

## Curriculum Vitae

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## 1 CAREER HIGHLIGHTS

World-renowned researcher in mobile computing and the Internet of Things, with special focus on smart homes, smart spaces, smart health and well being, and assistive technology in support of personal health, aging, disabilities, and independence.

Highly successful grant applicant, securing (as PI or Co-PI) 41 grants worth over US\$10.3 million (not counting equipment grants), including two multi-million-dollar grants and 11 \$100,000+ grants, from the National Science Foundation, National Institutes of Health, National Institute on Disability and Rehabilitation Research (NIDRR), DARPA, the US Special Operation Command, IBM, Motorola, Harris Corp., Microsoft Research, Citrix Systems, Sun Microsystems, Nokia Research Labs, Tekes (Finland), and Korea's Electronics and Telecommunication Research Institute. He has funded, supervised, and graduated 20 PhD students and 58 Masters students.

Cofounder and director of the Gator Tech Smart House, an experimental facility for applied research development and validation in the domains of elder care and health telematics.

Technology Director of the NIDRR-funded Rehabilitation Engineering Research Center on Successful Aging (RERC-Aging).

Fifteen patent applications and nine issued patents leading to creation of emerging technologies in mobile computing, smart health, and the emerging Internet of Things.

Editor-in-Chief of *Computer*, the IEEE Computer Society's flagship publication, 2015–present; Associate EIC of *Computer* 2009–2014.

Founding editorial board member of *IEEE Pervasive Computing* magazine.

Organized 26 conferences/workshops as Program/General Chair/Cochair; one of the very few who have chaired both ACM Ubicomp (2009) and ACM MobiCom (2013), the premier international conferences on ubiquitous computing and mobile computing, respectively.

Gave more than two dozen keynotes in prestigious conferences around the world. Gave invited talks at top research centers (Microsoft Research Redmond, Microsoft Research Beijing, Nokia Research Labs, Motorola Research, IBM TJ Watson Research Labs, GE Global Research Labs, Bell Labs, ETRI, Korea, and Europe's EIT Digital) and in universities' distinguished lecture series (e.g., Peking Univ., Univ. of Minnesota, Queens Univ., Canada, and Singapore Management Univ.)

Published over 290 books, book chapters, journal/transactions articles, and conference and workshop articles.

Elevated to the IEEE Fellow rank in January 2015.

Elected to the IEEE Computer Society Board of Governors (BoG), 2017-2019.

Founded/cofounded four companies: Phoneomena Inc., one of the earliest mobile application and middleware companies, Pervasa Inc., focused on IoT platform and middleware products, Spaceify Oy, middleware and tools for programming smart spaces, and MobiltyWorkx LLC, focused on licensing of LTE related IP.

Substantial media coverage, including the *New York Times* and the March 2010 cover feature of *Florida Trends Magazine*, Florida's premier business and technology magazine.

## 2 EDUCATION

- PhD: Computer Sciences, Purdue University, West Lafayette, Indiana, 1991
- MSc: Computer Sciences, Purdue University, West Lafayette, Indiana, 1989
- ME: Computer Engineering & Automatic Control, Alexandria University, Alexandria, Egypt, 1985
- BE: Computer Engineering & Automatic Control, Alexandria University, Alexandria, Egypt, 1982 (Summa Cum Laude)

## 3 PROFESSIONAL EXPERIENCE

**2004–Present.** Full Professor, Department of Computer and Information Science and Engineering, University of Florida, Gainesville, Florida ([www.cise.ufl.edu/~helal](http://www.cise.ufl.edu/~helal))

**2015–Present.** Cofounder, Spaceify Oy, middleware and tools for developing smart spaces

**2014–2014.** ISA Senior Visiting Fellow, University of Bologna, Institute of Advanced Studies

**2011–2013.** Finland Distinguished Professor (FiDiPro), Aalto University and EIT Digital, Smart Space Thematic Action Line, Finland ([www.fidipro.fi](http://www.fidipro.fi))

**2006–2011.** Founder and CEO, Pervasa Inc. ([www.pervasa.com](http://www.pervasa.com)), a sensor integration/pervasive middleware technology company (winner, Best of Sensors Expo Silver Award, 2007)

**2005–Present.** Cofounder and Director of the Gator Tech Smart House, University of Florida ([www.icta.ufl.edu/gt.htm](http://www.icta.ufl.edu/gt.htm))

**2000–Present.** Director of the Mobile and Pervasive Computing and Networking Laboratory, University of Florida ([www.icta.ufl.edu](http://www.icta.ufl.edu))

**2002–2007.** Founder and CEO, Phoneomena Inc. ([www.phoneomena.com](http://www.phoneomena.com)), one of the earliest mobile middleware and applications companies

**2001–2007.** Technology Director, Rehabilitation Engineering Research Center on Successful Aging (RERC-Aging), University of Florida; funded by National Institute on Disability and Rehabilitation Research

