

# CURRICULUM VITAE

ALI R. HURSON

JULY 9, 2015

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## CONTACT INFORMATION

Department of Computer Science  
**Missouri University of Science and Technology**  
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## EDUCATION

12/1980	Ph.D. in Computer Science University of Central Florida, Orlando, FL
12/1978	M.S. in Computer Science University of Iowa, Iowa City, IA
6/1970	B.S. in Physics University of Tehran, Tehran, Iran

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## RESEARCH INTERESTS

High-performance computing, computer architecture, multidatabases, global information sharing, semantics-based information retrieval, broadcast-based data dissemination, application of mobile agents to information processing, sustainable computing, multimedia databases, Internet caching, caching in ad hoc networks, pervasive computing, critical infrastructure assurance, personalized learning, educational technology.

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**WORK EXPERIENCE**

- 1/2008–Present Professor  
Missouri University of Science and Technology, Rolla, MO  
Department of Computer Science
- 11/2014–Present Professor  
Missouri University of Science and Technology, Rolla, MO  
Department of Computer Engineering (courtesy)
- 2008–Present Adjunct Professor  
The Pennsylvania State University, University Park, PA  
Department of Computer Science and Engineering
- 1/2008–12/2012 Chair  
Missouri University of Science and Technology, Rolla, MO  
Department of Computer Science
- 1992-2007 Associate Professor/Professor  
The Pennsylvania State University, University Park, PA  
Department of Computer Science and Engineering
- 1985-1992 Assistant Professor/Associate Professor  
The Pennsylvania State University, University Park, PA  
Department of Electrical and Computer Engineering
- 1981-1985 Assistant Professor  
University of Oklahoma, Norman, OK  
School of Electrical Engineering and Computer Science
- 1979-1980 Graduate Research and Teaching Assistant  
University of Central Florida, Orlando, FL  
Department of Computer Science
- 1977-1979 Graduate Research Assistant  
University of Iowa, Iowa City, IA  
Department of Computer Science
- 1974-1975 Project Leader  
Tosehe-Omran, Inc., Tehran, Iran
- 1973-1975 Instructor of Computing  
Farhangestan, Tehran, Iran
- 1973-1974 Instructor of Computing  
Tech Pars, Tehran, Iran
- 1972-1973 Systems Analyst  
DecPunch Company, Tehran, Iran
- 1971-1975 Systems Analyst  
National Planning and Budget Organization, Tehran, Iran

1970-1971 Lieutenant  
Iranian Army

1968-1970 Instructor of Physics  
Hadaf High School, Tehran, Iran

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## TEACHING EXPERIENCE

### **Missouri S&T, CS Dept (2008-Present)**

New Trends In Massively Parallel Computing  
Heterogeneous and Mobile Databases  
Introduction to High Performance Computer Architecture  
Computer Organization  
Database Management Systems

### **The Pennsylvania State University, ECE and CSE Departments (1985-2008)**

VLSI Design  
Foundations of Computer Engineering  
Unconventional Computer Architectures  
Computer System Architecture  
Circuits and Systems  
Switching Theory  
Advanced Digital Systems  
Computer Organization  
Advanced Computer Architecture  
Parallel Processing and Processors  
Database Management Systems  
Heterogeneous and Mobile Data Bases

### **University of Oklahoma, EECS Department (1981-1985)**

Data Structures  
Assembly Language  
Microprogramming  
Computer Organization I

Computer Organization II

Computer Architecture

Advanced Computer Architecture

**University of Central Florida (1979-1981)**

PLC/PLI

Data Structures

Computer Architecture

Advanced Computer Architecture

**Farhangestan (1973-1975)**

Computing Concepts

COBOL

Assembly

Java

**Tech Pars (1973-1974)**

COBOL

RPG

PLI Programming Languages

Computing Concepts

**Hadaf High School (1968-1970)**

High School Physics

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NEW COURSES DEVELOPED

**Missouri S&T, CS Dept (2008-Present)**

- |        |  |
|--------|--|
| CS 388 | Introduction to High-Performance Computer Architecture (3:3:0), senior/graduate-level course for CS and CpE. |
| CS 438 | Heterogeneous and Mobile Data Bases (3:3:0), graduate-level course for CS and CpE.                           |
| CS 478 | New Trends in Massively Parallel Computing (3:3:0), graduate-level course for CS and CpE.                    |
| CS 410 | Seminar (1:1:0), graduate-level seminar course for CS.   |

- CS 235 Computer Organization (3:3:0), junior-level course for CS, CpE, and EE.
- CS 5300 Database Management Systems (3:3:0), senior/graduate-level course for CS and CpE.

### **The Pennsylvania State University, ECE and CSE Departments (1985-2008)**

- CMPEN 376 Fundamentals of Software Engineering (3:3:0), junior-level.
- CMPEN 533 Unconventional Computer Architecture (3:3:0), graduate-level.
- CMPEN 561 Data Engineering (3:3:0)], graduate-level.
- CMPEN 539a Seminar on Non-Numeric Processing (3:3:0), graduate-level.
- CMPEN 539b Seminar on Data/Demand Driven Architecture (3:3:0), graduate-level.
- CMPEN 471 File Organization and Database Management Systems (3:3:0), senior/graduate-level.
- CMPEN 331 Computer Organization (3:3:0), junior-level course for EE and CMPEN.
- CMPEN 431 Introduction to Computer Architecture (3:3:0), senior/graduate-level course for EE and CMPEN.
- CSE 530 Computer Architecture (3:3:0), graduate-level course for CS and CMPEN.
- T.V. Courses Developed and offered (via satellite) several graduate-level courses on computer architecture to the United States Navy Bases in Seattle and San Diego.
- Multimedia Course on Computer Organization , junior-level course for CS, EE, and CMPEN.
- CSE 431H Introduction to Computer Architecture (3:3:0), senior/graduate-level Honors course for CSE.
- CSE 598 Heterogeneous and Mobile Data Bases (3:3:0), graduate-level course for CS and CMPEN.

### **University of Oklahoma, EECS Department (1981-1985)**

- CS 3613 Computer Organization II (3:3:0), junior-level.
- CS 5633 Advanced Computer Architecture (3:3:0), graduate-level.

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### **HONORS AND AWARDS**

- 2006 Medal of the Chancellor, University of Pisa, Italy.
- 2001 Nominee for Pennsylvania State University Premier Teaching Award.
- 1997 Nikola Tesla Award, Yugoslavia.
- 1996 Golden Core Award, IEEE Computer Society.

- 1994 Meritorious Service Award, IEEE.
- 1993 Nominee for Pennsylvania State University Premier Teaching Award.
- 1988 Outstanding Teaching Award, Pennsylvania State University.
- 1984 Nominee for Teacher of the Year, in School of Electrical Engineering and Computer Science, University of Oklahoma.
- 1985 Engineering Young Faculty Award, University of Oklahoma.
- Summer 1984 Junior Faculty Fellowship, University of Oklahoma.
- 1983 Nominated as the Teacher of the Year in the School of Electrical Engineering and Computer Science, University of Oklahoma.
- 1979 Internal Grant, "An Associative Search Language Machine," University of Central Florida, Orlando, Florida.
- 1975-1978 Fellowship from Iranian Government for Graduate Study in the United States.

## PROFESSIONAL ACTIVITIES

### Referee

- 1992 - Present IEEE Transactions on Knowledge and Data Engineering.
- 1995 - Present IEEE Transactions on Parallel and Distributed Systems.
- 1993 - Present ACM Transactions on Database Systems.
- 1982 - Present IEEE Transactions on Computers.
- 1984-1987 NCC.
- 1986, 1992, 1995 Computer Architecture Conference, The ACM Special Interest Group on Computer Architecture (SIGARCH).
- 1987 IEEE Transactions on Software Engineering.
- 1987 2nd International Conference on Computer and Applications.
- 1987 20th Hawaii International Conference on System Sciences.
- 1988, 1990, 1991 International Conference on Parallel Processing.
- 1987- 2003 IEEE Computer.
- 1987 - Present Journal of Computer Systems and Science Engineering.
- 1989 - Present Journal of Parallel and Distributed Computing.
- 1989-1999 Journal of Mini and Micro Computer Applications.
- 1991 IEEE Journal of Solid-State Circuits.

1991 IEEE Micro.

1991-1995 NSF.

1993 External Referee, Hong Kong Research Grant Council.

1995 External Referee, Canadian Research Grant Council.

2001 External Referee, Swedish Research Grant Council.

2000 Journal of Interconnection Networks.

2000 - Present Journal of Electronics and Telecommunications Research Institute (ETRI).

1999 - Present Electronic Letters.

