

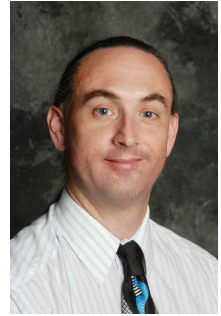
CURRICULUM VITAE

Brian J. d'Auriol

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Faculty/Department Address

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SECTION 1: EDUCATION

1.1 Education

| | | | |
|---------|---------|---|------------------------|
| 1995 | Ph.D. | University of New Brunswick, Canada | Computer Science |
| 1988 | BSc(CS) | University of New Brunswick, Canada | Computer Science |
| 1981-83 | | John Abbott College, Ste. Anne de Belleview, QC, Canada | Pure & Applied Science |
| 1981 | Diploma | St. Thomas High School, Point-Claire, QC, Canada | Honors |

1.2 Title of Graduate Thesis

'A Unified Model for Compiling Systolic Computations for Distributed Memory Multicomputers', (Supervisor: Prof. V.C. Bhavsar, University of New Brunswick)

1.3 Areas of Academic Interest

Information and Data Visualization; Optical parallel computing models; sensor networks; Parallel, systolic and distributed programming

SECTION 2: EMPLOYMENT

2.1 Academic Employment

| | | |
|-------------------|--------------------------------|--|
| 03/2009 - present | Assistant Professor | Kyung Hee University, Yongin, Korea |
| 07/2006 - 12/2008 | Research & Assistant Professor | Kyung Hee University, Yongin, Korea |
| 08/2000 - 08/2005 | Assistant Professor | The University of Texas at El Paso, El Paso, TX, USA |
| 08/1997 - 08/2000 | Visiting Assistant Professor | The University of Akron, Akron, Ohio, USA |
| 08/1996 - 08/1997 | Assistant Professor | The University of Manitoba, Winnipeg, Manitoba, Canada |
| 09/1994 - 08/1996 | Visiting Assistant Professor | Wright State University, Dayton, Ohio, USA |
| 07/1990 - 04/1993 | Part-time lecturer | University of New Brunswick, Fredericton, N.B., Canada |

2.2 Research Employment

| | | |
|-------------------|--------------------------------|--|
| 08/2005 - 07/2006 | Sr. Systems Developer/Engineer | The Ohio Supercomputer Center, The Ohio State University, Columbus, Ohio, 43212, USA; Project: Computational assessment and implementation of Electric Power Grid modeling algorithms. |
|-------------------|--------------------------------|--|

2.3 Industrial Employment

| | | |
|--------------------------------------|---------------------|---|
| 05/1988 - 06/1990 | Programmer/Analysis | Eastern Canada Consulting Services, Div. of SOBECO, 217 Brunswick Street, Fredericton, N.B., E3B 1G8 |
| 05/1987 - 08/1987 | Programmer | N. B. Electric Power Corp., Point Lepreau Generating Station, Point Lepreau, N.B. |
| 09/1986 - 12/1986 | Programmer | Blue Cross of Atlantic Canada, 644 Main St., P.O. Box 220, Moncton, N.B., E1C 8L3 |
| 05/1985 - 04/1986 (09-12/1985 pt) | Junior Consultant | Applied Management Consultants, 151 Brunswick St., Fredericton, N.B., E3B 1G7 |
| 09/1984 - 12/1984 | Peripheral Operator | Dept. of Supply & Services, Host Site Ops., 1557 Hollis St. 8 th Fl., Halifax, N.S., B3J 2Z9 |

2.4 Grants, Awards, Special Listings, and Scholarships

Grants

- 2009: “Human Activity Visualization” funded under the Kyung Hee University Young researcher’s Program (#20090747), 2009.03.01 - 2010.02.28, 20,000,000 Korean Won.
- 2003, Hewlett-Packard: Hardware Gift/Grant funded under the Hewlett-Packard Company Advanced Technology Platforms - Itanium 2 2003 Academic Grant Initiative. P.I.: Brian J. d’Auriol, Co-P.I.s: P. Teller, N. Ward, J. Chessa, A.Q. Gates, V. Kreinovich and R. Keller, Four dual-processor 900 MHz Itanium-2 workstations will provide for academic and research support into High Performance Computing, value, \$98,945, May 28, 2003 (#89955.1), June 4, 2003 (#89955.2).
- 2002, Microsoft Corporation: Support of hardware requirements for research related to .NET technologies, P.I. Brian J. d’Auriol, value, \$5000 (US), December 2, 2002 .
- 1997-1998, The University of Akron Faculty Research Grant, proposal title: “Geometric Representation of Programs”, value: \$1504 (US)
- Spring 1995, in-house university equipment grant for the establishment of a teaching laboratory for parallel/distributed processing: value, \$24,400 (US)

Awards

- 2002–2007, Achievement Awards for the 2002, 2003, 2004 and 2005 International MultiConference in Computer Science and Computer Engineering; Achievement Awards for the 2006 and 2007 World Congress in Computer Science, computer Engineering & Applied Computing: in recognition and appreciation of research contributions to the field and to the Conferences.
- June 24, 2002, Diploma: Internationally Registered Technology Specialist in the fields of Computer Sciences and Information Technology, at Level 7; diploma given by the Secretariat to the IRTS Council of the International Technology Institute, Dr. Tuba Executive Director.

Special Listings

- 2008,2009: Listed in Marquis Who’s Who in America
- 2006: Listed in Academic Keys Who’s Who in Engineering Academia
- 2004,2005: Listed in Who’s Who Among America’s Teachers

Student Scholarships

- June 1992, NSERC doctoral fellowship, duration: 2 years
- January 1988, 1985: University Special Undergraduate Scholarship
- January 1987, September 1987: UNB Scholarship