**2001–2004.** Tenured Associate Professor, Computer and Information Science and Engineering Department, University of Florida, Gainesville, Florida

**1998–2001.** Associate Professor, Computer and Information Science and Engineering Department, University of Florida, Gainesville, Florida

**2000–2000.** Academic Visitor, IBM T.J. Watson Research Center, Hawthorne, NY

**1996–1998.** Member of the Technical Staff, Microelectronics and Computer Technology Corporation (MCC), Austin, Texas

**1995–1996.** Visiting Assistant Professor of Computer Science, Department of Computer Sciences, Purdue University, West Lafayette, Indiana

**1991–1995.** Assistant Professor, Computer Science Engineering Department, University of Texas at Arlington, Arlington, Texas

**1994–1994.** Visiting Researcher, Hughes Research Laboratory, Malibu, California

**1989–1991.** David Ross Research Fellow, Department of Computer Sciences, Purdue University, West Lafayette, Indiana

**1987–1989.** Purdue University Research Fellow, Department of Computer Sciences, Purdue University, West Lafayette, Indiana

**1987–1987.** Teaching Assistant, Department of Computer Sciences, Purdue University, West Lafayette, Indiana

**1982–1985.** Lecturer, Department of Computer Science and Automatic Control, College of Engineering, Alexandria University, Alexandria, Egypt

## 4 AWARDS AND HONORS

- IEEE Fellow. Elevated to the Fellow rank Jan 2015.
- Elected to the IEEE Computer Society Board of Governors (BoG), 2017-2019.
- ACM Recognition of Outstanding Service Award for contributions to ACM as chair of the 19th Annual International Conference on Mobile Computing and Networking (MobiCom), 2013
- Finland Distinguished Professor (FiDiPro) 2011–2013. Only a handful of international scholars from all fields of science and engineering are awarded FiDiPro annually
- University of Bologna Senior Visiting Fellowship, Institute of Advanced Studies, Jan–Feb 2014
- IEEE Outstanding Leadership Award for outstanding leadership and services to the IEEE Ubiquitous and Intelligent Computing Conference, 2012
- University of Florida Technology Innovator of the Year award, recognizing faculty with successfully licensed IP, 2011
- Best Paper Award to C. Chen, Y. Xu, K. Li, and A. Helal, "Reactive Programming Optimizations in Pervasive Systems," *Proceedings of the IEEE/IPSJ Symposium on Applications and the Internet*, 2010
- Information Processing Society of Japan Certificate of Appreciation for distinguished service to the IPSJ/IEEE Symposium on Applications and the Internet, 2010

- Best Paper Award to C. Chen and A. Helal, "Device Integration in SODA Using the Device Description Language," *Proceedings of the IEEE/IPSJ Symposium on Applications and the Internet*, 2009
- ACM Recognition of Outstanding Service Award for contributions to ACM as chair of the 11th International Conference on Ubiquitous Computing (UbiComp), 2009
- IEEE Computer Society Certificate of Appreciation for outstanding service and contributions to the COMPSAC 2009 Conference
- IEEE Computer Society Certificate of Appreciation for service on the 2009 Chapters Activities Board
- Best of SensorExpo Silver Award to Pervasa Inc., founded by Dr. Helal, for the Atlas Sensor Integration Platform, 2007
- IEEE Computer Society Certificate of Appreciation for achievements as general chair of IEEE International Performance, Computing and Communication Conference (IPCCC), 2002
- David Ross Fellowship Recipient, Purdue University, 1989–1991
- Purdue Foundation Fellowship Recipient, 1987–1989
- Alexandria University Model Student award, May 1982

## 5 AREAS OF RESEARCH

Current research focuses on **healthcare engineering** and **assistive technology** (personal health, successful aging, persuasive interactions and patient empowerment, and assistive technologies for the blind and hearing impaired); **Smart Spaces** (new technological enablers, architectures, ecosystems, intelligent interactions, and real-world deployments); and the **Internet of Things** (IoT programming models and ecosystem, scalable cloud-sensor architectures for smart cities, and city-scale IoT optimizations).

- **Internet of Things, Pervasive Computing, Smart Spaces & Cloud-Sensor Systems:**

Fundamental systems research on programmable pervasive spaces (sensor/actuator-based systems)

Atlas sensor platform and middleware project: architectures, middleware, programming models including safety-oriented models, device description language (DDL), service-oriented device architectures (SODAs), self-integration mechanisms

Self-sensing spaces (real-world modeling)

Programmable and scalable knowledge-based human activity recognition

Context-driven simulation of human activities in pervasive spaces

Scalable cloud-sensor architectures and energy optimization for city-scale IoT

IoT programming models, Thing architectures, and IoT device management

- **Smart and Connected Health, Successful Aging, and Assistive Technology:**

Smart homes, health telematics and connected health. Specifically, the Gator Tech Smart House, a real-life smart space deployment for developing and validating sensor- and device-based assistive technologies in support of aging, disability, and independence.

