UNIVERSITY OF VICTORIA

F A C U L T Y   C U R R I C U L U M   V I T A E

Name   DIMOPOULOS, Nikitas J.

Faculty or School Engineering **Department** Electrical & Computer Engineering

1. DEGREES AND DIPLOMAS

Degree or Diploma	Field	Institution	Year Granted
B.Sc.	Physics	National and Kapodistrian, University of Athens, Greece	1975
M.Sc.	Electrical Engineering	University of Maryland	1976
Ph.D.	Electrical Engineering	University of Maryland	1980

Title of Thesis or Dissertation

Organization and Stability of a Neural Network Class and the Structure of a Multiprocessor System

2. MAJOR FIELD(S) OF SCHOLARLY, PROFESSIONAL AND RESEARCH INTERESTS

Computer Architecture
Power aware computing
Multiprocessor Systems
Neural Networks
QSAR
Computational Grid
Expert Systems

3. MEMBERSHIPS AND OFFICES HELD IN LEARNED AND PROFESSIONAL SOCIETIES (Include dates of offices held)

Member, **IEEE**, 1977, Senior Member **IEEE**, 1996

Member, **Sigma Xi**, 1978

APEGBC Registered Professional Engineer (P.Eng.) 2008**.**

4. SCHOLARSHIPS, FELLOWSHIPS, HONOURS AND AWARDS

Year(s)	Amount	Source	Title
1975		Greek Atomic Energy Commission	Fellowship
1979		Department of Electrical Engineering, University of Maryland	George Corcoran Graduate Assistant Award
2001		Engineering Institute of Canada	Fellow

5. POSITIONS HELD PRIOR TO APPOINTMENT AT UNIVERSITY OF VICTORIA
(Include academic and other)

Inclusive Years	Title/Position	Institution/Organization
1976-77	Teaching Assistant (Mathematics)	University of Maryland
1977-80	Assistant Instructor (Electrical Engineering)	
1980	Lecturer (Electricla Engineering)	Concordia University
1980-87	Assistant Professor (Electrical Engineering)	
1986	Chercheur	Centre de Recherche Informatique de Montreal
1986-87	Member of the Technical Staff	California Institute of Technology Jet Propulsion Laboratory (Flight Computer Systems and Technology Section)
1987-88	Associate Professor	Concordia University
1988-94	Adjunct Associate Professor (Electrical & Computer Engineering)	Concordia University

6. APPOINTMENTS AT UNIVERSITY OF VICTORIA

a. Academic

Inclusive Years	Rank	Department
1988-94	Associate Professor	Electrical and Computer Engineering
1994-present	Professor	Electrical and Computer Engineering
2001	Visiting Professor	Delft University of Technology Computer Engineering Laboratory
1998-2003	Professor and Chair	Electrical and Computer Engineering
2003-present	Professor and Lansdowne Chair in Computer Engineering	Electrical and Computer Engineering
2005 (Sep.) – 2006 (Feb.)	Acting Chair	Electrical and Computer Engineering
2006 (March)-	Professor and Chair	Electrical and Computer Engineering

b. Administrative-Formally Designated (Board of Governors) positions carrying stipend and/or release time

Inclusive Years	Title
1998-2003	Chair, Department of Electrical and Computer Engineering
2005 September 1 – 2006 Feb 28	Acting Chair, Department of Electrical and Computer Engineering
2006 March 1 -	Chair, Department of Electrical and Computer Engineering

7. PUBLICATIONS

a. Books, Contributions to Books

1. N.J. Dimopoulos (Ed.), "Proceedings 1993 IEEE Pacific Rim Conference on Communications Computers and Signal Processing Vols. I & II", *PACRIM'93,* IEEE Press, 1993.

2. N.J. Dimopoulos, K.F. Li, (Eds), "High Performance Computing Systems and Applicatio*ns",* Kluwer Academic Publishers, 2002.

3. S. Vassiliadis, N. J. Dimopoulos, S. Rajopadhye (eds) Proceedings, ASAP 2005 The 16th IEEE International Conference on Application-Specific Systems, Architectures, and Processors IEEE Computer Society Conference Publishing Services (2005).

4. N. J. Dimopoulos, S. Rajopadhye. W. Luk, Y. Savaryia (eds) Proceedings, ASAP 2006 The 17th IEEE International Conference on Application-Specific Systems, Architectures, and Processors IEEE Computer Society Conference Publishing Services (2006).

5. Agarwal, N. and N. J. Dimopoulos "Optimal FSMD Partitioning for low power" in K. Bertels et. al. (eds) *The Future of Computing, essays in memory of Stamatis Vassiliadis* Computer Engineering Laboratory TU Delft, 2007, pp. 1-11.