Journal of Wireless Networks.

### Editorial/Conference

1982 24th Symposium on Mini and Microprocessors, Session Chair

1984 29th Symposium on Mini and Microprocessors, Session Chair

1988 Mini and Micro Computers and Their Applications, Session Chair

1989 IEEE Symposium on Parallel and Distributed Processing, Session Chair

1989 Three-Day Seminar on Supercomputers and Their Applications, Program Director

1989 RISCs and Issues in Advanced Processor Design, Symposium on Computer Architecture, Panelist

1989 Mini and Micro Computers and Their Applications, Program Committee

1989 *Proceedings of the IEEE*, Special Issue on Supercomputer Technology, Guest Co-Editor

1990 IEEE Symposium on Parallel and Distributed Processing, Session Chair

1990 Symposium on Parallel and Distributed Processing, General Co-chair

1992 International Conference on Data Engineering, Program Committee

1992 HICSS-25 Mini-Track on Parallel Architectures for Data/Knowledge Base Machines, Coordinator

1992 *Journal of Parallel and Distributed Computing*, Special Issue on Scheduling and Load Balancing, Guest Co-Editor

1993 International Conference on Parallel Processing, Session Chair

1993 NSF Panel on Small Business Proposals, Panelist

1993 NSF Panel on Research Instrumentation, Panelist

- 1993 HICSS-26 Mini-Track on Task Scheduling in Parallel and Distributed Systems, Coordinator
- 1994 IEEE Symposium on Parallel and Distributed Processing, Session Chair
- 1994 International Conference on Parallel and Distributed Systems, Program Committee
- 1994 *Journal of Integrated Computer-Aided Engineering*, Special Issue on Multi-Databases, Guest Co-editor
- 1994 NSF Panel on IITA, Panel Member
- 1994 HICSS-27 Mini-Track on Parallel and Distributed Database Systems, Coordinator
- 1995 HICSS-28, Session Chair
- 1995 International Conference on Parallel Computing Technology, Session Chair
- 1995 IEEE Symposium on Parallel and Distributed Processing, Session Chair
- 1995 CSI Computer Conference, Program Committee
- 1995 NSF Panel on Instrumentation and Laboratory Improvement, Panelist
- 1995 “Scheduling and Load Balancing,” International Conference on System Sciences, Panelist
- 1995-2000 CSAB, Program Evaluator
- 1996 Intelligent Information Management Systems, Session Chair
- 1996 NSF Panel on Instrumentation and Laboratory Improvement, Panelist
- 1996 IEEE Symposium on Parallel and Distributed Processing, Session Chair
- 1996 Neural Network Symposium, General Co-Chair
- 1997 IEEE Parallel Processing Symposium, Session Chair
- 1997 HICSS-30 Mini-Track on Multi-Threaded Systems, Coordinator
- 1997 International Conference on Parallel and Distributed Computing and Systems, Program Chairperson
- 1997 International Conference on Parallel and Distributed Systems Euro-PDS, Session Chair
- 1997 International Conference on Parallel and Distributed Computing and Systems, Steering Committee
- 1997 “Education on Parallel and Distributed Computation,” International Conference on Parallel and Distributed Systems, Panelist
- 1999 IEEE Parallel Processing Symposium, Session Chair



- 1999 International Conference on Parallel Computing Technologies, Program Committee
- 2000 IEEE International Conference on Performance, Computing, and Communication, Session Chair
- 2000 Euromicro Workshop on Parallel and Distributed, Processing Program Committee
- 2000 International Conference on Algorithms and Architectures for Parallel Processing, Program Committee
- 2000 International Conference on Computer Cluster, Program Committee
- 2000 International Conference on Parallel Architectures and Compilation Techniques, Program Committee
- 2000 International Conference on Parallel Architectures and Compilation Techniques, General Chair
- 2001 Euromicro Workshop on Parallel and Distributed Processing, Program Committee
- 2001 International Conference on Parallel Computing Technologies, Program Committee
- 2001 International Conference on Parallel and Distributed Processing Systems, Program Committee
- 2001 NSF Committee of Visitors, Member
- 2001 International Conference on Parallel Architectures and Compilation Techniques, Panelist
- 2002 International Conference on Parallel Architectures and Compilation Techniques, Program Committee
- 2002 International Conference on Algorithms and Architectures for Parallel Processing, Program Committee
- 2002 NSF Panel on Networking Methods for Distributed Sensors/Actuator Systems, Panelist
- 2003 International Conference on Web-Based Learning, Program Committee
- 2003 NSF Panel on Multimedia ITR, Panelist
- 2003 IEEE Pervasive Computing and Communication Conference, Session Chair
- 2003 IEEE ITCC, Session Chair
- 2003 Workshop on Memory Performance: Dealing with Applications, Systems and Architecture, Program Committee
- 2003 Symposium on Distributed Computing, Program Committee

- 2003 International Conference on Parallel Computing Technologies, Program Committee
- 2004 International Conference on Web-Based Learning, Program Committee
- 2004 Workshop on Memory Performance: Dealing with Applications, Systems and Architecture, Program Committee
- 2005 IEEE International Parallel and Distributed Processing Symposium, Session Chair
- 2005 International Conference on Web-Based Learning, Program Committee
- 2005 Workshop on Memory Performance: Dealing with Applications, Systems and Architecture, Program Committee
- 2005 International Conference on Computer Systems and Applications, Program Committee
- 2005 Workshop on e-Learning, IEEE Pervasive Computing and Communication Conference, Program Committee
- 2005 NSF Panel on Research Experience for Undergraduates, Panelist
- 2005 International Conference on Parallel Computing Technologies, Program Committee
- 2005 International Conference on Algorithms and Architectures for Parallel Processing, Program Committee
- 2005 IEEE Pervasive Computing and Communication Conference, Workshop Chair
- 2005 Advances in Computers, Guest Editor
- 2005 External Evaluator of Wayne State University's Computer Science Department
- 2005 The Second International Symposium on Ubiquitous Intelligence and Smart Worlds, Advisory Committee
- 2006 Journal of Pervasive and Mobile Computing, Special Issue on Computer Security, Guest Co-Editor
- 2006 Workshop on e-Learning, IEEE Pervasive Computing and Communication Conference, Program Committee
- 2006 International CSI Computer Conference, Track Co-Chair
- 2006 IEEE Pervasive Computing and Communication Conference, General Vice Chair
- 2006 International Conference on Information Technology: New Generations, Program Committee
- 2006 IEEE International Conference on Advanced Information Networking and Applications, Program Committee
- 2006 "Hot Topics in Computing and IT in the Next Decade," CSICC 2006, Panelist

- 2006 International Joint Conference on e-Business and Telecommunications, Program Committee
- 2006 International Symposium on Ubiquitous Intelligence and Smart Worlds, Program Committee
- 2006 IEEE International Conference on Advanced Information Networking and Applications, Session Chair
- 2006 Workshop on Memory Performance: Dealing with Applications, Systems and Architecture, Program Committee
- 2007 International Conference on Algorithms and Architectures for Parallel Processing, Program Committee
- 2007 IEEE Pervasive Computing and Communication Conference, General Chair
- 2007 International Conference on Scalable Information Systems, Program Committee
- 2007 International Joint Conference on e-Business and Telecommunications, Program Committee
- 2007 PerCom Workshop on e-Learning, Program Committee
- 2007 NSF Panel on Information Integration and Informatics, Panelist
- 2007 Workshop on Memory Performance: Dealing with Applications, Systems and Architecture, Program Committee
- 2008 AINA, Advisory Committee
- 2008 International Conference on Algorithms and Architectures for Parallel Processing, Program Committee
- 2008 PerCom Workshop on E-learning, Program Committee
- 2008 NSF Panel on Information Integration and Informatics, Panelist
- 2008 International Conference on Intelligent Environments, Program Committee
- 2008 International Conference on Parallel and Distributed Processing, Session Chair
- 2008 "Methods and Tools to Ensure Web Usability" (PhD Dissertation), University of Pisa, Italy, External Referee
- 2008 Personal Ad Hoc and Sensor Networks Track of Consumer Communications and Networking Conference, Program Committee
- 2008 IEEE Symposium on Computers and Communications, Session Chair
- 2008 HICSS-41, Track Co-Chair
- 2009 Smart Spaces and Personal-Area Networks for Consumer Electronics, Program Committee