Participatory Telehealth. Specifically, the Stepstone open source telehealth system jointly developed with IBM (with emphasis on obesity and diabetes).

Persuasive telehealth and patient empowerment. The Action-Behavior cyber-persuasion model, Access Tree algorithm for patient compliance assessment, the Cicero mobile persuasion development middleware

Unencumbered indoor location tracking (smart floor), indoor/outdoor blind-pedestrian positioning and navigation on campus environments, cognitive assistants for elderly with dementia and for children with MPS disease

- **Mobile Computing:**

Mobile computing models including adaptations of wireless thin client and mobile caching and cache invalidation

Ubiquitous data access (protocols and algorithms for “any data on any device” concept with implementation using the CODA system)

Mobile transactions models

Mobile ad hoc collaboration groupware

Protocols and systems for ad hoc service discovery (Konark)

Adaptive mobile video delivery

Power-aware mobile computing through computational outsourcing

- **Mobile Networking:**

Ghost IP – network protocols for robust rapid mobility

RAMON – rapid mobility network emulator

Inter-layer collaboration model for wireless transport protocols

Mobile service discovery (the uJini project and Context Attributes protocols)

- **Distributed and Internet Computing:**

Almost-zero-infrastructure mobile agents (aZiMa)

User-level information fusion using Web services

Self-organizing Information agent communities

Web services and workflows

Data replication protocols in distributed systems (doctoral research)

## 6 CONTRACTS AND GRANTS

(Percentages in parentheses show grant amounts dedicated to and managed by Dr. Helal.)

1. Equipment grant. Awarded the 2016 Google Internet of Things (IoT) Technology Research Award Pilot equipment grant. Awarded March 2016.
2. \$46,000, "Harris Mobile Computing Lab and Fellowship" (Principal Investigator), Harris Corporation, Dec 2014. (100%)
3. \$20,000, "Mobile Computing and Networking 2013 Student Travel Grant" (Principal Investigator), National Science Foundation, July 2013 – May 2014. (100%)
4. \$875,568, "Smart Spaces: Critical Software Enablers for Real-World Deployments" (Co-Principal Investigator and FiDiPro Recipient), a FiDiPro grant by Tekes, the Finnish Funding Agency for Innovation, Finland, May 2011 – May 2014. (25%)
5. \$10,000, "Investigating Mobile Device Interoperability with Smart Homes for Improving Resident Quality of Life" (Principal Investigator), Nokia Research Center, Palo Alto, CA, Oct 2009 – Oct 2010. (100%)
6. \$20,000, "Ubiquitous Computing 2009 Doctoral Colloquium" (Principal Investigator), National Science Foundation, Sept 2009 – May 2010. (100%)
7. \$80,000, "A Sentient User Interface Framework for RUPI (Robot Unified Platform Initiative) Server" (Principal Investigator), Electronics and Telecommunication Research Institute (ETRI), Korea, Mar 2008 – Mar 2009. (100%)
8. \$1,189,075, "Smart House Based Health Platform for Behavioral Monitoring and Alteration for Diabetic and Obese Individuals" (Principal Investigator), National Institutes of Health, National Institute on Drug Abuse, Sept 2007 – Aug 2012. (82%)
9. \$100,000, "Programmable Sensor Framework for a Ubiquitous Robotic Companion, Year 2" (Principal Investigator), ETRI, Korea, Apr 2007 – Apr 2008. (100%)
10. \$67,062, "An Implementation of the SODA Architecture Using ATLAS" (Principal Investigator), IBM Emerging Standards Division, Mar 2007 – Mar 2008. (100%)
11. \$40,219, "Programmable Sensor Framework for a Ubiquitous Robotic Companion, Year 1" (Principal Investigator), ETRI, Korea, Sept 2006 – Mar 2007. (100%)
12. \$10,000, "Gator Tech Smart House" (Principal Investigator), University of Florida Foundation, Jan 2005. (100%)
13. \$200,000, "RDE-FRI: Indoor/Outdoor Blind Navigation and Awareness System for Blind Students" (Principal Investigator), National Science Foundation, Aug 2004 – July 2007. (100%)
14. \$4,500,000, "Rehabilitation Engineering Research Center (RERC) National Center on Technology for Successful Aging" (Co-Principal Investigator and Center Director for Technology Development), Department of Education, Oct 2001 – Sept 2006. (30%)
15. \$750,000, "Interdisciplinary Rehabilitation Research Postdoctoral Program" (Co-Principal Investigator), National Institute on Disability and Rehabilitation Research, Aug 2002 – July 2007. (25%)



