages.
7. **Dr. Zafeirios Papazachos** – EEECS, Queen's University of Belfast. 01/14 – present. [181, 71, 73, 80] Research themes: Data center performance & reliability monitoring and optimisation.
8. **Dr. Hemant Mehta** – EEECS, Queen's University of Belfast. 10/15 – 04/17. Research themes: Virtual machine energy accounting.
9. **Dr. Yun Wu** – EEECS, Queen's University of Belfast. 01/14 – 01/17. [47, 188, 55, 81] Research themes: Energy-proportional many-core computing systems.

10. **Dr. Paul Harvey** – EEECS, Queen's University of Belfast. 01/16 – 09/16. [58] Research themes: Exascale programming models.
11. **Dr. Ahmed Sayed** – EEECS, Queen's University of Belfast. 09/14 – 02/15. [9, 10] Research themes: System software for real-time in-memory analytics.
12. **Dr. Konstantina Mitropoulou** – EEECS, Queen's University of Belfast. 01/14 – 03/14. Research themes: System software for real-time in-memory analytics.
13. **Prof. Hans Vandierendonck** – FORTH-ICS. 10/10 – 10/11. [103, 104, 100] Research themes: Parallel programming, scheduling.
14. **Prof. Christos D. Antonopoulos** – Computer Science, College of William & Mary. 06/04 – 06/06. [27, 28, 30, 31, 32, 127, 130, 131, 133, 134, 135, 136, 138, 139, 141, 142, 143, 144, 145, 146, 147, 148] Research themes: Energy-efficient parallel computation, runtime systems, memory management.

Research Assistants and PhD Students

1. **Kai Chen** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast. In progress. Research area: *Power Modelling*.
2. **George Tzenakis** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Hans Vandierendonck). [47, 56, 79, 18, 88, 99, 100] In progress. Research area: *Dynamic Parallelism and Elasticity*.
3. **Chhaya Trehan** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast. [57, 63] 01/15–05/16.
4. **Mahwish Arif** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Hans Vandierendonck). [49, 51, 62] In progress. Thesis area: *Performance Portability*.

Ph.D. Thesis Students

Primary Supervisor

1. **Kai Chen** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast. In progress. Thesis area: *Multi-scale Power and Performance Modelling*.
2. **Nan Wang** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast. In progress. [52] Thesis area: *Edge Computing*.
3. **Sakil Barbhuiya** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Peter Kilpatrick). [47, 188, 52, 181, 73] In progress. Thesis area: *Log Analytics and Anomaly Detection*.
4. **Daniel Playfair** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Amitabh Trehan). [50] In progress. Thesis area: *Resilience of In-Memory Database Systems*.
5. **Charalambos Chalios** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Hans Vandierendonck). [48, 7, 8, 68, 74, 78, 77, 13] July 2017. Thesis title: *Software-Defined Significance-Based Computing*.
6. **Dr. Giorgis Georgakoudis** – Computer and Telecommunications Engineering, University of Thessaly (co-supervised with Spyros Lalis). [56, 61, 70, 9, 10, 79, 84, 91, 97] May 2016. Thesis title: *Scheduling and Performance Characterization on Heterogeneous Computing Systems*.
7. **Dr. Jae-seung Yeom** [85, 107, 116] – Computer Science, Virginia Tech (co-supervised with Madhav Marathe). May 2014. Thesis title: *Optimizing Data Accesses for Scaling Data-intensive Scientific Applications*.
8. **Dr. Spyros Lyberis** – Computer Science, University of Crete. [96, 98, 103] July 2013. Thesis title: *Myrmics: A Scalable Runtime System for Global Address Spaces*.
9. **Dr. Scott Schneider** – Computer Science, Virginia Tech. [110, 24, 119, 26, 138] December 2010. Thesis title: *Shared Memory Abstractions for Heterogeneous Multicore Processors*.

10. **Dr. Filip Blagojevic** – Computer Science, Virginia Tech. [117, 121, 130, 131, 31, 192, 220] May 2008. Thesis title: *Scheduling on Asymmetric Parallel Architectures*.
11. **Dr. Matthew Curtis-Maury** – Computer Science, Virginia Tech. [184, 120, 128, 133, 135, 136, 139, 142, 146, 30, 134] March 2008. Thesis title: *Improving the Efficiency of Parallel Applications on Multithreaded and Multicore Systems*. **Virginia Tech Outstanding Ph.D. Dissertation Award**.