6. Mladen Berekovic, Nikitas Dimopoulos, StephanWong (Eds.) Proceedings, SAMOS 2008 8th InternationalWorkshop, Embedded Computer Systems: Architectures, Modeling, and Simulation Lecture Notes in Computer Science #5114, Springer (2008)

7. Bertels, K.; Dimopoulos, N.; Silvano, C.; Wong, S. (Eds.) Proceedings, SAMOS 2009 9th International Workshop, Embedded Computer Systems: Architectures, Modeling, and Simulation Lecture Notes in Computer Science #5657, Springer (2009)

8. Dimopoulos, N.J., Najjar, W., Berekovic, M., Wong, S. (eds) Special Issue on Embedded Architectures *Transactions on HiPEAC* (2010) (http://www.hipeac.net/node/3030)

7. PUBLICATIONS

b. Refereed Journal Publications

1. Dimopoulos, N.J., "On the structure of the homogeneous multiprocessor", *IEEE Trans. on Computers,* vol. C-34, pp. 141-150, Feb. 1985.

2. Li, K.F. and N.J. Dimopoulos, "The performance analysis of the homogeneous multiprocessor proper", *Can. Elect. Engineering J.,* pp. 3-10, Jan. 1987.

3. Li, K.F., N.J. Dimopoulos and J.W. Atwood. "The HM-nucleus: a distributed kernel design for the homogeneous multiprocessor", *IEEE Micro*, pp. 14-24, Feb. 1987.

4. Dimopoulos, N.J. "Throughput and packet delay analysis for the H-network: CSMA/CD with adaptive and non-adaptive back-off protocols", *IEEE Trans. on Communications*, vol. COM-35, pp. 1146-1152, Nov. 1987.

5. Dimopoulos, N.J. and E.C.W. Wong. "A collision free protocol for local area networks", *Computer Communications,* vol. 11, no. 4, pp. 208-214, Aug. 1988.

6. Dimopoulos, N.J. "A study of the asymptotic behavior of neural networks" *IEEE Trans. on Circuits and Systems,* vol. 36, no. 5, pp. 687-694, May 1989.

7. Dimopoulos, N.J., K.F. Li, E.C.W. Wong, R.V. Dantu and J.W. Atwood, "The homogeneous multiprocessor - A Status Report", *Journal of Computer Systems Science and Engineering,* vol. 4, no. 4, pp. 227-239, Oct. 1989.

8. Dantu, R.V., N.J. Dimopoulos, R.V. Patel and A.J. Al-Khalili. "Micromanipulator vision for wafer probing", *IEEE Transactions on Semiconductor Manufacturing,* vol. 2, no. 3, pp. 114-117, Aug. 1989.

9. Dantu, R.V., N.J. Dimopoulos, R.V. Patel and A.J. Al-Khalili. "Depth perception using blurring and its application in VLSI wafer probing", *Machine Vision and Applications*, 5: 35-45, 1992.

10. Dantu, R.V. N.J. Dimopoulos, K.F. Li, R.V. Patel and A.J. Ali-Khalili, "Parallel algorithms for low level vision on the homogeneous multiprocessor" *Computers and Electrical Engineering*, vol. 20, no. 1, pp. 51-60, 1994.

11. Dimopoulos, N.J. and R. Sivakumar, "Deadlock preventing routing in hypercycles", *Canadian Journal of Electrical and Computer Engineering*, vol. 19, no. 4, pp. 193-199 1994.

12. Rontogiannis, A., and N.J. Dimopoulos, "A probabilistic approach for reducing the search cost in binary decision trees", *IEEE Trans. on Systems, Man and Cybernetics*, vol. 25, no. 2, pp. 362-370, Feb. 1995.

13. Dimopoulos, N.J., and V.V. Dimakopoulos, "Optimal and suboptimal processor allocation for hypercycle-based multiprocessor", *IEEE Trans. Parallel and Distr. Systems,* vol. 6, no. 2, pp. 175-185, Feb. 1995.

7. PUBLICATIONS

b. Refereed Journal Publications (cont'd)

14. Sivakumar, R., and N.J. Dimopoulos, "Regular VLSI architecture for computing $x \bmod b^{k+1}$ and $x \bmod b^{k-1}$", *IEE Proceedings, Circuits Devices and Systems Part G*, vol. 142, no. 5, pp. 313-320, Oct. 1995.

15. Dimopoulos, N.J., J. Dorocicz, C. Jubien and S. Neville, "Training asymptotically stable recurrent neural networks", *International Journal of Intelligent Automation and Soft Computing*, vol. 2, no. 4, pp. 375-388, 1997.