SECTION 3: DISSEMINATION OF KNOWLEDGE

3.1 Courses Taught

| | | |
|---------|----------------------|---|
| 2009-10 | undergrad. | Advanced Object-Oriented Programming |
| 2007-10 | undergrad., graduate | Computer Architecture |
| 2006-10 | graduate | Data and Information Visualization |
| 2007-08 | graduate | Topics in Functional Programming |
| 2007 | graduate | Parallel and Distributed Models |
| 2006 | graduate | Topics in Computer Security |
| 2001-05 | CS3320 | Computer Arch. II: Advanced Computer Design & Implementation |
| 2002-04 | CS5334 | Parallel and Concurrent Programming |
| 2003 | CS5336 | Scientific and Program Visualization |
| 2001-02 | CS5337 | Advanced Interconnection Networks |
| 2000-01 | CS5390 | Visualization for Human-Computer Programming Environments |
| 2001 | CS2302 | Data Structures |
| 2000 | 3460:655 | Computer Networks And Distributed Processing |
| 1997-00 | 3460:428/528 | UNIX Systems Programming |
| 1999 | 3460:689 | Interconnection Networks |
| 1999 | 3460:689 | Optical Interconnection Networks |
| 1998-99 | 3460:430/530 | Theory of Programming Languages |
| 1997-99 | 3460:406/506 | Introduction to C and UNIX |
| 1998 | 3460:640 | Advanced Compiler Design and Construction |
| 1997 | 3460:210 | Data Structures and Algorithms I |
| 1997 | 74.785 | Advances in Parallel Computing |
| 1996 | 74.343 | Operating Systems (large enrollment) |
| 1996 | CS790 | Sp. Topics: Parallel Programming on TMS320C40 Parallel Computer |
| 1996 | CEG433/633 | Operating Systems Concepts |
| 1994-96 | CS240/1/2 | Computer Science I/II/III |
| 1994-96 | CEG460/660 | Software Engineering |
| 1990-93 | CS2525 | Microcomputer Applications (large enrollment) |
| 1991-92 | CS2053 | Introduction to APL and Interactive Programming |
| 1992 | CS1013 | Computer Science Concepts (course now renamed as CS1063) |

Graduate courses listed as 5/6/700 level.

3.2 New Course Development

| | |
|-----------|--|
| 2000-2008 | Data and Information Visualization This practical and research course provides coverage of issues pertinent in data and information visualization. Topics include contouring, isosurfaces, glyphs and other data visualization techniques, color spaces and maps, wire frame models, surface rendering, flow and control graphs, code views, AVS/Express, VTK and/or OpenGL implementation environments, animation, and applications. An emphasis is placed on similarities and differences between data and information visualization. This course supports students in Computer and Computational sciences. This course was approved as a regular numbered course, CS5336, at UTEP. |
| 2007-2008 | Topics in Function Programming This course introduces the student to functional programming in general and the Haskell language in particular. This course emphasizes rapid-prototyping and problem-solving skills in the mathematics, computer science, engineering and computational science fields by concentrating on the computational essentials of problem. Skills are learned through programming intensive assignments. A secondary theme is to explore the differences between functional, imperative and object-oriented programming methodologies. Students should already be familiar with at least one other programming language, typically, C, C++, or Java. |

- 2007 Parallel and Distributed Models
 This course explores a number of the parallel and distributed computing models that have been proposed over the past few decades. Models and formalisms that may be studied include Parallel Random Access Machines (PRAM), Bulk Synchronous Parallel (BSP), Communicating Sequential Processes (CSP), occam2, Message Passing Interface (MPI), Farming (master-slave), Petri Nets (PN), Systolic Arrays (SA), and Parallel Haskell (PH). The expressive capabilities of these models are explored in terms systems architectures, networking, algorithm development and performance. An optional unit on parallelizing compilers provides contrast to explicit parallelism expression inherent in many of the models.
- 2006 Topics in Computer Security
 This course introduces the student to a range of computer security topics by tracing a history of security issues from 1990 to the present. We explore the increasing sophistication of attack methods and tools, and examine the availability of response methods, techniques and tools. The main part of the course concentrates on two areas: first, network intrusion including automated probes/scans and the exploitation of buffer overflow and other software vulnerabilities, second, secure architectures including crypto and communication processors. The theory is complemented by practical laboratory investigations relating to network intrusion detection.
- 2002-2005 CS5334: Parallel and Concurrent Programming
 This graduate course provides comprehensive coverage of a wide selection of material in parallel and distributed systems with an emphasis on concurrent programming. Topics include: parallel languages & libraries, algorithms, architectures, parallelizing compilers, systolics and theory. This course was recently approved as a regular numbered course.
- 1999-2005 Advanced Interconnection Networks
 This research course is aimed at the advanced graduate student and provides an in-depth treatment of (a) the architecture of electrical-based interconnection networks and the impact of such architecture upon solving problems, and (b) optical and optoelectronic interconnection networks and the current research in the area. Students are expected to take active roles in studying state-of-the art research oriented problems. This course was approved as a regular numbered course, CS5337, at UTEP.
- 1996 CS790: Special Topics: Parallel Programming on TMS320C40 Parallel Computer
 This course is a fast paced course designed to meet two broad objectives: (a) allow students to acquire practical experience with a modern day multicomputer and (b) to give students an introduction to techniques and problems associated with implementations on multicomputers. Through course work, students will gain an understanding of parallel programming techniques while completing assignments on a 6 processor TMS320C40 parallel computer.

3.3 Updating of Existing Courses

- 1998-99 3460-430/530: Theory of Programming Languages
 Updated lecture notes and content for enhanced computer presentation; incorporated significant new content based on the Haskell program language.
- 1995-96 CS240/1: Computer Science I and II
 Assisted in updating the language from Pascal to C.
- 1992 CS1043: Introduction to Computers
 Assisted in curricular updates to better address the needs of non-CS students in the 1990's.
- 1990 CS2525: Microcomputer Applications
 Extensively upgraded course material to better address the needs of CS students in the 1990s.