- 2009 IEEE Consumer Communications and Networking Conference, Personal Ad Hoc and Sensor Networks, Program Committee
- 2009 International Conference on Communications and Mobile Computing, Program Committee
- 2009 HICSS-42, Track Co-Chair
- 2010 International Conference on Mobile Data Management Industry, Track Chair
- 2010 Smart Spaces and Personal Area Networks for Consumer Electronics, Program Committee
- 2010 CSI Symposium on Computer Architecture and Digital Systems, Program Committee
- 2010 HICSS-43, Track Co-Chair
- 2010 IEEE International High Assurance Systems Engineering Symposium, Program Committee
- 2010 COMPSAC-SAINT Panel on Green IT, Panelist
- 2011 International Joint Conference in Computer Science and Software Engineering, Advisory Board
- 2011 Smart Spaces and Personal Area Networks for Consumer Electronics, Program Committee
- 2011 PerCom Workshop on e-Learning, Program Committee
- 2011 International Heterogeneity in Computing Workshop, Program Committee
- 2011 International Heterogeneity in Computing Workshop, Session Chair
- 2011 COMPSAC Panel on Smart Systems, Panelist
- 2011 Society for Design and Process Science Conference, Virtualization, Program Committee
- 2011-Present Computing Journal, Associate Editor
- 2011 International Conference on Pervasive Computing and Communication, Session Chair
- 2011 International Green Computing Conference, Program Chair
- 2012 Smart Spaces and Personal Area Networks, Technical Program Committee Vice Chair
- 2012 Smart Spaces and Personal Area Networks, Session Chair
- 2012 IEEE International High Assurance Systems Engineering Symposium, Program Committee

- 2013 Symposium on Sustainable Energy and Computing at the Hawaii International Conference on System Sciences, Panelist and Invited Speaker
- 2013 COMPSAC, Track Chair
- 2013 European Research Council, Proposal Evaluator
- 2014 Symposium on Sustainable Energy and Computing at the Hawaii International Conference on System Sciences, Panelist and Invited Speaker
- 2014 COMPSAC, Program Chair
- 2014 International Green Computing Conference, General Chair
- 2015 International Conference on Pervasive Computing and Communication, General Chair
- 2015 COMPSAC Symposium on Novel Applications and Technology Advances in Computing (NATA), Program Chair
- 2015 Symposium on Sustainable Energy and Computing at the Hawaii International Conference on System Sciences, Panelist and Invited Speaker
- 2015 North American Search-Based Software Engineering Symposium, Session Chair
- 2015 International Conference on Pervasive Computing and Communication, Session Chair
- 1990-Present Hong Kong Research Grant Council, Proposal Evaluator
- 1990-1993 IEEE Computer Society, Distinguished Visitor
- 1991-1997 Symposium on Parallel and Distributed Processing, Steering Committee
- 1990-1994 Computer Society Press, Editorial Board
- 1991-1997 International Phoenix Conference on Computer and Communication, Program Committee
- 1994-1996 International Conference on Intelligent Information Management Systems, Program Committee
- 1997-2001 IEEE Transactions on Computers, Editor
- 1998-Present International Conference on Parallel Processing and Distributed Processing, Steering Committee
- 2011-2017 Advances in Computers, Editor-in-Chief
- 1997-Present ACM Distinguished Speaker
- 2000-2002 International Conference on Parallel Architecture and Compilation Technologies, Steering Committee
- 2003-2014 International Conference on Pervasive Computing and Communication, Steering Committee

2005-2006	International Symposium on Ubiquitous Intelligence and Smart Worlds, Advisory Committee
2005-2008	Journal of Pervasive and Mobile Computing, Editor
2006-Present	CSI Journal of Computer Science and Engineering, Editor
2007-Present	International Journal of Mobile Computing and Multimedia Communications, International Advisory Board
2010-Present	International Green Computing Conference, Steering Committee

### **Tutorials**

1987	Parallel Architecture for Database Systems, International Conference on Parallel Processing
1989	Supercomputer Technology, Symposium on Parallel and Distributed Processing
1990	Parallel Architectures for Databases, PARBASE '90
1990	Parallel Architectures for Data/Knowledge Base Systems, Symposium on Parallel and Distributed Processing
1991	Parallel Architectures for Data/Knowledge Base Systems, International Conference on Parallel Processing
1992	Advanced Issues in Databases, Hawaii International Conference on System Sciences
1993	Load Balancing and Partitioning, International Conference on Parallel Processing
1994	Multidatabase Systems: An Advanced Solution for Global Information Sharing Processes, International Conference on Parallel and Distributed Computing Systems
1995	Multidatabase Systems: An Advanced Solution for Global Information Sharing Processes, International Conference on Computers and Communications
1995	Multidatabase Systems: An Advanced Solution for Global Information Sharing Process, International Conference on Information and Knowledge Management
1995	Multidatabase Systems: An Advanced Solution for Global Information Sharing Processes, CSICC
2002	Architectural Trends for High Performance Computing, ICA3PP
2004	Mobile Computing and Data Processing, MoMM
2005	Mobile Databases, AICCSA
2006	Mobility and Databases, CSICC

**Invited Talks**

- 1980 A Backend Database Machine, Minnowbrooke, Syracuse University, Syracuse, NY
- 1982 A Special-Purpose Mini Computer for Relational Database Management, International Symposium on Mini and Micro Processors and Their Applications, Paris, France
- 1985 Systolic Multiplier Units, Physical Design Workshop, Austin, TX
- 1985 Trends in Computer Architecture, McGill University, Montreal, Canada
- 1985 Computer Architecture, AT&T, Oklahoma City, OK
- 1986 Survey of Join Algorithms, Lowell University, Boston, MA
- 1986 Database Machines, SUNY at Buffalo, Buffalo, NY
- 1986 A Distributed Database Machine, Southern Methodist University, Dallas, TX
- 1987 Associative Memory, NCR Corp., Dayton, OH
- 1988 A Reconfigurable Database Machine, Workshop on Database Machines, Syracuse University, Syracuse, NY
- 1988 Access Gap Reduction, Southern Methodist University, Dallas, TX
- 1989 Advanced Issues in Database Machine, Iowa State University, Ames, IA
- 1989 A Modular Design for Fully Parallel Associative Memory, Texas Instruments Inc., Dallas, TX
- 1991 Parallel Architectures for Data/Knowledge Base Systems, University of Rochester, Rochester, NY
- 1991 A Reconfigurable MIMD Backend Database Machine, University of Central Florida, Orlando, FL
- 1991 Theta-Search Modular Fully Parallel Associative Chip, University of Central Florida, Orlando, FL
- 1991 Data/Knowledge Bases, University of Houston, Houston, TX
- 1991 Parallel Architectures for Data/Knowledge Base Machines, University of Texas at Arlington, Arlington, TX
- 1991 A MIMD Re-configurable Database Machine, University of Belgrade, Belgrade, Yugoslavia
- 1991 Advances in Databases, Fern University, Fern, Germany
- 1991 Handling Data Structures and Processor Allocation in Dataflow Environment, University of Nevada at Las Vegas, Las Vegas, NV
- 1991 Application of Neural Networks in Databases, Southern Methodist University, Dallas, TX

- 1991 Application of Neural Networks in Database, Florida Atlantic University, Boca Raton, FL
- 1992 Neural Network Processing, Oregon State University
- 1992 Advanced Issues in Databases: Multidatabases, University of Belgrade, Belgrade, Yugoslavia
- 1992 Advanced Issues in Databases: Object-Oriented Databases, University of Belgrade, Belgrade, Yugoslavia
- 1992 Application of Artificial Neural Systems in Decision-Aiding for Large Incomplete Databases, Goethe University, Germany
- 1992 Partitioning Dataflow Graphs, University of Texas at Arlington, Arlington, TX
- 1992 Parallel Architectures for Data/Knowledge Base Machines, Texas Christian University
- 1992 Detection of Dynamic Parallelism in Dataflow Graphs, University of North Texas, Denton, TX
- 1993 Dataflow Processing, Rutgers University
- 1994 Dataflow Computation, Bell Labs, Murray Hill, NJ
- 1994 Staggered Scheme: A Loop Allocation Policy for Dataflow Multithreaded Architectures, Fern University, Germany
- 1994 Parallel Processing: Dataflow Architectures, IEEE Central Pennsylvania
- 1996 Keynote Speaker, Yugoslavia National Computer Conference
- 1996 Global Information Sharing Process, Yugoslavia National Computer Conference
- 1997 Cache in Dataflow Paradigm, University of Pisa, Pisa, Italy
- 1997 Mobile Computing and Global Information Sharing Process, Yugoslavia National Conference,
- 1997 Mobile Computing and Global Information Sharing Process, University of Texas at Arlington
- 1998 Mobile Computing and Global Information Sharing Process, Lucent Technology, NJ
- 1998 Mobile Computing and Global Information Sharing Process, University of Alabama at Huntsville
- 1998 Global Information Sharing process in an MDAS Environment, Iowa State University
- 1999 Global Information Sharing process in an MDAS Environment, ACM, New York Chapter