16. \$700,000, "Low ADL Patient Technology in Home Care Demonstration" (Co-Principal Investigator), Department of Veteran Affairs, July 2002 – June 2004. (15%)
17. \$54,000, "Workshop on Aging, Disability and Independence" (Principal Investigator), National Science Foundation, June 2003-May 2004. (100%)
18. \$4,000, "Pervasive Computing Research for Elder Needs—Dementia" (Principal Investigator), Intel Research. July 2003, Cash donation. (100%)
19. \$20,046, "Mobile Computing Killer App Competition III" (Principal Investigator), Motorola, Oct 2002 - Oct 2003. (100%)
20. \$15,000, "Mobile and Wireless Remote Camera Control System" (Principal Investigator), USSOCOM and Battelle, Aug 2001–May 2002. (100%)
21. \$150,000, "Adaptive Synchronization Framework Supporting Device-independent Mobile Computing" (Principal Investigator), National Science Foundation, June 2001 – May 2003. (60%)
22. \$21,080, "Mobile Computing Killer App Competition II" (Principal Investigator), Motorola, May 2002 – May 2003. (100%)
23. \$70,000, "Mobile Computing Research" (Principal Investigator), Microsoft Corporation, Mar 2001, Cash donation. (100%)
24. \$21,987, "Mobile Computing Killer App Competition I" (Principal Investigator), Motorola, May 2001 – May 2002. Includes IDC to UF. (100%)
25. \$15,000, "Mobile 3-D Navigation System" (Principal Investigator), Harris Corporation, Aug 2000 to May 2001. (100%)
26. \$82,979, "The JiniDEN Smart Phone Project" (Principal Investigator), Motorola Corporation, May 2000 to May 2001. (100%)
27. \$73,150, "Exploiting Jini Technology for Ubiquitous Computing" (Principal Investigator), Equipment Grant from Sun Microsystems, Jan 2000. (100%)
28. \$25,000, "Mobile Computing Research" (Principal Investigator), Microsoft Corporation, Mar 2001, Cash donation. (100%)
29. \$15,000, "Wireless Navigation System for the Blind" (Principal Investigator), Microsoft Corporation, Nov 1999, Cash donation. (100%)
30. \$100,000, "Mobile Computing Laboratory" (Co-Principal Investigator), Harris Corporation. Cash donation for renovation (partially matched by state funds). (100%)
31. \$51,938, "Wireless Thin Client Architecture" (Principal Investigator), Citrix Corporation, May 1999 to May 2000. (100%)
32. \$3,489, "Wireless Classroom Development" (Principal Investigator), Proxim Corporation, Equipment Grant, May 1999. (100%)

33. \$481,639, "Surveillance of Complex Events Using Active Agents" (Co-Principal Investigator and Program Manager), DARPA ITO Planning and Decision Aids Program, June 1997 to Dec 1998. Funded at MCC, Austin, Texas.
34. \$200,000, "Cognitive Integration of Heterogeneous Information Sources" (Co-Principal Investigator), DARPA ITO Intelligent Information Integration (I3) Program, Feb 1997 to Feb 1998. Funded at MCC, Austin, Texas.
35. \$20,015, "Research on Multimedia Databases II" (Principal Investigator), Department of Higher Education of Egypt, Aug 1996 to Aug 1997. Funded at Purdue University. (100%).
36. \$25,430, "Research on Data Warehousing II" (Principal Investigator), Department of Higher Education of Egypt, July 1996 to July 1997. Funded at Purdue University. (100%).
37. \$120,000, "Project Purdue On-Line" (Co-Principal Investigator), IBM Corporation, Jan 1996, Equipment Grant. Funded at Purdue University (10%).
38. \$3,040, "Mobile Transactions" (Principal Investigator), Software Engineering Research Center (SERC), Aug 1995 to May 1996. Funded at Purdue University (100%).
39. \$20,015, "Research on Multimedia Databases I" (Principal Investigator), Department of Higher Education of Egypt, Aug 1995 to Aug 1996. Funded at Purdue University (100%).
40. \$25,430, "Research on Data Warehousing I" (Principal Investigator), Department of Higher Education of Egypt, July 1995 to July 1996. Funded at Purdue University (100%).
41. \$160,061, "Designing Information Services for Mobile Computing Environments" (Principal Investigator), State of Texas Higher Education Coordination Board Advanced Research Program, grant awarded Aug 1995. Funded at the University of Texas at Arlington (70%).
42. \$10,000, "Heterogeneous Transaction Processing" (Principal Investigator), Hughes Aircraft Corporation, Sept 1994 to May 1995. Funded at University of Texas at Arlington (100%).

## 7 PUBLICATIONS

### 7.a Books

1. A. Helal, R. Bose, and W. Li, *Mobile Platforms and Development Environments*, a Synthesis Book, Morgan & Claypool Publishing Company, 2012, ISBN 9781608458660 paperback, 9781608458677 ebook.
2. A. Helal, *The Landscape of Pervasive Computing Standards*, a Synthesis Book, Morgan & Claypool Publishing Company, 2010, ISBN 978-1598299267.
3. A. Helal, B. Haskell, J. Carter, R. Brice, D. Woelk, and M. Rusinkiewicz, *Any Time Anywhere Computing: Mobile Computing Concepts and Technology*, Kluwer Academic Publishers, 1999, ISBN 0-7923-8610-8.
4. A. Cichocki, A. Helal, M. Rusinkiewicz, and D. Woelk, *Workflow and Process Automation: Concepts and Technology*, Kluwer Academic Publishers, 1997, ISBN 0-7923-8099-1.