16. Sivakumar, R., N.J. Dimopoulos and W.-S. Lu, "Analytical formulas for $\sum_{i=1}^{n} \left\lfloor \dfrac{i}{p} \right\rfloor$ and $\sum_{i=1}^{n} \left\lceil \dfrac{i}{p} \right\rceil$", *Pi Mu Epsilon Journal*, vol. 10, no. 6, pp. 458-461, 1997.

17. Dimakopoulos, V.V., and N.J. Dimopoulos, "Broadcasting in hypercycles", *Computer Systems Science and Engineering*, vol. 12, no. 3, pp. 125-130, May 1997.

18. Kourounakis, N., S.W. Neville and N.J. Dimopoulos, "A model based approach to fault detection for the reverse path of cable television networks", *IEEE Trans. Broadcasting*, vol. 44, no. 4, pp. 478-487, Dec. 1998.

19. Dimakopoulos, V.V. and N.J. Dimopoulos, "A theory for total exchange in multidimensional interconnection networks", *IEEE Trans. Parallel and Distributed Systems*, vol. 9, no. 3, pp. 639-649, 1998.

20. Dimakopoulos, V.V. and N.J. Dimopoulos, "On broadcasting time", *Parallel Processing Letters*, vol. 9, no.1, pp. 3-8, March 1999.

21. Dimakopoulos, V.V. and N.J. Dimopoulos "Optimal Total Exchange in Cayley Graphs" *IEEE Trans. Parallel and Distributed Systems* Vol 12, No 11 pp. 1162-1168 2001.

22. Afsahi, A. and N.J. Dimopoulos, "Analysis of a Latency Hiding Broadcasting Algorithm on a Reconfigurable Optical Interconnect", *Parallel Processing Letters*, vol. 12, no. 1, pp. 41-50, March 2002.

23. Afsahi, A. and N.J. Dimopoulos, "Efficient Communicatin Using Message Prediction for Clusters of Multiprocessors", ,*Concurrency Computat.: Pract. Exper.* 2002; 14:859–883 (DOI: 10.1002/cpe.697).

24. Parra Hernandez, R. and N. J. Dimopoulos. "A Heuristic for solving the Multichoice Multidimensional Knapsack Problem (MMKP)". Presented at: CO 2002 International Symposium on Combinatorial Optimization, April –2002, France. *IEEE Trans. On Systems Man and Cybernetics* PartA Vol 35, No. 5, pp. 708-717 (September 2005).

25. Somers, C. D. A. and N.J. Dimopoulos "Diagnosing Faulty Cable Network Segments from Modem Power Readings" *IEEE Trans. Broadcasting* Vol. 52 No. 2, pp. 147–157 (June 2006).

7. PUBLICATIONS

b. Refereed Journal Publications (cont'd)

26. Neville, S. and N. J. Dimopoulos, "Wavelet Denoising of Coarsely Quantized Signals" *IEEE Transactions on Instrumentation and Measurement*, Vol. 55, No. 3, pp. 892-901 (June 2006).

27. Khunjush, F. and N. J. Dimopoulos, "Hiding Message Delivery and Reducing Memory Access Latency by providing Direct-to-Cache Transfer during Receive Operations in a Message Passing Environment" *ACM SIGARCH Computer Architecture News* Vol. 34 No. 1, pp. 41 - 48 (March 2006).

28. Agarwal, N. and N.J. Dimopoulos "High Level Fixed Point VLSI Design with Automated Clock Gating" *Canadian Journal of Electrical and Computer Engineering* Vol. 33, Issue 1, pp. 31-38 (January 2008)

29. Vanderster, D.C., N.J. Dimopoulos, R. Parra-Hernandez, and R.J. Sobie "Resource Allocation on Computational Grids using the Knapsack Problem" *Future Generation Computer Systems* Vol. 25, Issue 1, pp. 35-50 (January 2009).

30. Khunjush, F. and N. J. Dimopoulos "Hiding Message Delivery Latency using Direct-to-Cache-Transfer Techniques in Message Passing Environments", *Microprocessors and Microsystems* Vol. 33, pp. 430–440 (2009) .

31. Khunjush, F., D. Gong and N. J. Dimopoulos "Single-Port and Multi-Port Collective Communication Operations on single and dualCell BE Processor Systems" *Int. J. Communication Networks and Distributed Systems (in print)*

NOTE: Accepted and Submitted Papers are listed under sections 7e and 7f.

Completed to November 2010

7. PUBLICATIONS

c. Refereed Conference Publications

1. Dimopoulos, N. J., and R.W. Newcomb "Stability properties of a class of large scale neural networks" in Proc. 1980 IEEE Int. Symp. On Circuits and Systems, Houston, TX. Pp. 528-530, Apr. 1980.