3.4 Development of Teaching Aids

- 1991 CS2525 Course Notes
Wrote a 37 page teaching supplement called “A Discussion on DOS” with instructions and examples tailored for the students’ specific laboratory environment. Wrote a 25 page teaching supplement called “A Discussion on Database Design” that emphasized entity-relationship modeling and other related techniques. These notes were used in lieu of a textbook on this material (continued use after I left).
- 2002- Teaching Modules
2005 Developed teaching modules suitable for incorporation into multiple undergraduate courses: the *Architecture Security Module* combines computer architecture and computer security content and is suitable for courses in architecture, security and general interest (developed in conjunction with the IACBP, July 2002)

3.5 Organization of Laboratories

- 2001- Computation and Communication Integration Group (CCIG)
current Established a research group of undergraduate and graduate students who are exploring issues relating to computation and communication in parallel and distributed systems. Facilities include: 4 Pentium-4 Windows XP computers provided by support from Microsoft Corp., three Pentium-3 Windows 2K computes, one Pentium-3 linux computer and one 5-node Beowulf cluster comprised of Pentium-3 computers. Special software includes AVS/Express (in conjunction with departmental support). See <http://www.ccig-research.net> for details.
- 2003- HP Itanium 2 High Performance Computing Laboratory
2007 Established a high performance computing laboratory based on a hardware gift/grant from Hewlett-Packard. Facilities are: 4 dual-processor 900Mhz Itanium-2 workstations with dual graphics monitors, one Gbps managed switch interconnecting the workstations that provides for a hybrid parallel computing environment and the ability to connect workstations and/or cluster to external uses/systems at a Gbps rate. High performance computing and visualization are among the applications being developed.
- 1995-96 Parallel/Distributed Processing Instructional laboratory
Established a parallel/distributed processing laboratory for use in both graduate and undergraduate teaching of parallel programming concepts and skills. This laboratory is based on TI TMS320C40 processors and funding was made possible by an in-house university equipment grant.
- 1991-94 Parallel/Distributed Processing Laboratory
Assisted in the establishment of a parallel/distributed processing laboratory (based on the Inmos transputer) to support both graduate and undergraduate instruction and research. My involvement included assisting with: financial and purchasing considerations for hardware and software equipment, equipment setup and definition of operating procedures and general support.

3.6 Co-Direction of Research of Doctoral Studies, Completed Work

- 2009 Shaikh Riaz Ahmed, “Intrusion-tolerant Trust-based Privacy assured Security Solution for Wireless Sensor Networks”
- 2008 Wu Xiaoling, “Coverage-driven Energy-efficient Deployment and Self-organization in Sensor Networks”
- 2008 Uzair Ahmed, “Rapid Development of Flexible and Custom-resolution Indoor Location Systems”

3.7 Co-Direction of Research of Current Doctoral Studies

current Niu Yu, Synchronization in WSN

3.8 Direction of Research of Masters Studies, Completed Work

- 2005 Bindu George, "Computation and Communication Analysis of Quantum Algorithms" Department of Computer Science, The University of Texas at El Paso, July 2005
- 2005 L. Susan Draper, "Free-Space Optical Bus Architecture", Department of Computer Science, The University of Texas at El Paso, July 2005
- 2005 Juan R. Roldan, "A Feasibility Study of the LARPBS Optical Bus Parallel Model" Department of Computer Science, The University of Texas at El Paso, May 2005
- 2004 Jesus Pajaro, "A Peer-to-Peer Computing Communication Cost Model", Department of Computer Science, The University of Texas at El Paso, May 2004
- 2004 Tanushree Ghosh, "Computation, Communication, Command and Control (C4) in a Satellite Cluster", Department of Computer Science, The University of Texas at El Paso, May 2004
- 2004 Asha Gajjala, "A Model for Visualization of Program Conceptual Information", Department of Computer Science, The University of Texas at El Paso, May 2004
- 2004 Rupa Policherla, "Scientific Visualization Techniques for Program Visualization", Department of Computer Science, The University of Texas at El Paso, May 2004
- 2004 Kishore Surapaneni, "Intrusion Detection: Computation Communication Characterization of Probing and Network Attacks", Department of Computer Science, The University of Texas at El Paso, May 2004
- 2003 Maria Beltran, "Bus Cycles and Safe Communication in the LARPBS Optical Bus Model", Department of Computer Science, The University of Texas at El Paso, December 2003
- 2003 Esther Vasa, "Communication Timing Attack on Public Key Kerberos for Distributed Authentication Through the RSA", Department of Computer Science, The University of Texas at El Paso, December 2003
- 2003 Rohit Seth, "A Dynamic Relation Model for Program Visualization", Department of Computer Science, The University of Texas at El Paso, December 2003
- 2003 Pramod Kumar Chikkappaiah, "Complexity in the Geometric Representation of Programs (GRP) Model", Department of Computer Science, The University of Texas at El Paso, May 2003
- 2002 Afolami Akinsanmi, "A Conceptual Space Model for Intrusion Detection", Department of Computer Science, The University of Texas at El Paso, December 2002
- 2002 Rajesh Molakaseema, "A Parameterized Linear Array With A Reconfigurable Pipelined Bus System: LARPBS(p)", Department of Computer Science, The University of Texas at El Paso, December 2002
- 2001 Rene Saenz, "Analysis of Communications in CORBA Systems", Department of Computer Science, The University of Texas at El Paso, August 2001
- 1997 Rajeshwer Subramanian, "An Implementation Model for Systolic Algorithms On a TMS320C40 Multicomputer", Department of Computer Science and Engineering, Wright State University, 1997

3.9 Direction of Other Selected Graduate Work

- 2004 Florence Muganda, "Beowulf Cluster Implementation", Department of Computer Science, The University of Texas at El Paso

- 2002 Roberto Torres, “Beowulf Cluster Implementation”, Department of Computer Science, The University of Texas at El Paso
- 2001 Srinivasa Dola, “Initial Feasibility Study of Optical Bus Implementations”, Department of Computer Science, The University of Texas at El Paso
- 2001 Rohit Seth, “Studies in LARPBS Optical Bus Model”, Department of Computer Science, The University of Texas at El Paso
- 2001 Afolami Akinsanmi, “Systolic Chronology”, Department of Computer Science, The University of Texas at El Paso
- 1999 N. Jirasook, “Emerging Technologies which Supports and Drives Electronic Commerce”, Department of Math and Computer Science, The University of Akron
- 1996 M. Dugar, “A Systolic Array Graph Partitioning System”, Department of Computer Science and Engineering, Wright State University