5. A. Elmagarmid, H. Jiang, A. Helal, A. Joshi, and M. Ahmed, *Video Database Systems: Issues, Products, and Applications*, foreword by Aref Ghafoor, Kluwer Academic Publishers, 1997, ISBN 0-7923-9872-6.
6. A. Helal, A. Heddaya, and B. Bhargava, *Replication Techniques in Distributed Systems*, foreword by Jim Gray, Kluwer Academic Publishers, 1996, ISBN 0-7923-9800-9.

## 7.b Edited Books

1. C. Bodine, A. Helal, G. Tao, and M. Mokhtari, *Smart Homes and Health Telematics*, Lecture Notes in Computer Science 8456, Springer, 2015, ISBN 978-3-319-14423-8.
2. A. Helal, R. Chandra, and R. Kravets (editors), *Proceedings of the ACM 19th Annual International Conference on Mobile Computing & Networking (MobiCom 13)*, ACM, 2013, 978-1-4503-1999-7.
3. A. Helal, H. Gellerson, and S. Consolvo (editors), *Proceedings of the ACM 11th Annual International Conference on Ubiquitous Computing (UbiComp 09)*, ACM, 2009, ISBN 978-1-60558-431-7.
4. A. Helal, M. Mokhtari, and B. Abdulrazak, *The Engineering Handbook of Smart Technology for Aging, Disability, and Independence*, Computer Engineering Series, John Wiley & Sons, 2009, ISBN 978-0-471-71155-1.
5. A. Helal, S. Mitra, J. Wong, C. Chang, and M. Mokhtari, *Smart Homes and Health Telematics*, Lecture Notes in Computer Science 5120, Springer, 2008.
6. W. Mann and A. Helal, *Promoting Independence for Older Persons with Disabilities*, Assistive Technology Research Series, IOS Press, 2006, ISBN 1-58603-587-8.
7. M. Deithelm, A. Helal, D. Long, L. Wilson, and L. Xu, editors, *Proceedings of the 2002 IEEE International Performance, Computing, and Communications Conference*, IEEE, 2002.
8. N. Ullah, H. Clausen, M. Deithelm, N. Malik, A. Helal, and L. Wilson, editors, *Proceedings of the 2001 International Performance, Computing, and Communications Conference*, 2001.
9. J. Agrawal, A. Helal, and Linda Wilson, editors, *Proceedings of the 19th International Performance, Computing, and Communications Conference (IPCCC)*, IEEE Computer Society Press, 2000.
10. A. Joshi and A. Helal, editors, *Proceedings of the 10th International Workshop on Research Issues in Data Engineering (RIDE)*, IEEE Computer Society Press, 2000.
11. H. El-Rewini and A. Helal, editors, *Proceedings of the 33rd Hawaii International Conference on System Sciences*, IEEE Computer Society Press, 2000.
12. A. Helal and K. Aberer, editors, *Proceedings of the First IFCIS International Conference on Cooperative Information Systems (CoopIS)*, IEEE Computer Society Press, 1996.