- 1999 Distance Learning, University of Texas at Arlington
- 1999 Mobile Computing and Global Information Sharing, University of Rostock, Germany
- 2000 Mobile Computing and Global Information Sharing, University of Oklahoma
- 2000 Mobile Computing and Global Information Sharing, Frostburg State University
- 2000 Keynote Speaker, Information Technology Coding and Computing
- 2000 Mobile Computing and Global Information Sharing, University of Central Florida
- 2001 Transaction Processing in Global Information Sharing Environments, University of Northern Michigan
- 2001 Transaction Processing in Global Information Sharing Environments, University of Central Florida
- 2002 Transaction Processing in Global Information Sharing Environments, Allegheny College
- 2002 Mobile Computing and Global Information Sharing Processes, University of North Texas
- 2002 Mobile computing and Global Information Sharing Process - Security, Allegheny College,
- 2003 Mobile Computing and Global Information Sharing Process - Broadcasting, Florida International University
- 2003 Mobile Computing and Global Information Sharing Process Application of Mobile Agents, University of Texas at Arlington
- 2005 Keynote Speaker, "Evolution of Database Systems: From Centralized Databases to Mobile Databases," International School and Symposium on Advanced Distributed Systems, Guadalajara, Mexico
- 2005 Mobile Computing and Global Information Sharing Processes Dynamic Power Management, Washington State University
- 2006 Loop Scheduling, Oklahoma State University
- 2006 Application of Mobile Agents in Global Information Sharing, University of Pisa, Italy
- 2007 Conflict Resolution in Parallel Broadcast Channels, University of North Texas,
- 2007 Application of Mobile Agents in Information Retrieval Systems, University of Idaho
- 2007 Power Management in Mobile Devices, University of Arkansas
- 2007 Data Dissemination through Broadcast Channels, Kansas State University

- 2007 Keynote Speaker, “From Global Information Processing to Pervasive Computing,” Joint Conference on Information Sciences, Special Session on Pervasive Computing and Communications
- 2007 Invited Speaker, Pervasive Computing, MUBICA
- 2007 Application of Mobile Agents in Information Retrieval Systems, University of Missouri
- 2009 Heterogeneous and Mobile Databases, University of Alabama at Huntsville
- 2009 Graduate study in computer science and engineering, Lincoln University
- 2010 Why a Graduate Degree?, Mazoon College, Oman
- 2010 Mobile Databases, University of Rostock, Germany
- 2010 Heterogeneous and Mobile Databases, KAIST, Korea
- 2011 Large Scale Pervasive Computing, Boeing
- 2011 Reconfigurable Sensor Networks, Washington State University
- 2011 Reconfigurable Sensor Networks, University of Missouri-St. Louis
- 2011 Graduate School: Why, When, How, \$\$\$\$ , Missouri S&T Chapter of Eta Kappa Nu.
- 2011 Transaction Management in Mobile Databases, University of North Texas
- 2014 Context-Aware Recommender for PERCEPOLIS, Sharif University, Iran
- 2015 Energy-Efficient Algorithms for Data Retrieval from Indexed Parallel Broadcast Channels, Lamar University
- 2015 Green Computing: Substance or Style? (as ACM Distinguished Speaker), Lamar University
- 2015 Energy-Efficient Algorithms for Data Retrieval from Indexed Parallel Broadcast Channels, University of Novi Sad, Serbia
- 2015 Energy-Efficient Algorithms for Data Retrieval from Indexed Parallel Broadcast Channels, Keynote at the *12th International Conference on Informatics and Information Technologies (CIIT 2015)*, Macedonia
- 2015 PERCEPOLIS - PERvasive CyberinfrastructurE for PersOnalized Learning and Instructional Support, University of Kragujevac, Serbia
- 2015 Energy-Efficient Algorithms for Data Retrieval from Indexed Parallel Broadcast Channels, Serbian Academy of Sciences and Arts, Serbia

DEPARTMENTAL/COLLEGE/UNIVERSITY ACTIVITIES

**University of Oklahoma (Department of Electrical Engineering and Computer Science)**

1. Member of the Curriculum Committee (1982-1984)
2. Member of the Graduate Studies Committee (1983-1985)
3. Member of the Ad Hoc Committee (1984)
4. Member of the Search Committee (1984-1985)

**Pennsylvania State University (Department of Electrical and Computer Engineering)**

1. Member of the Graduate Steering Committee (1986-1994)
2. Member of the ABET Committee (1987, 2001)
3. Member of the Department Head Search Committee (1989, 1997, 2001)
4. Member of Personnel Committee (1990-1993)

**Pennsylvania State University (Department of Computer Science and Engineering)**

1. Member of the Undergraduate Committee (1993-1995)
2. Graduate Officer (1995-2000)
3. Honors Student Advisor (1998)
4. Member of the Graduate Committee (1995-2000, 2005)
5. Member of the Teaching Committee (2005)
6. Member of the Personnel Committee (2005)
7. Member of the Promotion and Tenure Committee (2001-2003)
8. Member of the Strategic Committee (2001-2005)

**Pennsylvania State University (College of Engineering)**

1. Member of the Ad Hoc Committee on Graduate Fellowship (1997-1998)
2. Teaching Mentor (1996-1999)
3. Engineering Faculty Council (1996-1999)
4. Member of the Fellowships Review Committee (1998-2000)
5. Member of the English Proficiency Review Committee (1999)
6. Member of the Graduate Studies and Research Committee (1998-1999)
7. Member of the Committee on Teaching Effectiveness (1988-1991)
8. Member of the Committee on Engineering Employee Opinion (1989)
9. Member of the Undergraduate Studies Committee (1990-1993)
10. Chair, Common Computer Course for College of Engineering (1992-1993)

## Pennsylvania State University

1. Member of the Sub-Committee on Research Computing (1993)
2. University Senator (1999-2003)
3. Member of the Sub-Committee on University Planning (1999-2002)

## Missouri University of Science and Technology

1. Member of Research Capacity Task Force (2011-2012)
2. Faculty Senator (2013-2015)
3. Member of the Graduate Committee (2012-2014)
4. Member of the Undergraduate Committee (2012-2014)
5. Member of the Strategic Planning Committee (2013-2014)

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## GRADUATE THESES SUPERVISED

1. M.H. Ataei (PhD CpE, Missouri S&T, "Autonomous Transportation Systems," in progress)
2. K. Marashi (PhD CpE, Missouri S&T, "Reliability Modeling of the Smart Grid," in progress)
3. M. Woodard (PhD CpE, Missouri S&T, "Analytical Modeling of Data Corruption in Networked Systems," in progress)
4. N. Jarus (PhD CS, Missouri S&T, "Analytical Modeling of Critical Infrastructure Networks," in progress)
5. T. Morrow (PhD CS, Missouri S&T, "Personalized Learning with the PERCEPOLIS Platform," in progress)
6. M. Wisely (PhD CS, Missouri S&T, "Dynamic Sensor Networks," in progress)
7. L. Heendaliya (PhD CS, Missouri S&T, "Enabling Near-Term Prediction of Status for Intelligent Transportation Systems: Management Techniques for Data on Mobile Objects," May 2015)
8. S. Wagner (PhD CS, Missouri S&T, "Proactive Search: Using Dynamic Nearest-Neighbor Recommendation Algorithms to Increase Search Engine Efficacy," May 2014)
9. E. Jean (PhD CSE, Penn State, "Sensor Network Interoperability and Reconfigurability through Mobile Agents," May 2011)
10. A. Tangpong (PhD CSE, Penn State, "Managing Sybil Identity in Distributed Networks," May 2010)
11. H. Hsu (PhD CSE, Penn State, "A Security Framework for Mobile Ad Hoc Networks," Dec. 2008)
12. B. Yang (PhD CSE, Penn State, "Semantic-Aware Content Processing: Towards Cross-Modal Multimedia Analysis and Content-Based Retrieval in Distributed and Mobile Environments," May 2007)
13. Y. Jiao (PhD CSE, Penn State, "Mobile Agent-Based Energy-Efficient and Secure Global Information Systems," Aug. 2005)