3.10 Direction of Research of Undergraduate Studies

- 2004 Alejandro Castaneda, “A C Implementation of a Scanner/Parser for MPI Programs in Support of the ARM 4 PV
- 2004 Sarah Guerrero, “A C Implementation of the Data Repository for the ARM 4 PV”
- 2003 Elsa Tai, “Review of The National Strategy to Secure Cyberspace document, Whitehouse, Feb. 2003, vis-à-vis Microsoft Windows XP and Server 2003 platforms deployed in critical infrastructures in the United States of America”
- 2002 Xinlin Shen, “Fashion and Performance Theory as Applications of Programmable Behaviors”
- 2002 Rachel Smith, Elsa Tai and Lavada Thompson, “Program Visualization Using AVS/Express”
- 2002 Mark Duran, “Survey of Optical Computing Technologies”
- 1999 E. Degley, “A Chronology of Systolic Computing”
- 1999 R. Seth, “Internet Commerce: Trading Architecture”
- 1994 R. Hatfield, “Object-Oriented Graphical User Interface for the Configuration of Microcomputer-Based Multi-Transputer Supercomputers (undergraduate honors thesis - CS4997)(co-supervisor)
- 1993 C. Barnsley, “Graphical User Interface for the Design and Reconfiguration of Microcomputer-Based Multi-Transputer Supercomputers” (undergraduate honors thesis - CS4997)
- 1993 G. Meldrum, “Low-Level Graphics Routines for Transputers”(undergraduate honors thesis - CS4997)

SECTION 4: RESEARCH, SCHOLARLY OR CREATIVE ACTIVITY

4.1 Keynote/Invited Lectures at Research Conferences/Workshops

1. Invited Talk, “Serviceable Visualizations”, International Workshop on High Performance Computing for Avionics, Gyeongsan National University, Jinju, Korea, Oct. 10, 2010.
2. Invited Talk, “Visualization for Virtualization and Cloud Computing”, November 10, 2008, Open Grid Forum Korea, Jeju, Korea.
3. Invited Keynote Talk, “The Problem of Programming High Performance Computers”, Fall Workshop 2004: High Performance Programming and Processors, Oct. 15, 2004, Wilfrid Laurier University, Waterloo, Ontario, Canada.

4.2 Invited Colloquium Talks at Universities and Other Academic Venues

1. “Computation Communication Integration Models for Aerospace Systems”, June 3, 2008, Information Science Department, Gyeongsang National University, Jinju, 660-701, Korea
2. “Research Publication Ethics”, May 30, 2008, 10:30h Room 205, and 15:00h Room 211, Department of Computer Engineering, Global Campus, Kyung Hee University, Korea
3. “The Advanced Relation Model for Program and Genome Sequence Visualizations (ARM 4 PV and ARM 4 GSV)”, November 16, 2007, Information Science Department, Gyeongsang National University, Jinju, 660-701, Korea
4. “Bridging Korean Research, Technology and Culture”, Colloquium 2007, IT Foreign Faculty Inviting Program, Institute for Information Technology Advancement (IITA), Kyungpook National University, August 24, 2007, Daegu, Korea.
5. “Ubiquitous Sensor Network Visualization Models”, April 18, 2007, National Tsing Hua University, Hsinchu, Taiwan.
6. “Scientific Visualization of Computation Spaces”, June 9, 2000, Computer Science Department, The University of Dayton, Dayton, Ohio, USA

4.3 Invited Seminars and Talks at Universities and Other Academic Venues

1. Visualizations of Large and Ultra-Large Scale Sensor Acquired Data, Sept. 29, 2008, 13:00h, Nara Women’s University, Nara, Japan.
2. “Optical Communication in Program Computation Spaces”, May 16, 2001, Dept. Math. & Computer Science, Kent State University, Ohio, USA
3. “Program Visualization of Geometric Represented Programs”, March 28, 2000, Dept. Math. & Computer Science, Kent State University, Ohio, USA
4. “Visualization Used in Computer Science”, March 28, 2000, Dept. Math. & Computer Science, Kent State University, Ohio, USA
5. “Communications in tera/peta-Scale Computing: Optical Interconnection Networks - A Graduate Research Course”, Oct. 8, 1999, annual meeting of the Parallel Computing in Education Consortium (PCURRIC), Ohio Supercomputing Center, Ohio, USA
6. “Effective Teaching of Practical Parallel Programming Skills”, May 17, 1996, annual meeting of the Parallel Computing in Education Consortium (PCURRIC), Ohio Supercomputing Center, Ohio, USA

4.4 Invited Talks at Professional Meetings

1. “NetVIM: A Network Vertical Intrusion Detection Model”, Feb. 25, 2004, El Paso del Norte Software Association, El Paso, TX, USA.
2. “Parallel Computing Through the 1990s and into the 21st Century”, August 28, 2002, El Paso del Norte Software Association, El Paso, TX, USA.

4.5 Departmental Colloquium and Seminar Talks

1. “The Parameterized Linear Array with a Reconfigurable Pipeline Bus System (LARPBS(p))”, November 28, 2007, Department of Computer Engineering, Global Campus, Kyung Hee University, Korea
2. “The Advanced Relation Model for Program and Genome Sequence Visualizations (ARM 4 PV and ARM 4 GSV)”, November 19, 2007, Department of Computer Engineering, Global Campus, Kyung Hee University, Korea

3. "Visualization and Virtual Reality in Games: Scientific Visualization Practices in Games" (joint presentation with Dr. Andrey V. Gavrilov), April 23, 2007, Department of Computer Engineering, Suwon Campus, Kyung Hee University, Korea
4. "Personal Historical Perspective of Parallel Architectures 1980s, 1990s, 2000s", February 26, 2007, Department of Computer Engineering, Suwon Campus, Kyung Hee University, Korea
5. "Scientific Programming Through Combining Parallel Models", February 7, 2007, Department of Computer Engineering, Suwon Campus, Kyung Hee University, Korea
6. "The Advanced Relation Model for Program and Genome Sequence Visualization", November 13, 2006, Department of Computer Engineering, Suwon Campus, Kyung Hee University, Korea
7. "The *Systems Edge* of Optical Bus Parallel Computing Models", August 17, 2006, Department of Computer Engineering, Suwon Campus, Kyung Hee University, Korea
8. "The *Systems Edge* of Optical Bus Parallel Computing Models", Feb. 16, 2005, Department of Computer Science, University of Texas at El Paso, TX, USA.
9. "Vertical Intrusion Model for Network-Based Computer Attacks (NetVIM)", Friday, Feb. 11, 2005, UTEP Student Chapter of the ACM Meeting, University of Texas at El Paso, TX, USA.
10. "Solving the Problem of Programming High Performance Computers in Parallel Environments", Nov. 3, 2004, Department of Computer Science, University of Texas at El Paso, TX, USA.
11. "Secure Hardware Level Architectures", Nov. 20, 2002, Department of Computer Science, University of Texas at El Paso, TX, USA.
12. "Optical Communication in the Geometric Representation of Programs (GRP) Model", November 15, 2000, Department of Computer Science, University of Texas at El Paso, TX, USA.
13. "Visualization of Programs", Dec. 2, 1999, Department of Mathematics and Computer Science, The University of Akron, Akron, Ohio.
14. "Optical Interconnection Networks: Classifications", Sept. 23, 1999, Department of Mathematics and Computer Science, The University of Akron, Akron, Ohio.
15. "Linguistic and Non-Linguistic Semantics in the Polytope Model", Feb. 18, 1999, Department of Mathematics and Computer Science, The University of Akron, Akron, Ohio.
16. "Foundations of the Polytope Model", Computer Science Seminar Series, Oct. 22, 1998, Department of Mathematics and Computer Science, The University of Akron, Akron, Ohio, USA.
17. "Systolic Computing: What it was, What it is, and What it is Becoming", Computer Science Seminar Series, Sept. 17, 1998, Department of mathematics and Computer Science, The University of Akron, Akron, Ohio, USA.