### 7.c Book Chapters

1. A. Helal, J. King, H. Zabadani, and Y Kaddourah, "Assistive Environments for Successful Aging," in *Advanced Intelligent Environments*, A. Kameas, V. Callagan, H. Hagraas, M. Weber and W. Minker, editors, Springer Verlag, 2009, DOI 10.1007/978-0-387-76485-6\_1, pp. 1–26.
2. H. Yang, R. Bose, A. Helal, J. Xia, and C. Chang, "Fault-Resilient Pervasive Service Composition," *Advanced Intelligent Environments*, A. Kameas, V. Callagan, H. Hagraas, M. Weber and W. Minker, editors, Springer Verlag, 2009, DOI 10.1007/978-0-387-76485-6\_9, pp. 195–223.
3. W. Mann and A. Helal, "Technology and Chronic Conditions in Later Years: Reasons for New Hope," *New Dynamics in Old Age—Individual, Environmental and Societal Perspectives*, H.-W. Wahl, C. Tesch-Romer, and A. Hoff, editors, Baywood Publishing Company, 2007, ISBN 0-89503-322-4.
4. A. Helal and C. Lee, "Pervasive Computing," *The Practical Handbook of Internet Computing*, M. Singh, editor, Chapman & Hall/CRC Computer and Information Science Series, CRC Press, 2005, ISBN 1-58488-381-2, pp. 37-1 – 37-14.
5. A. Helal, W. Mann, and C. Lee, "Assistive Environments for Individuals with Special Needs," *Smart Environments*, D. Cook and S. Das, editors, John Wiley and Sons, 2005, ISBN 0-471-54448-5, pp. 361–383.
6. A. Helal, S. Balakrishnan, M. Dunham, and Y. Liu, "A Survey on Mobile Transaction Models," *Handbook of Mobile Computing*, I. Mahgoub, editor, CRC Press, 2005, ISBN 0-8493-1971-4, pp. 839–874.
7. A. Abukmail and A. Helal, "Power Awareness and Management Techniques," *Handbook of Mobile Computing*, I. Mahgoub, editor, CRC Press, 2005, ISBN 0-8493-1971-4, pp. 731–743.
8. B. Mann and A. Helal, "Technology and Chronic Conditions in Later Years: Reasons for New Hope," *Baywood Series—Aging and Society*, H. Werner Wahl, editor, 2004.
9. A. Helal, J. Jing, and A. Elmagarmid, "Supporting Transaction Service Handoff in Mobile Environments," *Mobile Networks and Computing*, DIMACS series in Discrete Mathematics and Theoretical Computer Science, vol. 52, S. Rajasekaran, P. Pardalos, and F. Hsu, editors, American Mathematical Society, 2000, pp. 123–147.
10. A. Heddaya and A. Helal, "Recovery-Enhanced Reliability, Dependability and Performability," *Recovery in Database Management Systems*, foreword by Phil Bernstein, V. Kumar, editor, Prentice-Hall, 1998, ISBN 0-13-614215-X, pp. 56–70.
11. A. Helal, Y. Kim, M. Nodine, A. Elmagarmid, and A. Heddaya, "Transaction Optimization Techniques," *Advanced Transaction Models and Architectures*, S. Jajodia and L. Kreschberg, editors, Kluwer Academic Publishers, 1997, ISBN 0-7923-9880-7, pp. 237–255.

## 7.d Refereed Journal Articles

1. J. Wang, Y. Wang, D. Zhang, H. Xiong, L. Wang, A. Helal, Y. He, and, F. Wang "Fine-Grained Multi-Task Allocation for Participatory Sensing with a Shared Budget," *Accepted for publications in the IEEE Internet of Things Journal*. Accepted September 2016.
2. W. Lee, S. Cho, P. Chu, H. Vu, S. Helal, W. Song, Y. Jeong, and K. Cho, "Automatic agent generation for IoT-based smart house simulator," (June 2016), *Neurocomputing*, Elsevier Publishing, <http://dx.doi.org/10.1016/j.neucom.2015.04.130i>
3. C. Lee, H. Lee, E. Kim, and A. Helal, "VM Capacity-Aware Scheduling within Budget Constraints in IaaS Clouds," Accepted for publication in *PLOS One*. 11(8), August 2016.
4. Y. Xu and A. Helal, "Optimizing Cloud-Sensor Systems: A Bi-directional Waterfall Approach," in submission to the *IEEE Internet of Things Journal*, 2015.
5. C. Chen and A. Helal, "Pervasive Transactions for Safer Cyber-Physical Systems", in submission to the *IEEE Transactions on Dependable and Secure Computing*, 2015.
6. J. W. Lee and A. Helal, "Driving Contexts from Models of Human Activities in Smart Spaces," in submission to the *IEEE Transactions on Human-Machine Systems*, 2015.
7. M. Abdul Alim, N. Nguyen, M. Thai, and A. Helal, "Structural Vulnerability Assessment of Community-Based Routing in Opportunistic Networks," Accepted for publication in the *IEEE Transactions on Mobile Computing*, (acceptance date January 2016).
8. Jiangtao Wang, Sumi Helal, Yasha Wang and Daqing Zhang, "A Context-Driven Worker Selection Framework for Crowd-Sensing," *International Journal of Distributed Sensor Networks*, vol. 2016, Article ID 6958710, 16 pages, 2016. doi:10.1155/2016/6958710.
9. D. Lee, A. Helal, Y. Sung, and S. Anton, "Situation-Based Assess Tree for User Behavior Assessment in Persuasive Telehealth," *IEEE Transactions on Human-Machine Systems*, vol. 45, no. 5, 2015, pp. 624–634.
10. J. W. Lee, S. Cho, S. Liu, K. Cho, and S. Helal, "Persim 3D: Context-Driven Simulation and Modeling of Human Activities in Smart Spaces," *IEEE Transactions on Automation Science and Engineering*, vol. 12, no. 4, 2015, pp. 1243–1256.
11. Y. Xu and A. Helal, "Scalable Cloud-Sensor Architecture for the Internet of Things," to appear in the *IEEE Internet of Things Journal*, accepted July 2015.
12. E. Kim, A. Helal, C. Nugent, and M. Beattie, "Analyzing Activity Recognition Uncertainties in Smart Home Environments," *ACM Transactions on Intelligent Systems and Technology*, vol. 6, no. 4, 2015.
13. M. Thai, R. Bose, R. Tiwari, and A. Helal, "On Detection and Tracking of Variant Phenomena Clouds," *ACM Transactions on Sensor Networks*, vol. 10, no. 2, 2014.