Secondary Supervisor

1. **Ioannis Tsiokanos** – Electronics, Electrical Engineering and Computer Science, Queen's University Belfast (co-supervised with Georgios Karakonstantis). Thesis area: *In preparation*.
2. **Konstantions Tovletoglou** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Georgios Karakonstantis). [44, 47, 48] Thesis area: *In preparation*. Âğ
3. **Esha Barlaskar** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Ivor Spence, Peter Kilpatrick). [46] In progress. Thesis area: *Inter-Cloud VM Migration*.
4. **Jiawen Sun** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Hans Vandierendonck). [43, 45, 62] In progress. Thesis area: *Programming Models for Graph Analytics*.
5. **Stuart McCool** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Peter Kilpatrick). In progress. Thesis title: *Guidance Environments for Program Parallelisation and Analysis*.
6. **Ahmad Hassan** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Hans Vandierendonck). [56, 66, 15, 72, 75] July 2016. Thesis title: *Software Management of Hybrid Main Memory Systems*.
7. **Dr. Eoghan O'Neill** – Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast (co-supervised with Peter Kilpatrick). [2] October 2015. Thesis title: *A Framework for Managing Shared Accelerators in Heterogeneous Environments*.
8. **Dr. Aleksandr Khasymski** – Computer Science, Virginia Tech (co-supervised with Ali R. Butt). [182, 11, 95] February 2015. Thesis title: *Accelerated Storage Systems*.
9. **Dr. Chun-Yi Su** – Computer Science, Virginia Tech (co-supervised with Kirk W. Cameron). [69, 92, 21] December 2014. Thesis title: *Energy-Aware Thread and Data Management in Heterogeneous Multi-Core and Multi-Memory Systems*.
10. **Dr. Vassilis Papaefstathiou** – Computer Science, University of Crete (co-supervised with Manolis Katevenis). [90, 98, 106, 25] November 2013. Thesis title: *Architectural Support for Software-Guided Energy Reduction of Manycore Communication*.
11. **Dr. Muhammad Mustafa Rafique** – Computer Science, Virginia Tech. [183, 112, 118, 122, 125, 23, 29] September 2011 (co-supervised with Ali R. Butt). Thesis title: *An Adaptive Framework for Managing Heterogeneous Many-Core Clusters*.
12. **Prof. Dong Li** – Computer Science, Virginia Tech. [19, 185, 105, 113, 114, 191] January 2011 (co-supervised with Kirk W. Cameron). *Scalable and Energy Efficient Execution Methods for Multicore Systems*. **Virginia Tech Outstanding Ph.D. Dissertation Award**.
13. **Dr. John Christian Linford** – Computer Science, Virginia Tech (co-supervised with Adrian Sandu). [119] May 2010. Thesis title: *Accelerating Atmospheric Modeling Through Emerging Multi-core Technologies*.
14. **Dr. Richard Tran Mills** – Computer Science, College of William & Mary (co-supervised with Andreas Stathopoulos). [33, 137, 151] November 2004. Thesis title: *Dynamic Adaptation to CPU and Memory Load in Scientific Applications*.

Visiting Ph.D. Students

1. **Oscar Garcia Lorenzo** – Computer Architecture, University of Santiago de Compostela. In progress [76].
2. **Satoshi Imamura** – System LSI Laboratory. Kyushu University. [82].

M.Sc. Research Students
Primary Supervisor

1. **Dimitris Chassapis** – Computer Science, University of Crete. [87, 94, 190] In progress. Thesis title: *Static Analysis for Parallelism and Correctness in Task Dataflow Programming Models*.
2. **Ioannis Manousakis** – Computer Science, University of Crete. [12, 93, 22]. July 2013. Thesis title: *TPROF: An Energy Profiler for Task-Parallel Programs*.
3. **Evangelos Kafentarakis** – Computer Science, University of Crete. July 2013. Thesis title: *Lprof: A Tool for Profiling Locality Awareness in a Task-Based Programming Model*.
4. **Christi Symeonidou** – Computer Science, University of Crete. [89, 14]. July 2013. Thesis title: *Distributed Region-Based Allocation and Synchronization*.
5. **Kallia Chronaki** – Computer Science, University of Crete. [86]. June 2013. Thesis title: *Exploiting Pipelined Parallelism with Task Dataflow Programming Models*.
6. **Alexandros Labrineas** – Computer Science, University of Crete. June 2013. Thesis title: *BDDT-SCC: A Task-Parallel Runtime for the Single-Chip Cloud Computer*.
7. **Anastasios Papagiannis** – Computer Science, University of Crete. [16, 102, 108] March 2013. Thesis title: *MapReduce on Distributed-Memory Many-Core Architectures*.
8. **Angelos Papatriantafyllou** – Computer Science, University of Crete. [99] March 2012. Thesis title: *Optimized Block-Based Dependence Analysis for Task Parallelism*.
9. **Constantinos Koukos** – Computer Science, University of Crete (co-supervised with Angelos Bilas). [24] August 2010. Thesis title: *Locality Management in Task-Based Parallel Programming Models*.
10. **Pranav Tendulkar** – ALaRi Institute Advanced Studies in Embedded Systems Design. [106] June 2010. Thesis title: *Runtime OpenMP Support using Hardware Primitives on Explicitly Memory Managed Multi-Processors*.
11. **Michail Zampetakis** – Computer Science, University of Crete. [111] April 2010. *Runtime Support for Programming Explicit Communication Chip Multiprocessors*.
12. **Maria Katsamani** – Computer Science, University of Crete (co-supervised with Manolis Katevenis). March 2010. Thesis title: *Software Implementation of MPI Primitives on Multicore FPGA*.
13. **Benjamin Rose** – Computer Science, Virginia Tech. [117, 118, 119, 29, 192] May 2009. Thesis title: *Intra- and Inter-Chip Communication Support for Asymmetric Multicore Processors with Explicitly Managed Memory Hierarchies*.
14. **Beran Nova Bryant** – Computer Science, Virginia Tech. May 2008. *Temperature-Aware Scheduling of Parallel Applications on Shared-Memory Multiprocessors.*
15. **Harshil Shah** – Computer Science, Virginia Tech. May 2008. *Application Parallelization on the Cell/BE.*
16. **Jyotirmaya Tripathi** – Computer Science, Virginia Tech. [124, 132] May 2008. *Scheduling Parallel Applications on Paravirtualized Shared-Memory Multiprocessors*.
17. **Ankur Shah** – Computer Science, Virginia Tech. [120] April 2008. Thesis title: *Prediction Models for Multi-dimensional Power-Performance Optimization on Many Cores*.
18. **Scott Schneider** – Computer Science, College of William & Mary. [141] June 2005. Thesis title: *Factory: An Object-Oriented Parallel Programming Substrate for Deep Multiprocessors*.
19. **Robert McGregor** – Computer Science, College of William & Mary. [147] May 2005. *Scheduling with Bus Bandwidth Considerations on Shared-Memory Multiprocessors.*