14. S. Ngamsuriyaroj (PhD CSE, Penn State, "Performance Aspects of Security-Aware Database Systems," May 2002)
15. J. Lim (PhD CSE, Penn State, "Program Allocation and Implementation of Cache in a Dataflow Environment," Dec. 2001)
16. C. Chehadeh (PhD CSE, Penn State, "Object Organization on Broadcast Channels: Time and Power Efficiency," May 1999)
17. J. B. Lim (PhD CSE, Penn State, "Transaction Processing in Mobile, Heterogeneous Database Systems," Aug. 1998)
18. B. Jun (PhD EE, Penn State, "An Execution Scheme of Logic Programs for Data/Knowledge Bases in a Multiprocessor Environment," Aug. 1996)
19. B. Jin (PhD CMPEN, Penn State, "A Neural Network Database Machine," Aug. 1993)
20. M. Bright (PhD CMPEN, Penn State, "Linguistic Support for Semantic Identification and Interpretation in a Multidatabase System," Aug. 1992)
21. J.B. Cheng (PhD CMPEN, Penn State, "Efficient Management of Complex Objects in Object Oriented Databases," Dec. 1991)
22. I.B. Lee (PhD CMPEN, Penn State, "Data Structure and Processor Allocation for a Dataflow Environment," Aug. 1991)
23. B. Shirazi (PhD CS, University of Oklahoma, "WDDN: A Wafer-Scale Data-Driven Multiprocessor," Aug. 1985)
  
24. X. Gao (MS CSE, Penn State, "Semantic Caching for Location-Dependent Queries," May 2007)
25. M. Wenstrom (ME CSE, Penn State, "Balancing Transparency, Efficiency and Security in Pervasive Systems," May 2007)
26. K. Ko (MS CSE, Penn State, "Designing the Gestalt Detection Domain Algorithm (GDDA) for Detection of Hidden Domains," May 2006)
27. J. Ploskonka (MS CSE, Penn State, "Self-Monitoring Security in Ad Hoc Routing," May 2006)
28. J. Ghaznavi (ME CSE, Penn State, "Data Broadcasting In a Mobile Environment Using Object Duplication Algorithm," Dec. 2005)
29. P. Yan (MS CSE, Penn State, "Information Retrieval with Linguistic Support - A Medical Thesaurus Prototype," May 2005)
30. B. Sun (MS CSE, Penn State, "Energy-Efficient Scheduling Algorithms of Object Retrieval on Indexed Parallel Broadcast Channels," Dec. 2003)
31. H. Haridas (MS CSE, Penn State, "Security Aspects of Wireless Multi-Databases," May 2003)
32. A. Munoz (MS CSE, Penn State, "Energy-Efficient Object Retrieval on Indexed Parallel Broadcast Channels," Dec. 2002)
33. L. Smith (MS CSE, Penn State, "A Search Engine Selection Methodology," July 2002)
34. Y. Jiao (MS CSE, Penn State, "Multidatabase Information Retrieval Using Mobile Agents," May 2002)

35. D. Charles (MS CSE, Penn State, "Improving ILP with Instruction-Reuse Cache Hierarchy," May 2001)
36. L. Xia (MS CSE, Penn State, "A Meeting Protocol for Mobile Agents," May 2001)
37. M. While (MS CSE, Penn State, "Some Development in Parallelizing Do Loops," Dec. 2000)
38. K. Segun (MS CSE, Penn State, "A Transaction Processing Model for The Mobile Data Access System," Aug. 2000)
39. G. Montero (MS CSE, Penn State, "A Mobile Agent System within the Summary Schema Model Multidatabase" May 2007)
40. Chi-Jeng Li (MS CSE, Penn State, "Replication Protocol for Mobile Data Access System: An Approach under Summary Schema Model," May 2000)
41. R. Bhattacharjee (MS CSE, Penn State, "Recovery Issues in Mobile Computing Environment," Dec. 1999)
42. S. Boonsiri (MS CSE, Penn State, "Energy Efficient Indexing on Parallel Channels in a Mobile Data Access System," Aug. 1999)
43. R. Ramasubramanian (MS CSE, Penn State, "A Survey of Replication Issue and Strategies in Mobile and Multidatabase Environments," May 1999)
44. M. Laad (MS EE, Penn State, "Concurrency Control Algorithms for Multidatabases," Dec. 1998)
45. M. Riech (MS CSE, Penn State, "The Evolution of RISC," Aug. 1998)
46. M. Rangwala (MS CSE, Penn State, "Interoperability of Multidatabases: Unit Conversion," May 1998)
47. V. Desai (MS CSE, Penn State, "Concurrency Control in Multidatabase Systems," May 1997)
48. J. B. Lim (MS CSE, Penn State, "Effective Clustering in Object-Oriented Databases," Aug. 1995)
49. K. Dash (MS CMPEN, Penn State, "Identifying Semantic Relationships between Objects in a Multidatabase Environment," Aug. 1995)
50. J. Stitt (MS CMPEN, "Associative Memory: A Comparison of Conventional SIMD Models and Neural Network Models," Aug. 1994)
51. Y. C. Chehadeh (MS CMPEN, Penn State, "Application of Parallel Disks for Efficient Handling of Object-Oriented Databases," May 1993)
52. J. Lim (MS CMPEN, Penn State, "Partitioning Dataflow Graphs in a Dynamic Dataflow Environment," May 1993)
53. K. Johnson (MS EE, Penn State, "General Purpose Systolic Arrays: A Survey," Dec. 1992)
54. H. Samra (MS CMPEN, Penn State, "Summary Schema - A Model for Multidatabase Systems: A Simulation," May 1992)
55. D. Daskopoulos (MS CMPEN, Penn State, "Optimized Design of Modular VLSI Chips Using Genetic Algorithms: Associative Memories," May 1992)
56. J. Zhu (MS CMPEN, Penn State, "A Multiprocessor Organization for Very Large Relational Database," Dec. 1991)
57. V.D. Padya (MS CMPEN, Penn State, "A Filter RISC Processor for Database Applications," Dec. 1991)

58. K. Kern (MS CMPEN, Penn State, "Classification of Acoustic Laser Weld Emissions using Neural Networks," May 1991)
59. P. Miller (MS CMPEN, Penn State, "Fault-Tolerant Associative Chip," Dec. 1990)
60. P.H. Hettmansperger (MS CMPEN, "The Effect of Incomplete Information on Database Operations: Development and Simulation of Join Algorithms," Aug. 1990)
61. B. Einfalt (MS CMPEN, Penn State, "Distributed Processing System Using a VME/VSB Bus," Dec. 1989)
62. J. Jin (MS CMPEN, Penn State, "Optical Technology," Dec. 1988)
63. J.B. Cheng (MS CMPEN, Penn State, "Analysis of a Text Searcher Based on Parallel Finite State Automaton," July 1988)
64. Y.G. Lee (MS CMPEN, Penn State, "Comparative Analysis of Database Machines," July 1988)
65. P.D. Misra (MS CMPEN, Penn State, "A Study of the Effect of Buffer Management Algorithms on the Cost of Recovery Handling Database Systems," March 1988)
66. C.R. Petrie (MS CMPEN, Penn State, "VLSI Join Module," Dec. 1987)
67. F.M. Lai (MS CS, University of Oklahoma, "The Security Enforcement Mechanism in a Backend Database Machine," May 1985)
68. Y.P. Liou (MS CS, University of Oklahoma, "Modification to a Pipeline Multiplier Unit," May 1984)
69. S.M. Fu (MS CS, University of Oklahoma, "Modification and Implementation of the Query Language ASL," Dec. 1983)

#### UNDERGRADUATE THESES SUPERVISED

1. G. Jahn, (BS CMPEN, Penn State, "Penn Mobile," May 2006)
2. J. Ghaznavi, (BS CMPEN, Penn State, "Data Broadcasting In a Mobile Environment Using Object Duplication Algorithm," Dec. 2005)
3. N. Orchowski, (BS CMPSC, Penn State, "Retrieval Algorithms for Mobile Computing on Parallel Air Channels," Dec. 2003)
4. S. Whiteman, (BS CMPSC, Penn State, "A New Algorithm for Scheduling DOACROSS Loops on Super Scalar Machines," May 2002)
5. E. Rose, (BS CMPSC, Penn State, "Design and Implementation of a Summary-Schemas Model Tree Editor," May 2002)
6. M. Nidel, (BS CMPSC, Penn State, "An Approach to using Interactive Multimedia to Teach Computer Architecture Concepts," May 2000)
7. J. Juran, (BS CMPEN, Penn State, "Analyzing Conflicts and Retrieving Requested Objects on Parallel Broadcast Channels," May 2000)
8. K. Bechtold, (BS CMPSC, Penn State, "An Analysis of the Accuracy of a search engine ranking algorithm for Meta-search engines using the Summary Schemas Model," Dec. 2000)
9. F. Racis, (BS CMPEN, Penn State, "Application of Neural Networks in the Processing of Incomplete Databases," May 1993)