2. Dimopoulos, N.J., "A study of the asymptotic behaviour of neural networks", in *Proc. 1982 IEEE Int. Symp. on Circuits and Systems,* Rome, pp. 280-283, May 1982.

3. Dimopoulos, N.J., and D. Kehayas, "The H-network - high speed distributed packet switching local computer network", in *Proc. MELECON '83 Mediterranean Electrotechnical Conf.,* Athens, Greece, pp. A1.02, May 1983.

4. Dimopoulos, N.J., "The homogeneous multiprocessor: its architecture and relation to structure of certain neural networks", in *Proc. of the 26th Midwest Symp. on Circuits and Systems,* Puebla, Mexico, Aug. 1983.

5. Dimopoulos, N.J., K.F. Li and C.W. Wong, "Simulation and performance of the homogeneous multiprocessor", in *Proc. 1984 Summer Computer Simulation Conf.,* Boston, MA, pp. 139-144, July 1984.

6. Dimopoulos, N.J., and C.W. Wong, "Performance evaluation of the H-network through simulation", in *Digital Techniques in Simulation, Communication and Control,* (S. Tzafestas, Ed.), Elsevier Science Publishers B.V., North Holland, pp. 315-320, 1985.

7. Dimopoulos, N.J., "The homogeneous multiprocessor architecture-structure and performance analysis", in *Proc. 1983 Int. Conf. on Parallel Processing,* pp. 520-523, Aug. 1985.

8. Dimopoulos, N.J., C.H. Lee and N. Galatis, "DAME: automated design of microprocessor based systems - an expert systems approach", in *Proc. Can. Conf. on Industrial Computer Systems,* Montreal, pp. 20-1/20-7, May 1986.

9. Ramanamurthy, D.V., N.J. Dimopoulos, K.F. Li, R.V. Patel and A.J. Al-Khalili, "Parallel algorithms for low level vision on the homogeneous multiprocessor", in *Proc. IEEE Computer Society Conf. on Computer Vision and Pattern Recognition (CVPR 86),* Miami Beach, pp. 421-423, June 1986.

10. Dimopoulos, N.J., and H.C. Lee, "Experiments in designing with DAME: Design automation of microprocessor based systems using an expert systems approach", in *Proc. Int. Computer Symp. 1986,* Tainan, Taiwan, pp. 1858-1867, Dec. 1986.

7. PUBLICATIONS

c. Refereed Conference Publications (cont'd)

11. Li, K.F., N.J. Dimopoulos and J.W. Atwood, "An operating system design for the homogeneous multiprocessor", in *Proc. Int. Computer Symp. 1986,* Tainan, Taiwan, pp. 72-81, Dec. 1986.

12. Li, K.F., N.J. Dimopoulos and J.W. Atwood, "Operating system support for distributed applications on the homogeneous multiprocessor", in proc. *2nd Int. Conf. on Supercomputing,* Santa Clara, CA, vol. 1, pp. 466-474, May 1987.

13. Li, K.F., N.J. Dimopoulos and J.W. Atwood, "Support for distributed data structures in the homogeneous multiprocessor", *Proceedings of 2nd Int. Conf. on Computers and Applications,* Beijing, China, pp. 104-110, June 1987.

14. Dimopoulos, N.J., K.F. Li, E.C.W. Wong, D.V. Ramanamurthy and J.W. Atwood, "The homogeneous multiprocessor system: an overview", *Proceedings of 1987 Int. Conf. on Parallel Processing,* St. Charles, IL, pp. 592-599, Aug. 1987.

15. Rasmussen, R.D., G.S. Bolotin, N.J. Dimopoulos, B.F. Lewis and R.M. Manning, "Advanced general purpose multicomputer for space applications", *Proceedings of 1987 Int. Conf. on Parallel Processing,* St. Charles, IL, pp. 54-57, Aug. 1987.

16. Rasmussen, R.D., N.J. Dimopoulos, G.S. Bolotin, B.F. Lewis and R.M. Manning, "MAX: Advanced general purpose real time multicomputer for space applications", *Proceedings of 1987 Real Time Systems Symp.,* San Jose, CA, pp. 70-78, Dec. 1987.

17. Dantu, R.V., N.J. Dimopoulos, R.V. Patel and A.J. Al-Khalili, "Micro-manipulator vision in IC manufacturing", *Proceedings of 1988 IEEE Int. Conf. on Robotics and Automation,* Philadelphia, PA, pp. 1455-1460, Apr. 1988.

18. Phung, V.P.T., and N.J. Dimopoulos, "Throughput analysis of a collision free protocol for local areas networks", *Proceedings of 13th Conf. on Local Area Networks,* Minneapolis, MN, Oct. 1988.