Co-Supervisor

1. **Foivos Zakkak** – Computer Science, University of Crete (co-supervised with Angelos Bilas). [87, 94, 190] March 2012. Thesis title: *SCOOP: Language Extensions and Compiler Optimizations for Task-based Programming Models*.
2. **Ioannis Kesapides** – Computer Science, University of Crete (co-supervised with Angelos Bilas). [99, 215] March 2011. Thesis title: *Dynamic Dependence Analysis on Multi-core Processors*.
3. **Michail Alvanos** – Computer Science, University of Crete (co-supervised with Angelos Bilas). [101, 217] June 2010. Thesis title: *Design and Evaluation of a Task-based Parallel H.264 Video Encoder for the Cell Processor*.
4. **George Tzenakis** – Computer Science, University of Crete (co-supervised with Angelos Bilas). [115, 24] October 2009. Thesis title: *Tagged Procedure Calls (TPC): Efficient Runtime Support for Task-Based Parallelism on the Cell Processor.*

Undergraduate (MEng) Research Students

1. **Nikolaos Parasyris** – Electrical and Computer Engineering, National Technical University of Athens. September 2015. *Fine-grain energy profiling of large software repositories*.
2. **Stylianos Ninidakis** – Computer Science, University of Crete. June 2011. *Parallelizing Irregular applications with Task Dataflow*.
3. **Nikolaos Papakonstantinou** – Computer Science, University of Crete. June 2011. *Distributed Dynamic Dependence Analysis for Task Dataflow Models.*
4. **Nikolaos Papadopoulos** – Computer Science, University of Crete, February 2012. *Scheduler-Driven Dynamic Data Placement for NUMA Multi-cores.*
5. **Ioannis Manousakis** – Computer Science, University of Crete, May 2011. *Component-level Power Instrumentation on Multiprocessors.*
6. **Dimitrios Chassapis** – Computer Science, University of Crete, May 2011. *Static Dependence Analysis for Task Dataflow Models.*
7. **Christi Symeonidou** – Computer Science, University of Crete, May 2011. *Multi-node Communication Layer on the SARC FPGA Prototype.*
8. **Alexandros Labrineas** – Computer Science, University of Crete, May 2011. *Early Release Optimizations for Task Dataflow Programming Models.*
9. **Kallia Chronaki** – Computer Science, University of Crete, May 2011. *Parallel Loop Scheduling on the SARC Multi-core Processor*.
10. **Christos Margiolas** – Computer Science, University of Crete. June 2010. *Data Placement and NUMA-Aware Optimization of MapReduce.*
11. **Foivos Zakkak** – Computer Science, University of Crete, June 2010 (co-supervised with Angelos Bilas). *Source-to-Source Compiler Optimizations for Task Parallelism.*
12. **Spyros Tsatuhas** – Computer Science, University of Crete, June 2010. *POSIX Threads Library Implementation on the SARC FPGA Prototype.*
13. **Evangelos Kafentarakis** – Computer Science, University of Crete, June 2009. *Software Shared Memory Layer for CPU-GPU Systems.*
14. **Anastasios Papagiannis** – Computer Science, University of Crete, June 2009. *Performance Analysis of Virtual Machine Schedulers in Xen.*
15. **Patric Fiaux** – Computer Science, Virginia Tech, May 2007. *Application Parallelization and Optimization on Cell/BE.*
16. **James Dzierwa** – Computer Science, College of William & Mary, May 2006. *Hardware Monitors for Power-Performance Adaptation.*
17. **Evan McCreedy** – Computer Science, College of William & Mary, May 2004. *Multi-level Parallelization of MPIBlast.*

Service

Professional Activities

Membership in Professional Societies

- The Institution of Engineering and Technology (IET), Fellow (2017–present)
- British Computer Society (BCS), Fellow (2014–present)
- Association for Computing Machinery (ACM), Senior Member (2011–present), Member (1995–2011)
  - ACM Special Interest Group on Computer Architecture (SIGARCH), Member
  - ACM Special Interest Group on Operating Systems (SIGOPS), Member
  - ACM Special Interest Group on High Performance Computing (SIGHPC), Member
- Institute of Electrical and Electronics Engineers (IEEE), Senior Member (2010–present), Member (1997–present)
  - IEEE Computer Society, Member
- United Kingdom Council of Professors and Heads of Computing (CPHC), Member (2012–present)
- Technical Chamber of Greece, Member (1996–present)