10. W.C. Feng, (BS CMPEN, Penn State, "Development and Simulation of Parallel Sort-Merge Base Join Algorithm for Handling Null Values," May 1990, **Awarded Best IEEE BS Thesis**)
11. C. Fan, (BS CMPEN, Penn State, "Simulation of the Integrity Rules in Database Machine ASLM," May 1989, **Awarded Best IEEE BS Thesis**)
12. P. Miller, (BS EE, Penn State, "Comparative Analysis of Super-Computers," Dec. 1989)
13. H. Cummings, (BS ESC, Penn State, "The Simulation of a Parallel Join Module," Dec. 1987)
14. P. Minnucci, (BS EE, Penn State, "Walking Machine Decathalon," Dec. 1987)
15. C.E. Petrillo, (BS ESC, Penn State, "The Simulation of an  $n \times n$  Systolic Multiplier Unit," April 1987)
16. P.H. Hettmansperger, (BS EE, Penn State, "Software for Spectral Dynamics SD375 Digital Signal Processor," May 1987)

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### Books

1. Hurson, A.R., Miller, L.L. and Pakzad, S.H., "Parallel Architectures for Database Systems," *IEEE Computer Society*, 1989.
2. Hurson, A.R., Bright, M.W., and Pakzad, S., "Multidatabase Systems: An Advanced Solution for Global Information Sharing Process," *IEEE Computer Society*, 1993.
3. Miller, L.L., Hurson, A.R., and Pakzad, S., "Parallel Architectures for Data/Knowledge Base Systems," *IEEE Computer Society*, 1994.
4. Shirazi, B., Hurson, A.R., and Kavi, K.M., "Scheduling and load balancing in parallel and distributed systems," *IEEE Computer Society*, 1995.
5. Hurson, A.R. (guest editor), "Parallel, Distributed, and Pervasive Computing," *Advances in Computers*, Vol. 63, 2005.
6. Hurson, A.R. and Sedigh, S., (editors), Dependable and Secure System Engineering, *Advances in Computers*, Vol. 84, Elsevier, 2012.
7. Hurson, A.R., (editor), Green and Sustainable Computing: Part 1, *Advances in Computers*, Vol. 87, Elsevier, 2012.
8. Hurson, A.R. (editor), Green and Sustainable Computing: Part 2, *Advances in Computers*, Vol. 88, Elsevier, 2013.
9. Hurson, A.R. (editor), Connected Computing Environment, *Advances in Computers*, Vol. 90, Elsevier, 2013.
10. Hurson, A.R. (editor), *Advances in Computers*, Vol. 92, Elsevier, 2014.
11. Hurson, A.R. (editor), *Advances in Computers*, Vol. 94, Elsevier, 2014.
12. Hurson, A.R. and Milutinovic, V., (editors), Dataflow Processing, *Advances in Computers*, Vol. 96, Elsevier, 2015.



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2. Hurson, A.R., Miller, L.L., Pakzad, S.H., Eich, M.W. and Shirazi, B., "Parallel Architectures for Database Systems," *Advances in Computers*, Vol. 28, 1989, pp. 107-151.
3. Hurson, A.R., Miller, L.L., Pakzad, S.H. and Cheng, J.B., "Specialized Parallel Architectures for Textual Databases," *Advances in Computers*, Vol. 30, 1990, pp. 1-37.
4. Hurson, A.R. and Bright, M.W., "Multidatabase Systems: An Advanced Concept in Handling Distributed Data," *Advances in Computers*, Vol. 32, 1991, pp. 149-200.
5. Feng, T.Y., Hurson, A.R. and Wu, C.L., "Parallel Computing Systems," *Computer Engineering Handbook*, McGraw-Hill, Inc., 1992, pp. 16.1-16.30.
6. Lee, B. and Hurson, A.R., "Issues in Dataflow Computing," *Advances in Computers*, Vol. 37, 1993, pp. 258-333.
7. Hurson, A.R., Bright, M.W., "Object-Oriented Multidatabase Systems," *Object-Oriented Multidatabase Systems*, Bukhres and Elmagarmid, editors, Prentice Hall, 1996, pp. 1-36.
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9. Kavi, K.M., Lee, B., and Hurson, A.R., "Multithreaded Systems," *Advances in Computers*, Vol. 46, 1998, pp. 287-327.
10. Lim, J.B., Hurson, A.R., "Heterogeneous Data Access in a Mobile Environment Issues and Solutions," *Advances in Computers*, Vol. 48, 1999, pp. 119-178.
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12. Segun, K., Hurson, A.R., Desai, V., Spink, A., and Miller, L.L., "Transaction Management in a Mobile Data Access System," *Annual Review of Scalable Computing*, Vol. 3, 2001, pp.85-147.
13. Sustersic, J., and Hurson A.R., "Coherence Protocols for Bus-based and Scalable Multiprocessors, Internet, and Wireless Distributed Computing Environment: A Survey," *Advances in Computers*, Vol. 59, 2003 pp. 211-278.
14. Hurson, A.R., Ploskonka, J., Jiao, Y., and Haridas, H., "Security issues and Solutions in Distributed heterogeneous Mobile Database Systems," *Advances in Computers*, Vol. 61, 2004, pp. 107-198.
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16. Hurson, A.R. and Yang, B., "Multimedia Content Representation Technologies," *Encyclopedia of Multimedia Technology and Networking*, 2005, pp. 687-695.
17. Jiao, Y., and Hurson, A.R., "MAMDAS A Mobile Agent-Based Secure Mobile Data Access System Framework," *Advanced Topics in Database Research*, Vol. 5, 2006, pp. 320-347.
18. Hurson, A.R., Jiao, Y., and Shirazi, B., "Broadcasting a Means to Disseminate Public Data in a Wireless Environment Issues and Solutions," *Advances in Computers*, Vol. 67, 2006, pp.1-85.

19. Jiao, Y., Hurson, A.R., and Potok, T., "Mobile Agent-Based Information Systems and Security," *Encyclopedia of Information Science and Technology*, 2nd Edition, 2006.
20. Yang, B., and Hurson, A.R., "Mobile Multimedia: Representation, Indexing, and Retrieval," *Mobile Multimedia: Communication Engineering Perspective*. Nova Science Publishers, 2006, pp. 157-195.
21. Jiao, Y., Hurson, A.R., Potok, T.E., and Beckerman, B.G., "Integrating Mobile-Based Systems with Health Care Databases," *Web Mobile-Based Applications for Healthcare Management*, Chapter 9, 2007, pp. 197-225.
22. Hurson, A.R., and Kavi, K., "Dataflow Processing," *Encyclopedia of Computer Science & Engineering*. John Wiley & Sons, 2008.
23. Hurson, A.R. and Gao, X., "Location Based Services," *Encyclopedia of Information Science and Technology*, 2008.
24. Wenstrom, M., Bentivegna, E., and Hurson, A.R., "Balancing Transparency, Efficiency and Security in Pervasive Systems," *Advances in Computers*, Vol. 73, pp. 99-159, 2008.
25. Kavi, K., Akl, R., and Hurson, A.R., "Real Time Systems," *Encyclopedia of Computer Science & Engineering*, John Wiley & Sons, 2008.
26. Lim, J.B., Hurson, A.R., and Jiao, Y., "Transaction Processing in Mobile, Heterogeneous Database Systems," *Encyclopedia of Computer Science & Engineering*. John Wiley & Sons, Vol. 5, 2009, pp. 2922-2930.
27. Hurson, A.R., Jean, E., Gao, X., Ongtang, M., Jiao, Y., and Potok, T.E., "Recent Advances in Mobile Agent-Oriented Applications," *When Computational Intelligence Meets Mobile Paradigm*. John Wiley & Sons, 2009, Chapter 6, pp. 106-139.
28. Sedigh, S., Hurson, A.R., and Shirazi, B., "Tools and techniques for interoperability and dynamic reconfiguration of pervasive systems," M. Denko and M. S. Obaidat, editors, *Pervasive Computing and Networking*. John Wiley & Sons, 2011.
29. Wagner, C.S., Sedigh, S., Hurson, A.R., and Shirazi, B., "A Survey of Techniques for Improving Search Engine Scalability Through Profiling, Prediction, and Prefetching of Query Results," Samee U. Khan, Lizhe Wang, and Albert Y. Zomaya, editors, *Scalable Computing and Communications: Theory and practice*. John Wiley & Sons, 2013.
30. White S., Sedigh S., and Hurson A.R., "Security Concepts for Cloud Computing," K. X. Yang and L. Liu, editors, *Principles, Methodology, and Service Oriented Approaches for Cloud Computing*. IGI Global, 2013, pp. 116-142.
31. Lin, J., Sedigh, S., and Hurson, A.R. "Knowledge Management for Fault-Tolerant Water Distribution," Albert Zomaya and Hamid Sarbazi-Azad, editors, *Large Scale Network Centric Computing Systems*. John Wiley & Sons, 2013.
32. Elmehdwi, Y., Jiang, W., and Hurson, A.R., "Similarity of Private Keyword Search over Encrypted Document Collection," *Advances in Computers*, 2014.
33. Morrow, T., Sedigh Sarvestani, S. and Hurson, A.R., "PERCEPOLIS: Cyberinfrastructure for Personalized Education," E. Railean, G. Walker, L. Jackson and A. Elci , editors, *Encyclopedia of Applied Learning Theory and Design in Modern Education*. IGI Global, 2015, to appear.
34. Woodard, M., Sedigh Sarvestani, S., and Hurson, A.R., "Propagation of Corrupted Data in Critical Infrastructure Cyber-Physical Systems: A Research Survey," *Advances in Computers*. Elsevier, 2015, to appear.