19. Dimopoulos, N.J., R.D. Rasmussen, G.S. Bolotin, B.F. Lewis and R.M. Manning, "Hypercycles inter-connection networks with simple routing strategies", *Proceedings of 1988 Can. Conf. on Electrical and Computer Engineering,* Vancouver, BC, pp. 577-580, Nov. 1988.

20. Li, K.F., and N.J. Dimopoulos, "An overview of distributed application support on the homogeneous multiprocessor", *Proceedings of 1988 Can. Conf. on Electrical and Computer Engineering,* Vancouver, BC, pp. 443-446, Nov. 1988.

7. PUBLICATIONS

c. Refereed Conference Publications (cont'd)

21. Dimopoulos, N.J., K.F. Li and E.G. Manning, "DAME: A rule based designer of microprocessor based systems", *Proceedings of 1989 IEEE International Symposium on Circuits and Systems*, pp. 574-577, Portland, Oregon, May 1989.

22. Dimopoulos, N.J., K.F. Li and E.G. Manning, "DAME: A rule based designer of microprocessor based systems", Proceedings of 2nd International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems, Tullahoma, TN, pp. 486-492, June 1989.

23. Dimopoulos, N.J., D. Radvan and K.F. Li, "Backtrack to the origin and retry routing for hypercycle based interconnection networks", *Proceedings of 1989 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing,* Victoria, BC, pp. 173-177, June 1989.

24. Dimopoulos, N.J., D. Radvan and K.F. Li, "Backtrack on the origin and retry routing for hypercycle based interconnection networks", *Proceedings of the Canadian Conference on Electrical and Computer Engineering,* Montreal, P.Q., pp. 967-971, Sept. 1989. (essentially identical to paper #23*).*

25. Dantu, R.V., N.J. Dimopoulos, R.V. Patel and A.J. Al-Khalili, "Algorithms for VLSI wafer probing", *Proceedings of SPIE International Conference on Automated Visual Inspection and High Speed Vision Architectures,* Philadelphia PA, vol. 1197, pp. 54-65, Nov. 1989.

26. Huber, B., K.F. Li, N.J. Dimopoulos, D. Li, D. Caughey and E.G. Manning, "Modelling signal behavior in DAME - A rule-based designer of microprocessor-based systems", *Proceedings of the 1990 International Symposium on Circuits and System,* New Orleans, pp. 1497-1500, May 1990.

27. Dimopoulos, N.J., D. Radvan and K.F. Li, "Evaluation of the backtrack to the origin and retry routing for hypercycle based interconnection networks", *Proceedings of the 10th International Conference on Distributed Systems,* Paris, France, pp. 278-284, June 1990.

28. Dantu, R.V., N.J. Dimopoulos, R.V. Patel and A.J. Al-Khalili, "Perception using blurring and its application in VLSI wafer probing", in *Robotics and Manufacturing Recent Trends In Research, Education, and Applications,* (Mohammad Jamshidi and Mehrdad Saif Eds)vol. 3, pp. 161-168, ASME Press Series, 1990.

29. Dimopoulos, N.J., D. Radvan and W.A. Keddy, "Learning in asymptotically behaving neural networks", *Proceedings of the 1990 International Joint Conference on Neural Networks,* San Diego CA, vol. III, pp. 233-238, June 1990.

30. Dimopoulos, N.J., B. Huber, K.F. Li, D. Caughey, M. Escalante, D. Li, R. Burnett and E.G. Manning, "Modelling components in DAME", *Proceedings of the 3rd International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems,* Charleston, South Carolina, vol. II, pp. 716-725, Jul. 1990.

7. PUBLICATIONS

c. Refereed Conference Publications (cont'd)

31. Huber, B., M. Escalante, D. Caughey, N.J. Dimopoulos, K.F. Li, D. Li and E.G. Manning, "Microprocessor components and signal behavior modelling in DAME", *Proceedings of the Canadian Conference on Electrical and Computer Engineering,* Ottawa, pp. 19.4.1-19.4.4, Sept. 1990.

32. Radvan, D., N.J. Dimopoulos and R. Sivakumar, "Implementation for hypercycle-based interconnection networks", *Proceedings of the Canadian Conference on Electrical and Computer Engineering,* Ottawa, pp. 67.2.1-67.2.4, Sept. 1990.

33. Dimopoulos, N.J., K.F. Li, E.G. Manning, B. Huber, M. Escalante, D. Li and D. Caughey, "DAME: An expert microprocessor-based-systems-designer. An overview and status report", *Proceedings of the 1991 Pacific Rim Conference on Communications Computers and Signal Processing,* Victoria, BC, pp. 388-391, May 1991.