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## 7.e Refereed Conference/Workshop Articles

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2. JW Lee and A. Helal, "Inferring Contexts From Human Activities in Smart Spaces," in Proceedings of the 29<sup>th</sup> International FLAIRS Conference on artificial Intelligence, Key Largo, Florida, May 2016.

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91. W. Gu and A. Helal, "An XML Based Solution to Delivering Adaptive Web Content for Mobile Clients," *Proceedings of the International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS)*, 2004.
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94. C. Lee and A. Helal, "A Multi-tier Ubiquitous Service Discovery Protocol for Mobile Clients," *Proceedings of the 2003 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS)*, 2003.
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102. M. Chinta, A. Helal, and C. Lee, "ILC-TCP: An Interlayer Collaboration Protocol for TCP Performance Improvement in Mobile and Wireless Environments," *Proceedings of the IEEE Wireless Communication and Networking Conference (WCNC '02)*, 2003.
103. W. Gu and A. Helal, "Extended Internet Caching Protocol: A Foundation for Building Ubiquitous Web Caching," *Proceedings of the ACM Symposium on Applied Computing (SAC)*, 2003.
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110. S. Arumugam, A. Helal, and A. Nalla, "aZIMAS: Web Mobile Agent System," *Proceedings of the 6th IEEE International Conference on Mobile Agents (MA)*, 2002.
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113. M. Lanham, A. Kang, J. Hammer, and A. Helal, "Format-Independent Change Detection and Propagation in Support of Mobile Computing," *Proceedings of the XVII Brazilian Symposium on Databases (SBB D)*, 2002.

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- 138.Y. Taha, A. Helal, and K. Ahmed, "A Stochastic Consistency Model for Data Warehousing," *Proceedings of the Third Americas Conference on Information Systems*,

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145. A. Helal, S. Balakrishnan, S. Ramachandra, and M. Dunham, "A Generic Architecture for Data Access in Mobile Environments," *Proceedings of the Second Annual ACM Joint Conference on Information Sciences (JCIS 95)*, Wrightsville Beach, North Carolina, Sept 1995.
146. A. Helal and K. Khalil, "Traffic Analysis and Characterization of A Local Area Network with Different Classes of Users," *Proceedings of the 8th International Conference on Parallel and Distributed Computing Systems*, Orlando, Florida, Sept 1995.
147. A. Helal, B. Welch, and R. Elmasri, "A Resilient Application-Level Failure Detection System for Distributed Computing Environments," *Proceedings of the IEEE Symposium on Advances in Computers and Communications*, Alexandria, Egypt, June 1995.
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150. A. Helal, "Large-Scale Global Naming Services," *Proceedings of the ISMM International Conference on Intelligent Information Management Systems*, Washington D.C., June 1994.
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154. A. Helal, Y. Zhang, and B. Bhargava, "Surveillance for Controlled Performance Degradation During Failures," *Proceedings of the 25th Hawaii International Conference on System Sciences*, Jan 1992.
155. B. Bhargava and A. Helal, "Replication Experiments in the RAID Distributed Database System," *Proceedings of the Indian Computing Conference*, Hyderabad, India, Nov 1990.
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158. A. Elmagarmid and A. Helal, "Supporting Updates in Heterogeneous Distributed Database Systems," *Proceedings of the 4th IEEE International Conference on Data Engineering*, Los Angeles, Feb 1988.
159. M. Nagi, A. Helal, and A. Elmagarmid, "Optimistic vs. Pessimistic Concurrency Control: A Comparative Study," *Proceedings of the 15th International Conference on Parallel Processing*, St. Charles, Illinois, Aug 1986.
160. A. Helal, A. Elmagarmid, and A. Hurson, "A Paradigm for Concurrency Control Performance Evaluation," *Workshop of Future Directions on Computer Architecture and Software*, Charleston, South Carolina, May 1986, pp. 228–235.