Conference Committee Activities

Program (Co)Chair	CCGrid (14), EuroMPI (11), IEEE ScalCom (11), PASA (13), PPAC (09,10,11)
Program Vice (Area)-Chair	SAMOS XVI (16), SC (14), EuroPar (12), IEEE IPDPS (11), ICPP (07), ATC (07)
General (Co)Chair	Cluster (18,10), EdgeComp (17), PP4REE (16), ERPP (15), EEHCO (15), E2SC (17,16,15,14,13), PASA (13)
Program Committee (Conferences)	ACM ICS (17,14,12,11,09,07), IEEE IPDPS (17,14,13), ACM CF (17,15,14,11), ParCo (17,15), ICPP (17,16,14,08,04,03), ExaComm (17), IC-SAMOS (17,15,14), ACM/IEEE SC (16,15,13,12), IEEE/ACM CCGrid (16,15,13), IEEE Cluster (16,15,13,12,11), EuroPar (16,14,13), HiPC (16,15,14), IEEE Big Data (16,15,14,13), EnaHPC (17,16,15,14), BigData (17,16,14), IUCC (16,12), ACM PPoPP (15,13), HiPEAC (15,14,13,12), GPGPU (15, 14), FAB (15), FEEDBACK (15), IEEE GreenCom (13,11,10), SAAHPC (12,11,10,09), IEEE ICPADS (12,10,06,04), IFIP NPC (12,11,10), ARCS (12,11,10), IEEE HPCC (12,09), IEEE NAS (11,10,09), IEEE ICEBE (11,10), IEEE ScalCom (10,09), IEEE CloudCom (10,09), IEEE Green Computing (10), FC(10), ICA3PP (10), PDCAT (10), IEEE CSE (10,09), IEEE/ACM PACT (09), IEEE ATC (08,07,06), BCI (07), ACM SIGMETRICS (06), IEEE ICPS (05), ISHPC (03), ICCS (01)
Program Committee (Workshops)	HUCAA (16,15), PP4REE (16), WAPCO (16,15), COSMIC (15,14), MULTIPROG (15,14,13,12,11,10), ASHES (14,13,12), MSPC (14,11), VHPC (14,13,12,11,10,09,08), ESPAS (14), P2S2 (14,13), EWiLi (13), E2SC (14,13), FASPP (12,11), CAOS (12), CACHES (11), WEST (11), SinHPC (11), IFMT (10,08), InterCloud (10), PMEA (11,10,09), Cell (09), HPPAC (09,08)
External Review Committee	PPoPP (14,12)
Tutorials Committee	SC (14,13), ISC (14,13,12)
Workshops and Tutorials Chair	HIPEAC (11), ICS (07)
Finance Chair	EuroMPI (11), ICS (09)
Steering Committee Member	IEEE Cluster (09–11)
Mini-workshop Organizer	SIAM PP (06,04)

Impact Chair	SC17
Session Chair	VarSys (16), E2SC (14), CCGrid (14), IC-SAMOS (14), PASA (13), SC (13,12), CF (11), HIPEAC (11,08), ICPP (10), IPDPS (09)

Editorial Work for Technical Journals

Journal of Computational Sciences. **Editorial Board Member.**	2014–present
International Journal of High Performance Computing Applications (IJHPCA). **Associate Editor.**	2012–present
International Journal of Parallel, Emergent and Distributed Systems (IJPEDS). **Associate Editor.**	2010–present
Sustainable Computing: Informatics and Systems (SUSCOM). **Editorial Board Member.**	2010–present
International Journal of Information Technology, Communications and Convergence. **Editorial Board Member.**	2009–present
Scientific Programming. **Editorial Board Member.**	2015–2016
Concurrency and Computation: Practice and Experience (CCPE). **Editorial Review Board.**	2015
Parallel Computing (PARCO). **Guest Editor.**	2015
IET Computers and Digital Techniques. **Guest Editor.**	2014
Sustainable Computing: Informatics and Systems (SUSCOM). **Guest Editor.**	2014
Journal of Autonomic and Trusted Computing. **Editorial Board Member.**	2006–2007

Reviewer Work for Technical Journals, Conferences and Publishers

ACM TOPLAS, ACM TOPC, ACM TACO, ACM TECS, ACM TRETS, ACM CAL, IEEE Micro, IEEE Computer, IEEE Spectrum, IEEE TC, IEEE TPDS, Computer Journal, JPDC, Parallel Computing, IJPP, IBM JRD, BMC Bioinformatics Journal, ETRI Journal, IET CDT, JSPS, IJHPCA, Elsevier JNCA, Elsevier JSS, Simulation, SP&E, SUSCOM, Transactions on HIPEAC, Scientific Programming, FGCS, Journal of VLSI for Signal Processing, EURASIP Journal on Embedded Systems

SC, ICS, PACT, SPAA, SIGMETRICS, PPoPP, MICRO, HPCA, IPDPS, IEEE Cluster, CCGRID, HiPEAC, ICPP, MASCOTS, ICC, QEST, EuroPar, LCPC, EuroMPI, HiPC, SAMOS, PDCN, ATC

Significant University and Departmental Service

Head of School of EEECS	Queen's University Belfast (2016–present)
Post-Doctoral Mentor	Queen's University Belfast (2017–present)
Senior Academic Staff Recruitment Working Group	Queen's University Belfast (2017–present)
Acting Director of Centre for Data Science and Scalable Computing	Queen's University Belfast (2016–present)
Computer Science (UoA11) REF Champion	Queen's University Belfast (2015–present)
EEECS Research Strategy Group Co-Chair	Queen's University Belfast (2015–present)
Computer Science Building Project Implementation Group, EEECS	Queen's University Belfast (2013–present)
Senior Management Group, EEECS	Queen's University Belfast (2012–present)
EEECS Faculty Hiring Panels, EEECS	Queen's University Belfast (2012–present)
Undergraduate Curriculum Committee	University of Crete (2010–2012)
University Data Center Committee	University of Crete (2010– 2012)
Graduate Admissions Committee	University of Crete (2009–2011)
Course Coordinator, CS 2506	Virginia Tech (2008–2009)
Junior Faculty Mentor	Virginia Tech (2008–2009)
Ph.D. Qualifying Exam Committee	Virginia Tech (2007–2009)
Computing Resources Committee	Virginia Tech (2006–2008)
Graduate Admissions Committee	College of William & Mary (2005–2006)
Graduate Curriculum Committee	College of William & Mary(2005–2006)
Faculty Hiring Committee	College of William & Mary (2002–2005)

Equipment Committee	College of William & Mary (2003–2005)
Freshman Academic Advisor	College of William & Mary (2004–2006)