34. Dimopoulos, N.J., R. Sivakumar, V. Dimakopoulos, M. Chowdhury and D. Radvan, "Hypercycles: A status report", *Proceedings of the 1991 Pacific Rim Conference on Communications Computers and Signal Processing*, Victoria, BC, pp. 111-114, May 1991.

35. Sivakumar, R., N.J. Dimopoulos and K.F. Li, "VLSI design of a modulo-extractor", *Proceedings of the 1991 Pacific Rim Conference on Communications Computers and Signal Processing,* Victoria, BC, pp. 327-330, May 1991.

36. Dimopoulos, N.J., S. Radhakrishnan and D. Radvan, "Routing and processor allocation on a hypercycle-based multiprocessor", *Proceedings of the 1991 International Conference on Supercomputing*, Cologne, Germany, pp. 105-114, June 1991.

37. Escalante, M.A., N.J. Dimopoulos, B. Huber, K.F. Li, D. Li and E.G. Manning, "Generic design rules for the design of microprocessor based systems in DAME: Bus arbitration subsystem", *Proceedings, 1991 IEEE International Symposium on Circuits and Systems,* Singapore, pp.3166-3169, June 1991.

38. Sivakumar, R., N.J. Dimopoulos, V. Dimakopoulos, M. Chowdhury and D. Radvan, "Implementation of the routing engine for hypercycle based interconnection networks", *Proceedings Canadian Conference on VLSI*, Kingston, Ont., pp. 6.4.1-6.4.7, Aug. 1991.

39. Escalante, M.A., B. Huber, N.J. Dimopoulos, K.F. Li, D. Li and E.G. Manning, "Bus arbitration modelling and design in DAME: An expert microprocessor-based-systems design" *Proceedings, 4th International Symposium on Artificial Intelligence*, Cancun, Mexico, pp. 238-244, Nov. 1991.

40. Dimopoulos, N.J., M. Chowdhury and R. Sivakumar, "Routing in hypercycles: Deadlock free and backtracking strategies", *Proceedings of Parallel Architectures and Languages Europe '92*, Paris, France, pp. 973-974, June 1992.

7. PUBLICATIONS

c. Refereed Conference Publications (cont'd)

41. Dimopoulos, N.J., K.F. Li, A. Watkins, S. Neville and A. Rontogiannis, "An expert network analyzer", *Proceedings of the 35th Canadian Cable Television Association Annual Convention,* pp. 123-127, June, 1992.

42. Escalante, M.A., N.J. Dimopoulos, D.M. Miller, K.F. Li and E.G. Manning, "The implementor subsystem in DAME: using OASIS to complete the design automation of microprocessor-based systems", *Proceedings, 1992 Canadian Conference on VLSI,* Halifax, Nova Scotia, Oct. 1992.

43. Jubien, C.M., and N.J. Dimopoulos, "Identification of a PUMA-560 two link robot using a stable neural network", *Proceedings 1993 International Conference on Neural Networks*, Apr. 1993.

44. Jubien, C.M., and N.J. Dimopoulos, "Recurrent neural networks in systems identification", *Proceedings 1993 IEEE International Symposium on Circuits and Systems*, pp. 2458-2461, May 1993.

45. Rontogiannis, A., and N.J. Dimopoulos, "A probabilistic approach for reducing the search cost in binary decision trees", *Proceedings IEEE Pacific Rim Conference on Communications Computers and Signal Processing*, pp. 27-30, May 1993.

46. Watkins, A., N.J. Dimopoulos, S. Neville and K.F. Li, "Flowtool: A procedural-knowledge acquisition tool", *Proceedings IEEE Pacific Rim Conference on Communications, Computers and Signal Processing*, pp. 31-34, May 1993.

47. Sivakumar, R., and N.J. Dimopoulos, "A 1.2mm CMOS deadlock-free router for hypercycle networks", *Proceedings IEEE Pacific Rim Conference on Communications Computers and Signal Processing*, pp. 153-156, May 1993.

48. Huber, B., K.F. Li , N.J. Dimopoulos, M. Escalante and E.G. Manning, "Modeling data transfer signal timings in DAME", *Proceedings IEEE Pacific Rim Conference on Communications Computers and Signal Processing*, pp. 505-509, May 1993.

49. Huber, B., K.F. Li, N.J. Dimopoulos and E.G. Manning, "Data transfer interface design in DAME", *Proceedings IEEE Pacific Rim Conference on Communications Computers and Signal Processing*, pp. 510-513, May 1993.