## Journals and Conference Proceedings

1. Marashi, K., Sedigh Sarvestani, S. and Hurson, A. R., "Quantifying the detrimental effect of interdependency on reliability of cyber-physical systems." submitted to the 48th Annual Hawaii International Conference on System Sciences (HICSS 2015).
2. Wagner, C.S., Sedigh Sarvestani, S., and Hurson, A.R., "Proactive Search: Using Outcome-Based Dynamic Nearest-Neighbor Recommendation Algorithms to Increase Search Engine Efficacy," *ACM Transactions on Information Systems*, under review.
3. Wisely, M., Sedigh Sarvestani, S., and Hurson, A.R., "Public Data Dissemination via Broadcasting," *Journal of Information Processing*, 2015, invited, to appear.
4. Wagner, C.S., Sedigh Sarvestani, S., and Hurson, A.R., "Using Dynamic Outcome-Based Models to Improve Predictive Search," *Journal of Information Processing*, 2014, invited.
5. Heendaliya, L., Lin, Dan, and Hurson, A.R., "Predicting Traffic On-The-Go," *Transactions on Large-Scale Data and Knowledge Control Systems*, 2014.
6. Sashi, G., Lin, D., Jiang, W., Hurson, A., and Zhang, R., "Traffic Information Publication with Privacy Preservation." *ACM Transactions on Intelligent Systems and Technology*, 2013.
7. Marashi K., Woodard M., Sedigh Sarvestani, S., and Hurson A., "Modeling and Analysis of Dependent Failures in Cyber-Physical Systems." *Risk Management for Complex Socio-technical Systems*, 2013.
8. Heendaliya, L., Lin, Dan, and Hurson, A.R., "Continuous Predictive Line Queries under Road-Network Constraints." *International Conference on Database and Expert Systems Applications*, August 2013.
9. Wagner, C. Shaun, Sedigh, Sahra, and Hurson, A.R., "Outcome-Based Dynamic k-Nearest Neighbors Models for Search Engine Prediction." *International Conference on Similarity Search and Applications (SISAP)*, 2013.
10. Zhi Xu, Hsu Hungyuan, Chen Xin, Zhu Sencun, and Hurson, A.R., "AK-PPM: An Authenticated Packet Attribution Scheme for Mobile Ad Hoc Networks." *Symposium on Research in Attacks, Intrusions, and Defenses (RAID12)*, 2012.
11. Bahmani, A., Sedigh, S., and Hurson, A.R., "Ontology-based recommendation algorithms for personalized education." *International Conference on Database and Expert Systems Applications*, 2012.
12. Heendaliya, L., Lin, Dan, and Hurson, A.R., "Predictive Line Queries for Traffic Prediction." *Journal of Transactions on Large-Scale Data- and Knowledge-Centered Systems*, special issue, 2012.
13. Lin, J., Sedigh, S., and Hurson A.R., "Ontologies and Decision Support for Failure Mitigation in Intelligent Water Distribution Networks." *Hawaii International Conference on System Sciences*, 2012.
14. Gunasekaran, A., Chulick, P., Sedigh, S., and Hurson A.R., "Military Standard Sensor Nodes for the SmartBrick Structural Health Monitoring Platform." *International Workshop on Structural Health Monitoring*, Stanford, CA, 2011, pp. 2115-2122.
15. Bahmani, A., Sedigh, S., and Hurson, A.R., "Context-Aware Recommendation Algorithms for the PERCEPOLIS Personalized Education Platform," *Frontiers in Education Conference*, October 2011.

16. Heendaliya, L., Lin, D., and Hurson, A.R., "Optimizing Predictive Queries on Moving Objects under Road-network Constraints," International Conference on Database and Expert Systems Applications, August 2011, Vol. 1, pp. 247-261.
17. Parthasarathy, R., Shirazi, B., Peterson, N., Song, W., and Hurson, A.R., "Management and Security of Remote Sensor Networks in Hazardous Environments using Over the Air Programming," *Journal of Information Systems and e-Business*, special issue on CSIIR, 2011.
18. Lin, J., Sedigh, S., and Hurson, A.R., "An Agent-Based Approach to Reconciling Data Heterogeneity in Cyber-Physical Systems," HCW, 2011.
19. Hurson, A. R., Sedigh, S., Shirazi, B., and Miller, L., "Enriching STEM Education through Personalization and Teaching Collaboration," Invited Paper, PerEL, March 2011, Seattle, WA.
20. Jean, E., Rauschert, I., Collins, R., Hurson, A.R., Sedigh, S., and Jiao, Y., "RISN: An Efficient Sensor Network Overlay With Support For Autonomous And Distributed Applications," *International Journal of Communications, Network and System Sciences*, Vol. 4, No. 1, pp. 1-16, 2011.
21. Jean, E., Collins, R., Hurson, A.R., Sedigh, S., and Jiao, Y., "RISN: An efficient, dynamically tasked and interoperable sensor network overlay." In Proceedings of the 8th IEEE International Conference on Embedded and Ubiquitous Computing (EUC-10), Hong Kong, Dec. 2010.
22. Hurson A.R. and Sedigh S., "PERCEPOLIS: Pervasive cyber-infrastructure for personalized learning and instructional support." *Intelligent Information Management*, Vol. 2, No. 10, pp. 583-593, 2010.
23. Hurson, A.R., and Sedigh, S., "Transforming the Instruction of Introductory Computing to Engineering Students." Transforming Engineering Education Conference, Dublin, Ireland, 2010.
24. Lin D., Gurung S., Jiang, W., and Hurson, A., "Privacy-Preserving Location Publishing under Road-Network Constraints," 15th International Conference on Database Systems for Advanced Applications (DASFAA), 2010.
25. Hsu H.-Y., Zhu, S., and Hurson, A.R., "A Hotspot-based Protocol for Attack Traceback in Mobile Ad Hoc Networks" 5th ACM Symposium on Information, Computer and Communication Security, 2010.
26. Parthasarathy, R., Peterson, N., Shirazi, B., Song, W., and Hurson, A.R., "Over the Air Programming on Imote2-based Sensor Networks," Hawaii International Conference on System Sciences, 2010.
27. Hurson, A.R., and Sedigh, S., "A pervasive computing platform for individualized higher education," In Proceedings of the International Conference on Computational Intelligence and Software Engineering (CiSE '09), Wuhan, China, Dec. 2009.
28. Sedigh S., and Hurson. A.R., "A pervasive framework for customizing course content to student needs," Proceedings of the 1st National Academy of Engineering Frontiers of Engineering Education (FOEE) Symposium, Nov. 2009.
29. Tangpong A., Kesidis G., Hsu Hung-yuan, and Hurson, A.R., "Robust Sybil Detection for MANETs," ICCCN 2009.
30. Jean E., Collins, R.T., Hurson, A.R., Sedigh, S., and Jiao, Y., "Pushing Sensor Network Computation to the Edge," Wicom 2009.