External Consulting and Advisory Appointments

Grant Proposal Evaluator	Austrian Academy of Sciences (2017)
Faculty promotion and tenure committee	Chalmers University of Technology (2017)
Faculty promotion and tenure committee	University of Crete (2017,2016)
Scientific Advisory Board Member	Horizon2020 INTERTWinE Project (2015–2018)
Scientific Advisory Member	European Commission Horizon2020 Programme (2016)
Grant Proposal Evaluator	King Abdullah University of Science and Technology (2016)
Faculty promotion and tenure committee	National Technical University of Athens (2016, 2014)
Faculty promotion and tenure committee	University of Thessaly (2016)
Faculty promotion and tenure committee	Ionian University (2016)
Faculty promotion and tenure committee	University of Athens (2015)
Faculty promotion and tenure committee	Technological Educational Institute of Athens (2015)
Faculty promotion and tenure committee	Technological Educational Institute of Piraeus (2015)
Faculty promotion and tenure committee	Technological Educational Institute of Western Greece (2015,2016)
Faculty promotion and tenure committee	Technological Educational Institute of Piraeus (2014)
Faculty promotion and tenure committee	Technological Educational Institute of Western Greece (2014)
External examiner, School of Computing	University of Leeds (2012–present)
Faculty promotion and tenure committee	University of Crete (2013)
Undisclosed industrial consulting appointment	Queen's University Belfast (2012)
Faculty promotion and tenure committee	University of Ioannina (2011)
Faculty promotion and tenure committee	Aristotle University of Thessaloniki (2011)
Faculty hiring committee	Technical University of Denmark (2010)
Faculty hiring committee	National Technical University of Athens (2010)

PhD Examiner

1. **Rajiv Nishtala**. Barcelona Supercomputing Centre, 2017 *Energy Optimising Methodologies on Heterogeneous Data Centres*. Supervisor: Xavier Martorell.
2. **Foivos Zakkak**. Computer Science, University of Crete, 2016 *Java on Scalable Memory Architectures*. Supervisor: Polyvios Pratikakis.
3. **Ioannis Nikolakopoulos**. Computer Science and Engineering, Chalmers University, 2016 *Shared Memory Objects as Synchronization Abstractions: Algorithmic Implementations and Concurrent Applications*. Supervisor: Marina Papatriantafillou.
4. **Spiros Agathos**. Computer Engineering, University of Ioannina, 2016 *Efficient OpenMP Runtime Support for General-Purpose and Embedded Multi-core Platforms*. Supervisor: Vassilis Dimakopoulos.
5. **Madhavan Manivannan**. Computer Science and Engineering, Chalmers University, 2016 *Towards Runtime-Assisted Cache Management for Task-Parallel Programs*. Supervisor: Per Stenström.
6. **Spiros Agathos**. Computer Engineering, University of Ioannina, 2016 *Efficient OpenMP Runtime Support for General-Purpose and Embedded Multi-core Platforms*. Supervisor: Vassilis Dimakopoulos.
7. **Kiran Chandramohan**. Informatics, University of Edinburgh, 2016 *Mapping Parallelism to Heterogeneous Processors*. Supervisor: Michael O'Boyle.

8. **Javier Bueno Hedo**. Computer Architecture, Universitat Politecnica de Catalunya, 2015 *Runtime Support for Multi-Level Disjoint Memory Address Spaces*. Supervisor: Xavier Martorell.
9. **Eleftherios Kosmas**. Computer Science, University of Crete, December 2014. *Techniques for Enhancing Parallelism in Mechanisms that Automatically Execute Sequential Code in Concurrent Environments*. Supervisor: Panagiota Fatourou.
10. **Georgios Vassiliadis**, Computer Science, University of Crete, December 2014. Thesis title: *Accelerating Stateful Network Packet Processing Using Graphics Hardware*. Supervisor: Evangelos Markatos, Sotiris Ioannidis.
11. **Chun-Yi Su**, Computer Science, Virginia Tech, December 2014. Thesis title: *Resource Management on Heterogeneous Multi-Core, Multi-Memory Systems*. Supervisor: Kirk W. Cameron.
12. **Hung-Ching Chang**, Computer Science, Virginia Tech, December 2014. Thesis title: *Measuring, modeling and optimizing counterintuitive performance phenomena in power-scalable, parallel systems*. Supervisor: Kirk W. Cameron.
13. **Muhammad Tayyab Chaudhry**, Computer Science and Information Technology, University of Malaya, December 2014. Thesis title: *Thermal-Aware Scheduling in Green Data Centers*. Supervisor: Ling Teck Chaw.
14. **Pranav Tendulkar**, Computer Science, Verimag and University of Grenoble, France, October 2014. Thesis title: *Mapping and Scheduling on Multicore Processors using SMT Solvers*. Supervisor: Oded Maler.
15. **Iasonas Polakis**, Computer Science, University of Crete, Greece, February 2014. Thesis title: *Online Social Networks form a Malicious Perspective: Novel Attack Techniques and Defense Mechanisms*. Supervisor: Evangelos Markatos.
16. **Anastasios Nanos**, Electrical and Computer Engineering, National Technical University of Athens, Greece, December 2013. Thesis title: *Efficient I/O Resource Sharing in Virtual Machine Environments*. Supervisor: Nectarios Koziris.
17. **Nikolaos Kallimanis**, Computer Science, University of Ioannina, Greece, May 2013. Thesis title: *Highly Efficient Synchronization Techniques in Shared Memory Distributed Systems*. Supervisor: Panagiota Fatourou.
18. **Mushen Owaida**, Computer & Communication Engineering, University of Thessaly, Greece, September 2012. Thesis title: *Using Parallel Programming Models for Architectural Synthesis*. Supervisor: Nikolaos Bellas.
19. **Carlos Villavieja**, Computer Architecture, Universitat Politecnica de Catalunya, January 2012. Thesis title: *Hardware and Software Support for Distributed Shared Memory in Chip Multiprocessors*. Supervisor: Alex Ramirez.
20. **Demetrios Antoniades**, Computer Science, University of Crete, December 2011. Thesis title: *Understanding File and Information Sharing Services in Web 2.0*. Supervisor: Evangelos Markatos.
21. **Mauricio Alvarez**, Computer Architecture, Universitat Politecnica de Catalunya, September 2011. Thesis title: *Parallel Video Decoding*. Supervisor: Alex Ramirez.
22. **Elias Athanasopoulos**, Computer Science, University of Crete, March 2011. Thesis title: *Modern Techniques for the Detection and Prevention of Web2.0 Attacks*. Supervisor: Evangelos Markatos.
23. **Andrea Di Biaggio**, Electronics and Informatics, Politecnico di Milano, December 2010. Thesis title: *Synchronization and Data Distribution Optimization for Distributed Shared Memory Multiprocessors*. Supervisor: Stefano Crespi Reghizzi.
24. **Stamatis Kavadias**, Computer Science, University of Crete, September 2010. Thesis title: *Direct Communication and Synchronization Mechanisms in Chip Multiprocessors*. Supervisor: Manolis Katevenis.
25. **Kornilios Kourtis**, Electrical and Computer Engineering, National Technical University of Athens, April 2010. Thesis title: *Data Compression Techniques for Performance Improvement of Memory-Intensive Applications on Shared Memory Architectures*. Supervisor: Nectarios Koziris.