50. Dimopoulos, N.J., and R. Sivakumar, "Deadlock preventing routing for hypercycles", *Proceedings of the International Workshop on Principles of Parallel Computing*, pp. 47-61, Nov. 23-26, 1993, Lacanau, France and *Proc. of the 1993 Canadian Conference on VLSI*, Banff, Canada, pp. 7-75/7-80, Nov. 14-16, 1993.

51. Escalante, M.A., and N.J. Dimopoulos, "Timed asynchronous interface design in microprocessor-based systems", *Proceedings 1993 Canadian Conference on VLSI,* Banff, Canada, Nov. 14-16, 1993.

7. PUBLICATIONS

c. Refereed Conference Publications (cont'd)

52. Dimopoulos, N.J., A. Watkins, S. Neville and K.F. Li, "An expert network analyzer: knowledge acquisition fault diagnosis and prediction", presented at the *1993 DND Workshop on Advanced Technologies in Knowledge Based Systems and Robotics*, Ottawa, Canada, Nov. 14-17, 1993.

53. Dimopoulos, N.J., S. Neville, A. Watkins, K.F. Li and E.G. Manning, "Neural Networks in Fault Identification in Large Communication Networks", *Proceedings of the 2nd IEEE Mediterranean Symposium on New Directions in Control and Automation*, Maleme, Crete, Greece, pp. 25-31, June 19-22, 1994.

54. Escalante, M.A., and N.J. Dimopoulos, "Timing Analysis for Synthesis in Microprocessor Interface Design", *Proceedings of the 7th International Symposium on High Level Synthesis*, Niagara on the Lake, pp. 23-28, May 18-20, 1994.

55. Dimakopoulos, V. V., and N.J. Dimopoulos, "Optimal Total Exchange in Linear Arrays and Rings", *Proceedings of the 1994 International Symposium on Parallel Architectures, Algorithms and Networks,* Kanazawa, Japan, pp. 230-237, Dec. 1994.

56. Dimopoulos, N.J., S. Neville, A. Watkins, K.F. Li and E.G. Manning, "Fault diagnosis in cable television networks", *Proceedings of the 38th Annual Convention of the Canadian Cable Television Association*, Halifax NS, pp. 69-75, May 1995.

57. Sivakumar, R., V.V. Dimakopoulos and N.J. Dimopoulos, "Design of a programmable controller for hypercycle based interconnection networks", *Proceedings of FPD'95, the 3rd Canadian Workshop on Field-Programmable Devices*, Montreal, Quebec, Canada, pp. 212-217, May 1995.

58. Chowdhury, M.H., and N.J. Dimopoulos, "A simulation model for performance analysis of routing algorithms in concurrent systems under realistic load", *Proceedings IEEE Pacific Rim Conference on Communications Computers and Signal Processing*, Victoria BC, pp. 525-529, May 1995.

59. Escalante, M.A., and N.J. Dimopoulos, "A probabilistic timing analysis for synthesis in microprocessor interface design", *Proceedings IEEE Pacific Rim Conference on Communications Computers and Signal Processing*, Victoria BC, pp. 277-280, May 1995.

60. Dimopoulos, N.J., and S. Neville, "Asymptotically stable recurrent neural networks and their use, an overview", *Proceedings 3rd IEEE Mediterranean Symposium on New Directions in Control and Automation*, Limassol, Cyprus, pp. 307-314, July 1995.

61. Escalante, M.A., and N.J. Dimopoulos, "Assessing the feasibility of interface designs before their implementation", *Proceedings of ASO-DAC'95 Asian and South Pacific Design Automation Conference*, Makuhari Messe, Japan, Aug. 1995.

7. PUBLICATIONS

c. Refereed Conference Publications (cont'd)

62. Dimakopoulos, V.V., and N.J. Dimopoulos, "Leaf communications in trees and fat trees", *Proceedings of the International Conference on Parallel and Distributed Computing Systems*, Florida, USA, pp. 383-388, Sep. 1995.

63. Escalante, M., N.J. Dimopoulos, D. Gurov and H. Muller, "Timing analysis for synthesis of hardware interface designs using timed signal transition graphs", *Proceedings 6th International Workshop on Petri Nets and Performance Models*, Duke University, Durham, North Carolina, Oct. 1995.

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7. PUBLICATIONS
d. Patents

1. N. J. Dimopoulos, R. Parra-Hernandez, E. M. Laxdal "A Method and System for Predicting Activity of Chemicals Using Neural Networks" Provisional US Patent Application 60/702,563 (25 July 2005). Abandoned (25 July 2006)

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e. Work Accepted and Submitted for Publication

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2. Afsahi, A., and N.J. Dimopoulos, "Total Exchange on a Reconfigurable Optical Interconnect", *Parallel Processing Letters*, under revision.