4.6 Refereed Journal Publications

1. Riaz Ahmed Shaikh, Hassan Jameel, Brian J. d'Auriol, Heejo Lee, Sungyoung Lee and Young-Jae Song, Achieving Network Level Privacy in Wireless Sensor Networks Sensors Special Issue Wireless Sensor Network and Its Application in Advanced Computer Science, Vol. 10, No. 3, pp. 1447-1472 , 2010
2. Riaz Ahmed Shaikh, Hassan Jameel, Brian J. d'Auriol, Heejo Lee, Sungyoung Lee and Young-Jae Song, Intrusion-aware Alert Validation Algorithm for Cooperative Distributed Intrusion Detection Schemes of Wireless Sensor Networks, Sensors Special Issue Sensor Algorithms, Vol. 9, No. 8, pp. 5989-6007 , published online doi:10.3390/s90805989, 2009.

3. Brian J. d'Auriol and Juan Rene Roldan, An Optical Power Budget Model for the Parameterized Linear Array with a Reconfigurable Pipelined Bus System (LARPBS(p)) Model, *Journal of Parallel and Distributed Computing*, Vol. 69, Issue 10, October 2009, pp. 815-823
4. Riaz Ahmed Shaikh, Hassan Jameel, Brian J. d'Auriol, Heejo Lee, Sungyoung Lee and Young-Jae Song, "Group-based Trust Management Scheme for Clustered Wireless Sensor Networks", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 20, Issue 11, Nov. 2009, pp. 1698-1712.
5. Uzair Ahmad, Brian J. d'Auriol, Young-Koo Lee and Sungyoung Lee, "Multi-floor Semantically Meaningful Localization Using IEEE 802.11 Network Beacons", *The Institute of Electronics, Information and Communication Engineers (IEICE) Transactions on Communications*, Special section on Emerging Technologies for Practical Ubiquitous and Sensor Networks, in press.
6. Brian J. d'Auriol, "The *Systems Edge* of the Parameterized Linear Array with a Reconfigurable Pipelined Bus System (LARPBS(p)) Optical Bus Parallel Computing Model", *Journal of Supercomputing*, published online July 29, 2008, <http://dx.doi.org/10.1007/s11227-008-0223-z>.
7. Hui Xu, Brian J. d'Auriol, Jinsung Cho, Sungyoung Lee and Byeong-Soo Jeong, "A Generic Localized Broadcast Framework in Mobile Ad Hoc Ubiquitous Sensor Networks", *The Institute of Electronics, Information and Communication Engineers (IEICE) Transactions on Communications*, Special section on Ubiquitous Sensor Networks, Vol. E90-B, No. 12, pp. 3434-3444, December 2007.
8. Xiaoling Wu, Jinsung Cho, Brian J. d'Auriol, Sungyoung Lee, and Young-Koo Lee, "An Integrated Sleep-Scheduling and Routing Algorithm in Ubiquitous Sensor Networks based on AHP", *The Institute of Electronics, Information and Communication Engineers (IEICE) Transactions on Communications*, Special section on Ubiquitous Sensor Networks, Vol. E90-B, No. 12, pp. 3392-3401, December 2007.
9. Xiaoling Wu, Jinsung Cho, Brian J. d'Auriol, and Sungyoung Lee, "Mobility-Assisted Relocation for Self-deployment in Wireless Sensor Networks", *The Institute of Electronics, Information and Communication Engineers (IEICE) Transactions on Communications*, Vol. E90-B, No. 8, pp. 2056-2069, Aug. 2007.
10. Brian J. d'Auriol and Jesus Pajaro, "A Comprehensive Peer-to-Peer Characterization Model", *Concurrency and Computation: Practice and Experience*, Online: June 13, 2006, <http://dx.doi.org/10.1002/cpe.1053>; Printed: Vol. 18, Issue 15, pp. 2037-2061, Dec. 2006.
11. Brian J. d'Auriol and Maria Beltran, "A Historical Analysis of Fiber Based Optical Bus Parallel Computing Models", *Scalable Computing: Practice and Experience (SCPE)*, Vol. 7, No. 1, March. 2006.
12. Brian J. d'Auriol and Rajesh Molakaseema, "A Parameterized Linear Array with a Reconfigurable Pipelined Bus System: LARPBS(p)", *The Computer Journal*, Vol. 48, No. 1, pp. 115-125, 2005.
13. Brian J. d'Auriol, Vladik Kreinovick, Bindu George, Florence Muganda, Pramod Kumar Chikkappaiah, "What is the Best Way To Draw a Cube? A Hypercube?", *GEOMBINATORICS*, pp. 105- 110, Vol. XI, Issue 4, April 2002. (A departmental technical report also appears in 2001)
14. Brian J. d'Auriol and Virendra C. Bhavsar, "COMMAN — A Communication Analyzer for Occam 2", *Transputer Communications*, Vol. 3, No. 3, pp. 151-167, July 1996.