26. **Nikolaos Anastopoulos**, Electrical and Computer Engineering, National Technical University of Athens, March 2010. Thesis title: *Techniques for the Optimization and Efficient Mapping of Parallel Code on Computational Nodes with Multithreaded and Multicore Processors*. Supervisor: Nectarios Koziris.
27. **Dimitrios Syrivelis**, Computer & Communication Engineering, University of Thessaly, June 2009. Thesis title: *Exploiting Reconfigurable Heterogeneous Parallel Architectures in a Multitasking Context: a Systems Approach*. Supervisor: Spyros Lalis.
28. **Matthew Tolentino**, Computer Science, Virginia Tech, February 2009. Thesis title: *Managing Memory for Power, Performance, and Thermal Efficiency*. Supervisor: Kirk W. Cameron.
29. Guanying Wang, Computer Science, Virginia Tech, September 2009. Thesis title: Evaluating MapReduce Systems: A Simulation Approach. Supervisor: Ali R. Butt
30. **Montse Farreras**, Computer Architecture, Universitat Politecnica de Catalunya, December 2008. Thesis title: *Optimizing Programming Models for Massively Parallel Computers*. Principal Supervisor: Toni Cortes.
31. **Andrey Chernikov**, Computer Science, College of William & Mary, August 2007. Thesis title: *Parallel Generalized Delaunay Mesh Refinement*. Supervisor: Nikos Chrisochoides.
32. **Qi Zhang**, Computer Science, College of William & Mary, December 2006. Thesis title: *The Effect of Workload Dependence in Systems: Experimental Evaluation, Analytic Models, and Policy Development*. Supervisor: Evgenia Smirni.
33. **Songqing Chen**, Computer Science, College of William & Mary, August 2004. Thesis title: *Building Internet Caching Systems for Multimedia Content Delivery*. Supervisor: Xiaodong Zhang.
34. **Kevin Barker**, Computer Science, College of William & Mary, May 2004. Thesis title: *Runtime Support for Load Balancing of Parallel Adaptive and Irregular Applications*. Supervisor: Nikos Chrisochoides.
35. **Zhichun Zhu**, Computer Science, College of William & Mary, August 2003. Thesis title: *Power Considerations for Memory-related Microarchitecture Designs*. Supervisor: Xiaodong Zhang.

MSc & MEng Examiner

1. **Andrew Wright**, Electronics, Electrical Engineering and Computer Science, Queen's University Belfast, June 2013. Thesis title: *A Performance Analysis Tool for Task Dataflow Parallel Programs*. Supervisor: Hans Vandierendonck.
2. **Petros Politopoulos**, Computer Science, University of Crete, November 2011. Thesis title: *Piggymon: Using Snort IDS for IP Traffic Classification and Throughput Monitoring*. Supervisor: Evangelos Markatos.
3. **Georgios Saloustros**, Computer Science, University of Crete, July 2011. Thesis title: *Design and Implementation of a Scalable Storage System for Fully-Consistent Replicated Data Logging*. Supervisor: Kostas Magoutis.
4. **Apostolis Zarras**, Computer Science, University of Crete, May 2011. Thesis title: *Detecting and Defending Against Fraud in the Underground Economy*. Supervisor: Evangelos Markatos.
5. **Ioannis Klonatos**, Computer Science, University of Crete, February 2011. Thesis title: *Design and Evaluation of Solid-State Drive (SSD) Caches to Improve Storage I/O Performance*. Supervisor: Angelos Bilas.
6. **Dimitrios Tsaliagos**, Computer Science, University of Crete, February 2011. Thesis title: *Design and Implementation of a Directory based Cache Coherence Protocol*. Supervisor: Manolis Katevenis.
7. **Alexandros Kapravelos**, Computer Science, University of Crete, June 2010. Thesis title: *Robust Prevention of DIAL Attacks*. Supervisor: Evangelos Markatos.
8. **Zoe Sepebou**, Computer Science, University of Crete, June 2010. Thesis title: *Scalable Storage Support and Fault-tolerance for Data Stream Processing*. Supervisor: Kostas Magoutis.
9. **Markos Foundoulakis**, Computer Science, University of Crete, April 2010. Thesis title: *Design and Evaluation of an I/O Controller for Data Protection*. Supervisor: Angelos Bilas