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f. Other Publications (e.g., unrefereed journal and conference papers)

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5. Persons, L., N.J. Dimopoulos, K.F. Li, E. Manning, C. Somers, A. Schoorl, N. Kourounakis, S. Neville, A. Watkins, R. Glendenning, B. Anderson, D. Vyfhuis, R. Kovalik, and J. Madden, "How Rogers Cable Systems improved network reliability with the University of Victoria expert network analyzer", presented at the *1999 Summer Cable Conference*, Vail, CO, July 1999. (*Presentation given by L. Persons, Network Manager, Rogers Cable Systems. It outlined the use of the diagnosis system developed by the authors in improving network reliability at Rogers. The summer Cable Conference is the premier conference for the cable industry*).

6. Madden, J.C., "Taming the Rogue", Cablecaster, vol. 12, no. 3, pp. 48-56, March 2000. (*This article showcases the success of the diagnosis system we developed in detecting faults in cable television networks. It reports on the experience by Rogers National Operations Centre (NOC) in using our system. Cablecaster is published 12 times a year, serving Canada's cable and related industries, by the Southam Magazine Group*).

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g. Other Publications (Technical Reports)

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9. N. Dimopoulos (Ed.) *Academic Programs Review Self Study 2007*. Department of Electrical and Computer Engineering, University of Victoria, (219 pages) April 2007

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8. GRADUATE STUDENT SUPERVISION
a. Ph.D. Students Graduated
Dr. Dimopoulos has supervised or co-supervised 12 PhD theses to completion. His ex students have found employment in academia (7 are Assistant or Associate Professors at institutions in Canada, the U.S. Iran, and Greece) and industry or Government (2 are members of the technical staff at Intel one is with CERN one employed by the BC Provincial Government one is Chief Scientist with a local high-tech company).

b. Master's Students Graduated
Dr. Dimopoulos has supervised 25 masters students to completion.

c. Ph.D. and Master's Students Currently Under Supervision
Dr. Dimopoulos is currently supervising two PhD and one MASc students.

9. GRANTS AND FUNDING FROM ALL AGENCIES
Dr. Dimopoulos has been successful in attracting research funds from numerous sources including industry and national funding agencies. Over his career, he was the principal investigator of research projects funded in excess of **$5.6M**. In addition, Dr. Dimopoulos has participated, as co-investigator, in research that was funded in excess of **$9.8M.**

10. PROFESSIONAL CONTRIBUTIONS
Dr. Dimopoulos has served the engineering community in many ways.

He served as external evaluator for the Departments of Electrical and Computer Engineering for

- Queen's University at Kingston (2000),
- University of Manitoba (2007)
- University of Western Ontario (2008).

Dr. Dimopoulos has served at national and international adjudication panels including

- Member of the Computers and Computing Panel for the BC Science Council (1990-1995)
- Member of New Graduate Programs Review Committee for the Greek Ministry of Education (2002)
- Member of the Canadian Foundation for Innovation Microelectronics Expert Committee (2003)
- Member of the Canadian Foundation for Innovation Multidisciplinary Adjudication Committees for the 2004 and 2006 competitions
- Member of the National Centers of Excellence in Commercialization and Research (CERC) Expert Panel (2008)

Dr. Dimopoulos has served as reviewer for grant proposals for national and international granting agencies including NSERC (Canada), NSF (U.S.A), NWO (Netherlands Research Council) and FCAR (Quebec).

Dr. Dimopoulos was an Associate Editor of the Journal of Circuits Systems and Computers (1995-2007) and has served as a reviewer for several engineering periodicals including IEEE Trans on

Computers, IEEE Trans on Circuits and Systems, IEEE Trans on Parallel and Distributed Systems, IEEE Trans on Neural Networks, the Canadian Journal of Electrical and Computer Engineering etc.

Dr. Dimopoulos has served on the Program Committee and organized/chaired sessions at various conferences including

- Chair of the 2000 High Performance Computing Systems and Applications Conference, the 2006 IEEE International Conference on Application-Specific Systems Architectures and Processors and the 2009 the 2008 Workshop on Embedded Systems: Architectures Modeling and Simulation (SAMOS 2009).
- Technical Program co-Chair of the 2005 IEEE International Conference on Application-Specific Systems Architectures and Processors and of the 2008 Workshop on Embedded Systems: Architectures Modeling and Simulation (SAMOS 2008).

Dr. Dimopoulos was the Principal Investigator of two successful multi-million CFI awards that procured High Performance Computing infrastructure. The first award resulted in the installation of the largest High Performance Computer in any Canadian Academic Institution (our facility was #167 in the TOP 500 list of the most powerful computers in the world in June 2001). The second one, as part of the WestGrid consortium, has procured a multi-teraflop facility.