4.7 Book Chapter Publications

1. Brian J. d'Auriol, Sungyoung Lee and Young-Koo Lee, "Visualizations of Wireless Sensor Network Data", *Handbook of Research on Developments and Trends in Wireless Sensor Networks: From Principle to Practice*, Eds. Hai Jin and Wenbin Jiang, IGI Global Publisher, Chapter 16, pp. 353-370, 2010, ISBN: 9781615207015, DOI: 10.4018/978-1-61520-701-5.
2. Riaz Ahmed Shaikh, Brian J. d'Auriol, Heejo Lee, and Sungyoung Lee, "Privacy and Trust Management Schemes of Wireless Sensor Networks", *Handbook of Research on Developments and Trends in Wireless Sensor Networks: From Principle to Practice*, Eds. Hai Jin and Wenbin Jiang, IGI Global Publisher, Chapter 13, pp. 290-309, 2010, ISBN: 9781615207015, DOI: 10.4018/978-1-61520-701-5.

4.8 Refereed Conference Publications

1. Brian J. d'Auriol, "Aerospace Mobile Sensor Network Visualization Requirements", Invited Paper, Proceedings of the 2010 International Conference on Advanced Aircraft Technologies (ICAAT 2010), August 30 - September 1, 2010, Gyeongsang National University, Jinju, Korea. in press.
2. Brian J. d'Auriol, "Effective New Visualization Approaches for Emerging Databases", Invited Paper, The Second International Conference on Emerging Databases(EDB 2010) Grand Hotel, Jeju, Korea Aug. 30-31, 2010, in press.
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10. Yu Niu, Brian J. d'Auriol, Xiaoling Wu, Jinsung Cho, Sungyoung Lee, "Selective Pulse Coupling Synchronicity for Sensor Network", Proceedings of the The Second International Conference on Sensor Technologies and Applications (SENSORCOMM 2008), pp. 123-127, August 25 - 31, 2008, Cap Esterel, France, IEEE Press.
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15. Brian J. d'Auriol, John Kim, Sungyoung Lee and Young-Koo Lee, "Orthogonal Organized Finite State Machine Application to Sensor Acquired Information", *Proceedings of the 9th International Conference on Parallel Computing Technologies (PaCT-2007)*, in *Parallel Computing Technologies (LNCS 4671)*, Victor Malyshev (Ed.), pp. 111-118, Pereslavl-Zalessky, Russia, Sept. 3-7, 2007, Springer.
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30. Brian J. d'Auriol, "A Finite State Machine Model to Support the Visualization of Complex Dynamic Systems", *Proceedings of The 2006 International Conference on Modeling, Simulation and Visualization Methods (MSV'06)*, June 26-29, 2006, Las Vegas, NV, USA, pp. 304-310.
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33. Brian J. d'Auriol, "A Relational Model for Visualizing Codon Usage and Palindrome Distributions in Genome Sequences", *Proceedings of the 2005 International Conference on Modeling, Simulation and Visualization Methods (MSV'05)*, June 27-30, 2005, Monte Carlo Resort, Las Vegas, USA, Hamid R. Arabnia (Ed.), pp. 76-82, CSREA Press.
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45. Rene Saenz and Brian J. d'Auriol, "A Communication Model for CORBA Systems", *Proc. of 16th Annual International Symposium on High Performance Computing Systems & Applications*, June 16-19, Moncton, New Brunswick, Canada, 2002, Jalal N. Almhana and Virendrakumar C. Bhavsar (Eds.), pp. 268-274, June 20, 2002
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47. Brian J. d'Auriol, "Communication in the LARPBS (Optical Bus) Model: A Case Study" *Proc. of The Fourth International Conference on Algorithms And Architecture for Parallel Processing (ICA3PP2000)*, Hong Kong, 11 -13 December 2000, A. Goscinski et. al. (Eds.), pp. 581-590, Dec. 2000
48. Brian J. d'Auriol, "Expressing Parallel Programs Using Geometric Representation: Case Studies", *Proc. of the Eleventh IASTED International Conference on Parallel and Distributed Computing and Systems PDCS'99*, Nov. 3-6, Cambridge, MA USA, 1999, S.Q Zheng (Ed.), pp. 985-990, Nov. 1999.

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50. Brian J. d'Auriol, "A Geometric Semantics for Program Representation in the Polytope Model", *Lecture Notes in Computer Science*, Vol. 1863, pp. 451-454, Twelfth International Workshop on Languages and Compilers for Parallel Computing LCPC'99, Aug. 4-6, 1999.
51. Brian J. d'Auriol and Abdullah Abonamah, "A Holistic Classification to the Study of Optical Interconnection Networks", *Proc. of the 1999 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'99)*, June 28 - July 1, Las Vegas, Nevada, USA, H.R. Arabnia (Ed.), pp. 2457-2462 July. 1999
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53. Brian J. d'Auriol and Virendrakumar C. Bhavsar, "Generic Program Structures Induced by Partitions of a Systolic Computation Graph", *Proc. of the IASTED International Conference on Parallel and Distributed Computing and Systems, PDCS'98*, Las Vegas, Nevada, USA, 28-31 Oct., 1998, Y. Pan, S. Akl and K. Li (Eds.), pp. 396-401, Oct. 1998.
54. Joel Themmen and Brian J. d'Auriol, "An Analysis of Parallel Computing Curriculum: A Case Study", *Proc. of the 11th Annual International Symposium on High Performance Computing Systems (HPCS'97)*, Winnipeg, Manitoba, Canada, July 10-12, 1997, Ken Barker (Ed.), pp. 505-518, July 1997.
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56. Brian J. d'Auriol and Donald Kent Bierley, "The Role of Language in the Unified Model for Compiling Systolic Computations for Multicomputers", *Proc. of the Eighth IASTED/ISMM International Conference on Parallel and Distributed Computing and Systems (PDCS'96)*, Chicago, Illinois, USA, 16-19 October, 1996, K. Li, T.S. Abdelrahman, E. Luque (Eds.), pp. 352-355, October 1996.
57. Brian J. d'Auriol and Meera B. Dugar, "A Systolic Array Graph Partitioning System", *Proc. of the Eighth IASTED/ISMM International Conference on Parallel and Distributed Computing and Systems (PDCS'96)*, Chicago, Illinois, USA, 16-19 October, 1996, K. Li, T.S. Abdelrahman, E. Luque (Eds.), pp. 356-358, October 1996.
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59. Brian J. d'Auriol and Virendra C. Bhavsar, "Multicomputer Implementations of Systolic Computations: A Unified Approach", *Proc. of the 10th Annual International Conference on High Performance Computers (HPCS'96)*, Ottawa, Ontario, Canada, 5-7 June, 1996, published on CD-ROM by IEEE Canada Electronic Services, distributed by Carleton University Press.
60. Brian J. d'Auriol and Virendra C. Bhavsar, "Systolic and Wavefront Array Algorithms on Distributed Memory, Multiprocessor Computers", *Proc. of Supercomputing Symposium '93 — High Performance Computing: New Horizons (SS93)*, Calgary, Alberta, Canada, 6-9 June, 1993, L. Bauwens (ed), University of Calgary, Calgary, Alberta, pp. 47-54, June, 1993.