10. **Thanos Makatos**, Computer Science, University of Crete, February 2010. Thesis title: *ZBD: Using Transparent Compression at the Block Level to Increase Storage Space Efficiency*. Supervisor: Angelos Bilas.
11. **Ashwin Aji**, Computer Science, Virginia Tech, May 2008. Thesis title: *Exploiting Multigrain Parallelism in Pairwise Sequence Search on Emergent CMP Architectures*. Supervisor: Wu-chun Feng.
12. **Ganesh Narayanaswami**, Computer Science, Virginia Tech, May 2008. Thesis title: *On the Interaction of High-Performance Network Protocol Stacks with Multicore Architectures*. Supervisor: Wu-chun Feng.
13. **Andriy Fedorov**, Computer Science, College of William & Mary, December 2003. Thesis title: *Location Management in a Mobile Object Runtime Environment*. Supervisor: Nikos Chrisochoides.

Research Funding Panels and Proposal Reviews

Royal Academy of Engineering, United Kingdom. Grant Proposal Reviewer	2017
Technology Foundation STW, The Netherlands. Grant Proposal Reviewer	2016
National Science Centre Poland. Grant Proposal Reviewer	2016
Swiss National Science Foundation. Grant Proposal Reviewer	2016
Natural Science and Engineering Research Council of Canada (NSERC). Discovery Grants Panelist	2016
University of Cyprus Research Foundation. Grant Proposal Reviewer	2016
Royal Academy of Engineering, United Kingdom. Grant Proposal Reviewer	2015
Natural Science and Engineering Research Council of Canada (NSERC). Discovery Grants Panelist	2015
Natural Science and Engineering Research Council of Canada (NSERC). Discovery Grants Panelist	2014
UK Engineering and Physical Sciences Research Council (EPSRC). Platform Grant Panelist	2015
UK Engineering and Physical Sciences Research Council (EPSRC). Grant Proposal Reviewer	2014
UK Engineering and Physical Sciences Research Council (EPSRC). Grant Proposal Reviewer	2013
UK Engineering and Physical Sciences Research Council (EPSRC). Grant Proposal Reviewer	2012
European Commission FP7 Framework Programme. Project Reviewer	2016
European Commission FP7 Framework Programme. Project Reviewer	2015
European Commission FP7 Framework Programme. Project Reviewer	2014
European Commission FP7 Framework Programme. Project Reviewer	2013
European Commission FP7 Framework Programme. Grant Proposal Reviewer	2012
Greek Secretariat for Research and Technology. Grant Proposal Reviewer	2010
U.S.–Israel Binational Science Foundation. Grant Proposal Reviewer	2009
United States National Science Foundation. CISE Directorate. Panelist	2008
Natural Science and Engineering Research Council of Canada. Grant Proposal Reviewer	2007
United States National Science Foundation. CISE Directorate. Panelist	2004
United States National Science Foundation. CISE Directorate. Panelist	2003
United States National Science Foundation. CISE Directorate. Panelist	2002
State of Maryland Industrial Partnerships Program. Grant Proposal Reviewer	2007

Conference Panels

1. Heterogeneous and/or Homogeneous computing supporting parallel applications Which are the key driving factors for the application developers and platform designers? Are they cooperating or fighting? *6th Workshop on Parallel Programming and Run-Time Management Techniques for Many-core Architectures* ***(PARMA-DITAM 2015)*** . Panelist. January 2015.
2. Accelerators: Fad, Fashion, or Future? *39th International Conference on Parallel Processing* ***(ICPP)***. Panelist. September 2010.
3. Key Challenges Presented by Next Generation Hardware Systems. *Fall Creek Falls Conference*. Panelist. September 2007.
4. NSF Next Generation Systems Software Program. *15th ACM International Conference on Supercomputing* ***ICS***. Panelist. June 2001.