31. Peterson N., Anusuya-Rangappa L., Shirazi B., Huang R., Song W.-Z., Miceli M., McBride D., Hurson A.R., LaHusen R., "TinyOS-based Quality of Service Management in Wireless Sensor Networks," Hawaii International Conference on System Sciences, 2009.
32. Ongtang M., Hurson A.R., Jiao Y., "Agent-based Infrastructure for Data and Transaction Management in Mobile Heterogeneous Environment," International Conference on Communications and Mobile Computing, 2009.
33. Hsu Hung-Yuan and Hurson, A.R., "Secure Virtual Backbone-based Power Management for Ad Hoc Networks," IEEE Globecom 2008.
34. Du F., Jiao Y., Jean E., and Hurson A.R., "Cooperative Caching on Location Aware Query Proxy," International Conference on Computer Science and Software Engineering, pp. 576-581, 2008.
35. Kavi K., Li W., and Hurson, A.R., "A Non-Blocking Multithreaded Architecture with Support for Speculative Threads," International Conference on Algorithms, Architecture, and Application of Parallel Processing, Lecture Notes in Computer Science, Volume 5022/2008.
36. Ongtang M., Hurson A.R., Jiao Y., "Transactional Agents for Pervasive Computing," IEEE Symposium on Computers and Communications, 2008.
37. Jean, E., Jiao, Y., and Hurson, A.R., "Addressing mobile agent security through agent collaboration." *Journal of Information Processing Systems*, Vol. 3, No. 2, pp. 43-53, 2008.
38. Jean, E., Gao, X., Ongtang, M., Hurson, A.R., "Web-based Service Exchange System for Agents and Humans Alike," Hawaii International Conference on System Sciences, 2008.
39. Kumar, V., Rao, P., Hurson, A.R., and Madria, S., "Management of Sensor Networks via Graph Mining," Innovations and Real-Time Applications for Distributed Sensor Networks (IADSN2007), 2007.
40. Jean, E., Jiao, Y., Hurson, A.R., and Kumar, V., "Pushing Sensor Network Computation to the Edge while Enabling Inter-Network Operability and Securing Agents," Innovations and Real-Time Applications for Distributed Sensor Networks (IADSN2007), 2007.
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42. Jean, E., Jiao, Y., Hurson, A.R., and Potok, T.E., "Boosting-based Distributed and Adaptive Security-Monitoring through Agent Collaboration," Agents and Data Mining Interaction (ADMI2007), 2007.
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44. Dalakoti, A., Picone, N., Shirazi, B.A., Song, W.-Z., Hurson, A.R., "Priority-based network quality of service," Joint Conference on Information Sciences, 2007.
45. Ongtang M., Hurson A.R., Jiao Y., and Potok T.E., "Agent-based Transaction Management for Mobile Multidatabase," IEEE International Conference on Wireless and Mobile Computing, Networking and Communications, 2007.
46. Gao, X., Hurson, A.R., and Kavi K., "Estimate Validity Regions for Nearest Neighbor Queries," ICS07.

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48. Jiao, Y. and Hurson, A.R., "Energy-Efficient Wireless Information Retrieval," *Journal of Computer and System Sciences*, Special issue on Network-Based Computing, Vol. 73, No. 3, pp. 1145-1163, 2007.
49. Hsu H.-Y., and Hurson, A.R., "PEAN: A Probabilistic Energy Aware Neighbor Monitoring Protocol for Mobile Ad Hoc Networks," IEEE International Symposium on Pervasive Computing and Ad Hoc Communications, PCAP, pp. 201-206, 2007.
50. Jiao, Y., Hurson, A.R., and Shirazi, B., "Adaptive Application-Driven WLAN Power Management," *Journal of Pervasive and Mobile Computing*, Vol. 3, No. 3, pp. 255-275, 2007.
51. Hsu H.-Y., and Hurson, A.R., "LIP: A Lightweight Network Access Restriction Protocol for Preventing Packet Injection Attacks in Mobile Ad-Hoc Network," International Symposium on Systems and Information Security, 2006.
52. Reed, J.W., Jiao, Y., Potok, T.E., Klump, B.A., Elmore, M.T., and Hurson, A.R., "TF-ICF: A New Term Weighting Scheme for Clustering Dynamic Data Streams," International Conference on Machine Learning and Applications, ICMLA 2006, pp. 258-263.
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54. Yang, B., Hurson, A.R., Jiao, Y., and Potok, T.E., "Multimedia Correlation Analysis in Unstructured Peer-to-Peer Networks," IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks, 2006, pp. 332-338.
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#### GRANTS AWARDED

1. The Design of a High-Performance Fault-Tolerant Spaceborne Computer, US Air Force, \$1.8M, Nov. 1985 - Nov. 1987, (Member, Contribution: 10%).
2. A Distributed Backend Database Machine for Very Large Databases, Ben Franklin Challenge Grant, \$34,000, Sept. 1986 - Sept. 1987.
3. A Distributed Backend Database Machine for Very Large Databases. Locus, Inc., \$6,000, Sept. 1986 - Sept. 1987.
4. A Hierarchical Backend Database Machine for Large Databases, Defense Mapping Agency (proposal was accepted, but program was cancelled prior to award).
5. A Fault-Tolerant Distributed Database Machine for Very Large Databases, Ben Franklin Challenge Grant, \$50,150, Sept. 1987 - Sept. 1988.
6. A Fault-Tolerant Distributed Database Machine for Very Large Databases, Supplement to [5], Locus, Inc., \$8,000, Sept. 1987 - Sept. 1988.
7. The Design of Evaluation Tools for High Performance Architectures, US Air Force, \$200,000, May 1987 - May 1988 (Member, Contribution: 10%).
8. Implementation of a CMOS VLSI Associative Chip (Student Fellowship Award), GE, \$15,000, Sept. 1987 - Sept. 1988.
9. Design and Fabrication of a CMOS VLSI Associative Chip, NCR Corp., \$130,000, May 1988 - Sept. 1989.
10. A Reconfigurable Database Machine, Ben Franklin Challenge Grant, \$60,000, Sept. 1988 - Sept. 1989.
11. A Reconfigurable Database Machine, supplement to [10], Locus, Inc., \$28,000, Sept. 1988-Sept. 1989.
12. Parallel Hardware Join Modules (Student Fellowship Award), GE, \$15,000, Sept. 1989 - Sept. 1990.

13. Theta-Search Associative Memory, NCR Corp., \$28,280, May 1989 - June 1990.
14. Engineering Coalition of Schools for Excellence in Education and Leadership, National Science Foundation, \$1.5M, 1990-1992, (Associate Member, Contribution 5%).
15. Life Cycle Improvement by Networking Critical Manufacturing Technologies (LINC), "Applied Research Laboratory," Pennsylvania State University, \$500,000, 1993 - 1994 (Associate Member).
16. Multimedia Courses, Department of Independent Learning, Pennsylvania State University, \$120,000, 1994 - 1997.
17. Multimedia Courses, College of Distance Education, Pennsylvania State University, Supplement to [16] \$15,000, 1995 - 1997.
18. Center for Information Management (CIM), SETA, Defense Information Systems Agency, \$1.9M, 1994-1999, (Associate Member, Contribution 5%).
19. National Information Infrastructure, DARPA, \$1,400,000, 1995-1997.
20. Combined Research-Curriculum Development in Advanced Computation, National Science Foundation, \$367,834, 1994 - 1997 (Associate Member).
21. Application of Cache in Dataflow Processing, National Science Foundation, \$470,018, 1996-2001.
22. Instructional and Research Facilities for High Performance Computing, IBM SUR Program, \$550,000, 1995.
23. Pathways to Effective Learning in Engineering Using Information Technology, General Electric Fund, \$885,685, 1997-1999 (Associate Member).
24. Interoperability in Multidatabases, Lockheed Martin, \$94,890, 1997-2000.
25. Object-Oriented Databases, DOD/Army/Assert, \$75,000, 1998-2001.
26. Intelligent Information Processing in Mobile Data Access Environments, Office of Naval Research, \$300,026, 2002-2005.
27. Pervasively Secure Infrastructures (PSI): Integrating Smart Sensing, Data Mining, Pervasive Networking, and Community Computing, NSF/ITR, \$2,220,076, 2003-2011 (Co-PI).
28. Information and System Assurance for Critical Infrastructure, Department of Education, \$524,331, 2010-2012.
29. Investigation of High-Dimensional Numerical Integration Algorithms, Oak Ridge National Laboratory, \$55,312, 2010-2011.
30. Monitoring and Supervising the CS program at Mazoon College, Oman, \$30,000, 2008-2011.
31. Monitoring and Supervising the CS program at GUST University, Kuwait, \$30,000, 2011.
32. International Affiliation Agreement between Mazoon College and Missouri University of Science and Technology, \$600,000, 2012-2015.
33. Quantitative Modeling of Failure Propagation in Intelligent Transportation Systems, US Department of Transportation, \$32,000, 2013-2015.
34. Public Data Dissemination via Broadcasting, \$24,000, Missouri S&T, 2014-2015.
35. MASTER: Missouri Advanced Security Training, Education, and Research, National Science Foundation, \$3,001,744, 2014-2018.