61. Brian J. d'Auriol and Virendra C. Bhavsar, "Evaluation of the Multi-Transputer Implementations of the Weighted Levenshtein Distance Computation", *Proc. of International Conference on Parallel Computing and Transputer Applications '92 (PACTA '92)*, Barcelona, Spain, Sept., 21-25 Sept. Published as 'Parallel Computing and Transputer Applications', Part II, 1992, M. Valero et al., (eds.), IOS Press, Amsterdam, pp. 879-888, Sept., Sept. 1992.
62. Brian J. d'Auriol, Virendra C. Bhavsar and L. Goldfarb, "Multi-Transputer Implementations of the Metric Approach to Pattern Recognition Using Weighted Levenshtein Distance", *Applications of Transputer 3; Volume II*, T.S. Durrani, et al. (Eds.), IOS Press, Amsterdam, pp. 388-393, August 1991.
63. Brian J. d'Auriol, Virendra C. Bhavsar and L. Goldfarb, "Systolic Array Implementations for Reconfigurable Learning Machines on Transputers", *Proc. of Supercomputing Symposium '91*, Fredericton, N.B., Canada, June 3-5, 1991, V.C. Bhavsar and U.G. Gujar (Eds.), University of New Brunswick Press, Fredericton, N.B., pp. 105-119, June 1991.

4.9 Other Publications

1. Elsa W. Y. Tai, Lavada Thompson, Rachel Smith, and Brian J. d'Auriol, "Program visualization using AVS/express", 2001, http://www.cra.org/Activities/craw/creu/crewReports/2002/texas_final.html
2. Brian J. d'Auriol, Book review of 'Parallel Computing Using Optical Interconnections', IEEE Concurrency, July-September, pp. 91-92, 1999.

4.10 Technical Reports

1. Brian J. d'Auriol and Kavitha Tupelly, "Advanced Relation Model for Genome Sequence Visualization (ARM 4 GSV): Exploratory Visualization Examples", Technical Report No. UTEP-CS-04-36, 2004.
2. Brian J. d'Auriol, Steve Saladin and Shane Humes, "Linguistic and Non-Linguistic Semantics in the Polytope Model," Technical Report No. 99-01, Department of Mathematics and Computer Science, The University of Akron, Akron, Ohio, 44325-4002, January 1999.
3. Brian J. d'Auriol and Virendrakumar C. Bhavsar, "Generic Program Structures Induced by Partitions of a Systolic Computation Graph", Technical Report 97/04, Department of Computer Science, The University of Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2, March 1997.
4. Brian J. d'Auriol and Virendra C. Bhavsar, "A Unified Approach for Implementing Systolic Computations on Distributed Memory Multicomputers", Technical Report WSU-CS-95-02, Department of Computer Science and Engineering, Wright State University, Dayton, Ohio 45435, USA, December 1995.
5. Brian J. d'Auriol and Virendra C. Bhavsar, "COMMAN — A Communication Analyzer for Occam 2", Technical Report TR94-086, Faculty of Computer Science, University of New Brunswick, Fredericton, N.B., E3B 5A3, June 1994.

4.11 Conferences, Workshops, Sessions and Events Organized

1. Co-Chair and co-organizer of the Computing Technologies and Business Strategies for u-Healthcare (CBuH 2010) workshop in conjunction with SAINT 2010, Seoul, Korea, July 23, 2010
2. General Chair and organizer of the Annual International Conference on Communications in Computing (CIC), 2000-2008, held annually, June/July in Las Vegas, NV, USA.
3. Technical Session Organizer, "Program and Visualization" at The 2001 International Conference on Computational Science, San Francisco, May 2001.

4. Co-organizer of the “Scientific Visualization with AVS/Express Workshop” Nov. 22-23, 1999, Computing Center, The University of Akron.
5. Industry Liaison Chair for the 11th International Conference on Parallel and Distributed Computing and Systems (PDCS'99), Cambridge, MA, USA, November 3-6, 1999.
6. General Chair and organizer for the 11th Annual International Symposium on High Performance Computing Systems (HPCS'97), Winnipeg, Manitoba, Canada, July 10-12, 1997.
7. Associate Editor and Technical Session Organizer for the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'96), Sunnyvale, California, USA, 9-11 August, 1996.
8. Program Committee Member for:
 - The IADIS Computer Graphics, Visualization, Computer Vision and Image Processing (CGVCVIP 2011), Rome, Italy July 20-26, 2011.
 - The Second International Workshop on Computer Image and its Applications (CIA-11), to be held with the ISPA 2011, Busan, Korea, May 26-28, 2011.
 - The Fourth International Conference on Advances in Computer-Human Interactions ACHI 2011, February 23-28, 2011 - Gosier, Guadeloupe, France
 - The 10th Annual International Symposium on Applications and the Internet (SAINT 2010), 19-23 July 2010, Seoul, Korea
 - Computer Graphics, Visualization, Computer Vision and Image Processing 2010, part of the IADIS Multi Conference on Computer Science and Information Systems (CGV 2010), 26-31 July 2010, Freiburg, Germany
 - Seventh High-Performance Grid Computing Workshop April 19, 2010, Atlanta, USA
 - The Third International Conferences on Advances in Computer-Human Interactions ACHI 2010 Feb.10-15, 2010, St. Maarten, Netherlands Antilles.
 - 17th International Conference on Software Engineering and Data Engineering (SEDE-2009), Los Angeles, California, USA, June 30 - July 2, 2009
 - Computer Graphics, Visualization, Computer Vision and Image Processing 2009, Algarve, Portugal, 20 - 22 June 2009
 - Sixth High-Performance Grid Computing Workshop, May 25-29, 2009, Rome, Italy
 - The Second International Conferences on Advances in Computer-Human Interactions (ACHI 2009) February 1-6, 2009 - Cancun, Mexico
 - IADIS International Conference on Computer Graphics and Visualization 2008 (CGV 2008) Amsterdam, Netherlands, July 24-26, 2008
 - The First International Conference on Advances in Computer-Human Interaction (ACHI 2008) February 10-15, 2008 - Sainte Luce, Martinique
 - The IEEE 22st International Conference on Advanced Information Networking and Applications (AINA 2008) Okinawa, Japan, March 25-28, 2008
 - The Eighth International Conference on Parallel and Distributed Computing Applications and Technologies, (PDCAT'07), Adelaide, Australia, Dec. 3-6, 2007.
 - The 2007 International Conference on Computational Science and Its Applications (ICCSA), Kuala Lumpur, Malaysia, August 26-29, 2007
 - The IEEE 21st International Conference on Advanced Information Networking and Applications (AINA 2007) Niagara Falls, Ontario, Canada, May 21 - May 23, 2007
 - The 5th International Conference on Web-based Learning (ICWL 2006), July 19-21, 2006, Penang, Malaysia