Invited Seminars and Talks

1. The Jevons Paradox in Computing Systems Research, Distinguished Lecture Series, Department of Computer Science, Virginia Tech, November 2016.
2. *Computational Significance and its Implications for HPC*, 13th Workshop on Clusters, Clouds, and Data for Scientific Computing **(CCDSC'16)** , Chemin de Chanzé, France, October 2016.
3. *Computational Significance and its Implications for Computing Systems*, School of Electrical and Electronic Engineering, Newcastle University, October 2016.
4. *Scaling Up, Out, or Down*, School of Informatics, University of Edinburgh, March 2016.
5. *Significance-Driven Runtime Systems*, RoMoL'16 Workshop, Barcelona, Spain, March 2016.
6. *Advances in Energy-Efficient and Resilient HPC: Scaling Up, Out, or Back?*, Cardiff University, March 2016.
7. *Variability: Why should we care?*, Birds of a Feather Session on Variability in Large-Scale Computing Systems, held in conjunction with the SC'15 Conference, Austin, TX, November 2015.
8. *New Approaches to Energy-Efficient and Resilient HPC*, Department of Computer Science, Old Dominion University, November 2015.
9. *HPDC Research at Queen's: An Overview*, ARM High Performance Computing Group, Manchester, UK, November 2015.
10. *Server Resource Provisioning for Real-Time Analytics using Iso-Metrics*, Workshop on Performance Modelling: Methods and Applications, in conjunction with the 2015 International Supercomputing Conference **(ISC'15)** , Frankfurt, Germany, July 2015.
11. *Evaluating Servers using Iso-Metrics: Power, Performance and Programmability Implications.* Eighth Workshop on Programmability Issues for Heterogeneous Multicores **(MULTIPROG'15)**, Amsterdam, The Netherlands, January 2015.
12. *The Challenges and Opportunities of Micro-Servers in the HPC Ecosystem*, 12th Workshop on Clusters, Clouds, and Data for Scientific Computing **(CCDSC'14)** , Chemin de Chanzé, France, October 2014.
13. *NVRAM as a User-Level Object Store.* HiPEAC Autumn Computing Systems Week, Athens, Greece, October 2014.
14. *On the Viability of Microservers for Real-Time Data Analytics.* HiPEAC Autumn Computing Systems Week, Athens, Greece, October 2014.
15. *NanoStreams: A Hardware and Software Stack for Real-Time Analytics on Fast Data Streams*. Horizon 2020 – the HPC Opportunity, London, United Kingdom, March 2014.
16. *GEMSCLAIM: Greener Mobile Systems by Cross-Layer Energy Management*. CHIST-ERA 2014 Projects Seminar, Istanbul, Turkey, March 2014.
17. *Searching for Data: The Ever Increasing Role of Memory Hierarchies on the Performance and Sustainability of Computing Systems*. Inaugural Lecture, Queen's University of Belfast, March 2013.
18. *Energy as a Resource in Parallel Programs*. Supercomputing'12 Birds-of-a-Feather Session on *Cool Supercomputing*, November 2012.
19. *Block-Level Dynamic Dependence Analysis for Task-Based Parallelism*. *Workshop on Perspectives on Parallel Numerical Linear Algebra*, Manchester, UK, July 2012.
20. *Software Techniques for Energy Conservation in High-End Computing Systems*. Invited Seminar, School of Computer Science, University of Manchester, UK, March 2012.
21. *Energy Efficiency at Extreme Scale Tools and Challenges*. Supercomputing'11 Birds-of-a-Feather Session on *Energy-Efficiency*, November 2011.
22. *Rearchitecting MapReduce for Heterogeneous Multicore Processors with Explicitly Managed Memories*. School of Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast. October 2010.

23. *Determinism in Parallel Software and Architectures*. HiPEAC Systems Week Cluster Meetings, Barcelona, October 2009.
24. *Parallelizing Non-trivial Applications with Multiple Programming Models*. HiPEAC Systems Week Cluster Meetings, Barcelona, October 2009.
25. *Uniform Evaluation of Programming Models*. HiPEAC Systems Week Cluster Meetings, Paris, November 2008.
26. *Unifying Layered Parallelism on the Cell BE*. Supercomputing'07 Birds-of-a-Feather Session on *Unleashing the Power of the Cell Broadband Engine Processor for HPC*, November 2007.
27. *Unified Scheduling of Polymorphic Parallelism on Asymmetric Multi-core Systems*. Lawrence Livermore National Laboratory. October 2007.
28. *System Software for Scaling on Many Cores*. Oak Ridge National Laboratory. September 2007.
29. *Design and Implementation of Time- and Power-Efficient Software Stacks for Multicore Processors*. IBM Thomas J. Watson Research Center. December 2006.
30. *Design and Implementation of Time- and Power-Efficient Software Stacks for Multicore Processors*. Department of Computer Science, North Carolina State University. September 2006.
31. *Hardware Event-Driven Scalability Predictors: Improving Energy-Efficiency under Hard Performance Constraints on Multi-core and Multi-threaded Architectures*. Department of Electronic and Computer Engineering, Technical University of Crete. June 2006.
32. *Addressing the Challenges of Chip Multiprocessors using Autonomic Software*. Department of Computer Science, University of California, Riverside. April 2006.
33. *Addressing the Challenges of Chip Multiprocessors using Autonomic Software*. Department of Electrical and Computer Engineering, University of British Columbia. March 2006.
34. *High-Performance Power-Efficient Runtime Environments for Dense Computing Systems*/ Department of Computer Science, Virginia Tech. February 2006.
35. *High-Performance Power-Efficient Runtime Environments for Dense Computing Systems*. Institute of Computer Science, Foundation for Research and Technology – Hellas. June 2005.
36. *High-Performance Power-Efficient Runtime Environments for Dense Computing Systems*. Department of Computer Engineering and Informatics, University of Patras. June 2005.
37. *A Unified Programming Framework for Multigrain Multithreaded Architectures*. Institute of Computer Science, Foundation for Research and Technology – Hellas. June 2004.
38. *A Unified Programming Framework for Multigrain Multithreading*. School of Electrical and Computer Engineering, National Technical University of Athens. June 2004.
39. *A Unified Programming Framework for Multigrain Multithreading*. Department of Computer Science, University of California at Riverside. April 2004.
40. *A Unified Programming Framework for Multigrain Parallel Architectures*. Department of Electrical and Computer Engineering, Northwestern University. February 2004.
41. *Program Transformations and Scheduling Algorithms for Managing Shared Caches on Multithreaded Processors*. Department of Informatics, Athens University of Economics and Business. June 2003.
42. *Program Transformations and Scheduling Algorithms for Managing Shared Caches on SMT Processors*. IBM Thomas J. Watson Research Center. March 2003.
43. *Building Adaptive Programs with Local Sensing of Execution Conditions*. Department of Computer Science, Texas A&M University. March 2003.
44. *Interoperable System Software*. Department of Information and Computer Sciences, University of California, Irvine. April 2002.
45. *Interoperable System Software*. Department of Computer Science, College of William and Mary. March 2002.

46. *Scaling Shared-Memory Programming Models beyond Shared-Memory Architectures*. Department of Computer Science, University of Houston. November 2001.
47. *Some Steps towards Simple, Scalable and Portable Parallel Programming Models*. Department of Computer Science, College of William & Mary. October 2001.
48. *A Case for User-Level Page Migration*. Coordinated Sciences Laboratory, University of Illinois at Urbana-Champaign. January 2001.