- The 2006 International Conference on Computational Science and its Applications (ICCSA 2006) May 8-11, 2006, Glasgow, UK.
- The Sixth International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT'05) 5-8 December 2005, Dalian University of Technology (DUT), Dalian, China
- The 4th International Conference on Web-based Learning (ICWL 2005) July 31 to August 3, 2005, Hong Kong.
- The 6th International Conference on Algorithms and Architectures (ICA3PP-2005), June 19 - 22, 2005, Melbourne, Australia.
- PSMP4, The Presentation Sharing Mining Protection Workshop: Philosophers meet sensors, Prague, February 2005 Czech Republic, .
- The International Conference on Computational Science and its Applications (ICCSA 2005) May 9-12, 2005, Singapore.
- The Fifth International Conference on Computational Science (ICCS 2005), May 22-25, 2005, Emory University Atlanta, USA
- The 4th International Conference on Computer and Information Technology (CIT2004), September 14-16 2004, Wuhan, China.
- The International Conference on Computational Science 2004 (ICCS 2004), June 7-9, 2004, Krakow Poland.
- The 18th Annual High Performance Computing Symposium, (HPCS 2004), June 2004, Winnipeg, Canada.
- The 2004 International Conference on Computational Science and its Applications (ICCSA 2004), May 14-17, 2004, Perugia, Italy.
- The International Workshop on Computational Geometry and Applications CGA'04, May 14-17, 2004, Perugia, Italy, in conjunction with The 2004 International Conference on Computational Science and its Applications (ICCSA 2004).
- High-Performance Grid Computing Workshop in conjunction with the International Parallel and Distributed Processing Symposium - IPDPS'2004, April 30, 2004, Santa Fe, New Mexico, Eldorado Hotel, USA.
- The 2nd International Conference on Web-based Learning (ICWL 2003), August 18-20, 2003, Melbourne, Australia.
- The 2003 International Conference on Computational Science and its Applications (ICCSA 2003), Montreal, Canada, May 18-21, 2003.
- The International Workshop on Computational Geometry and Applications (CGA'03) in conjunction with The 2003 International Conference on Computational Science and its Applications (ICCSA 2003), May 18-21, 2003, Montreal, Canada.
- The 17th Annual International Symposium on High Performance Computing Systems and Applications, May 11-14 2003, Sherbrooke, Quebec, Canada.
- The 16th Annual High Performance Computing Symposium (HPCS'2002), June 17-19, 2002, Moncton, New Brunswick, Canada.
- The 2002 International Conference on Computational Science (ICCS 2002), April 21-24, 2002, Amsterdam, The Netherlands.
- The 2001 International Conference on Computational Science (ICCS 2001), May 28-30, 2001, San Francisco, CA, USA.
- The Fourth International Conference on Algorithms And Architecture for Parallel Processing (ICA3PP2000), Dec. 11-13, 2000, City University of Hong Kong.
- The 10th International Conference on Parallel and Distributed Computing and Systems (PDCS'98), October 1998, Las Vegas, Nevada.

- The 12th Annual International Symposium on High Performance Computing systems (HPCS'98), May 20-22, 1998, Edmonton, Alberta, Canada.
- The 9th International Conference on Parallel and Distributed Computing and Systems (PDCS'97), October 1997, Washington, D.C.

9. Invited session chairs for numerous conferences.

4.12 Other Professional Activity

1. Faculty advisor to the webmaster, Department of Computer Science, The University of Texas at El Paso, 2002.
2. Panelist participant for the Alliance Chautauqua 2000 Meeting, June 13-15, 2000, Ohio Supercomputer Center, Columbus, Ohio.
3. Participant in the Focus Group for Science, Math and Technology, December 1999 - March 2000.
4. Co-organizer of the Computer Science Division Seminar Series, The Department of Mathematics and Computer Science, The University of Akron, Fall 1999.
5. Executive Committee Member, SuperCan for 1997-1998, and member 1996-1998.
6. Guest Editor for the special issue of the Journal of Supercomputing entitled "High-Performance Computer Design, Analysis, and Use", Vol. 11, No. 4, December 1997, Kluwer Academic publishers.
7. Faculty Advisor for the Wright State University student chapter of the IEEE Computer Society: 1995-1996.
8. Reviewed papers for the following journals: IEEE Concurrency, IEEE Transactions on Software Engineering, the journal of VLSI Signal Processing World Wide Web Journal, Mathematical and Computer Modelling, IJPEDES.

4.13 Professional Organization Memberships

1. The Institute of Electrical and Electronics Engineers Inc., Computer Society (IEEE Computer Society).
2. Association for Computing Machinery, Inc. (ACM).

4.14 Other Conferences or Meetings Attended

1. Studied in the Information Assurance Capacity Building Program (IACBP), Carnegie Mellon University, July 2002, funded as part of NSF Award 0210410, June 1, 2002 under NSF Program 1668 Federal Cyberservice: Scholarship for Service. The P.I. is Donald J. McGillen, PhD.
2. Attended the Summer Institute for Advanced Computation (SIAC), Wright State University, Dayton, Ohio, August, 1999.
3. Language and Compilers for Parallel Computation Workshop in San Jose, California, USA, August 8-10, 1996.

4.15 Additional Interests

Private Pilot's License: Single Engine, Land

Certified Scuba diver

Drama: Stage presentations as a musician (classical guitarist) and actor. Off stage involvement in production and organization of several shows. A highlight was a CBC appearance in 1981.