## 7.f Nonrefereed Publications

1. Sumi Helal and Sasu Tarkoma, "Smart Spaces," Introduction to the Special Issue. *IEEE Pervasive Computing*, vol. 14, no. 2, 2015, pp. 22–23.
2. Sumi Helal, "Sustaining Computer's Impact and Adapting to Change," Editor-in-Chief Message. *Computer*, vol. 48, no. 1, 2015, pp. 7–9.
3. Sumi Helal, "Metcalf's Law Survives the Test of Time," a sidebar in "Metcalf's Law after 40 Years of Ethernet," by Bob Metcalf, *Computer*, vol. 46, no. 12, Dec 2013.
4. Sumi Helal, "IT Footprinting—Groundwork for Future Smart Cities," Guest Editor Introduction to the Smart City Special Issue of *Computer*, June 2011.
5. Sumi Helal, "University-Industry Synergy: An Eclectic Dialog for Revised Relationships," Industry Perspective Column, *Computer*, Sept 2009.
6. E. Kim, A. Helal and D. Cook, "Human Activity Recognition and Pattern Discovery," *IEEE Pervasive Computing*, Oct–Dec 2009.
7. Duckki Lee, Sumi Helal, Tatsuya Yamazaki, "Robotic Companions for Smart Space Interactions," *IEEE Pervasive Computing*, Apr–June 2009.
8. D. Cook, H. Hagra, V. Callaghan, and A. Helal, "Making Our Environments Intelligent," *Journal of Pervasive and Mobile Computing*, 2009.
9. Chao Chen and Sumi Helal, "Sifting through the Jungle of Sensor Standards," the Standards, Tools and Emerging Technologies Department, *IEEE Pervasive Computing*, Sumi Helal, Editor, vol. 7, no. 4, Oct–Dec 2008.
10. Paolo Bellavista, Axel Küpper and Sumi Helal "Location Based Services – Back to the Future," the Standards, Tools and Emerging Technologies Department, *IEEE Pervasive Computing*, Sumi Helal, Editor, vol. 7, no. 2, Apr–June 2008.
11. H. Hagra, V. Callaghan, D. Cook, and A. Helal, "The Fourth International Conference on Intelligent Environments (IE 08): A Report," *AI Magazine*, 2008.
12. Choonhwa Lee, Sumi Helal, and Wonjun Lee "Universal Interactions with Smart Spaces," the Standards, Tools and Emerging Technologies Department, *IEEE Pervasive Computing*, Sumi Helal, Editor, vol. 5, no. 1, Jan–Mar 2006.
13. Sumi Helal, "Programming Pervasive Spaces," the Standards, Tools, and Emerging Technologies Department, *IEEE Pervasive Computing*, Sumi Helal, Dept. Editor, vol. 4, no. 1, Jan–Mar 2005.
14. C. Lee, D. Nordstedt and A. Helal, "OSGi for Pervasive Computing," the Standards, Tools and Best Practice Department, *IEEE Pervasive Computing*, Sumi Helal, Dept. Editor, vol. 2, no. 3, Sept 2003.
15. Sumi Helal, "Service Discovery Standards," the Standards, Tools and Best Practice Department, *IEEE Pervasive Computing*, Sumi Helal, Dept. Editor, vol. 1, no. 3, Sept 2002.

16. Sumi Helal, "Pervasive Java –Part II," the Standards, Tools and Best Practice Department, *IEEE Pervasive Computing*, Sumi Helal, Dept. Editor, vol. 1, no. 2, June 2002.
17. Sumi Helal, "Pervasive Java," the Standards, Tools and Best Practice Department, *IEEE Pervasive Computing*, Sumi Helal, Dept. Editor, vol. 1, no. 1, Mar 2002.
18. W. Mann and A. Helal, "Smart Phones for the Elders: Boosting the Intelligence of Smart Homes," *AAAI Workshop on Automation as Caregiver: The Role of Intelligent Technology in Elder Care*, Edmonton, Canada, July 2002.
19. J. Zhang and A. Helal, "A Survey on the LinuxCE Operating System Developments," *IEEE Computer Society TCOS Bulletin on Operating Systems*. Summer issue of 2000. An electronic publication.
20. M. Dunham and A. Helal, "Mobile Computing and Databases: Anything New?" *ACM SIGMOD Record*, vol. 24, no. 4, Dec 1995.
21. A. Helal and R. Badrachalam, "COM Versus CORBA: Will Microsoft Come Out on Top?" *Computer*, vol. 28, no. 10, Oct 1995.
22. A. Helal, "A Sophisticate's Introduction to On-Line Transaction Processing," book review, *IEEE Software*, vol. 11, no. 1, Jan 1994.

## 7.g Other Publications

1. A. Helal, Editor-in-Chief Message: "Sustaining Computer's Impact and Adapting to Change," *Computer*, Jan 2015.
2. A. Helal, Foreword to the book *Next Generation Intelligent Environments: Ambient Adaptive Systems* by Tobias Heinroth and Wolfgang Minker, Springer 2011.
3. A. Helal and E. Brewer, "Guest Editors Introduction," *ACM-Baltzer Journal on Mobile Networks and Applications (MONET)*, special issue on Wireless and Mobile Software Architecture, vol. 5, no. 4, Dec 2000.
4. H. El-Rewini and A. Helal, "Introduction to the Software Technology Track," *Proceedings of the 33d Hawaii International Conferences on System Sciences (HICSS-33)*, Jan 2000.
5. M. Rusinkiewicz and A. Helal, "Introduction," *Journal of Intelligent Information Systems*, special issue on Workflow Management, vol. 10, no. 2, Mar 1998.
6. A. Helal, "Introduction," *IEEE TC on Operating Systems Bulletin*, special issue on Operating System Education, vol. 8, no. 3, Dec 1996.
7. D. Long and A. Helal, "Technical Activities Forum: TC on Operating Systems and Application Environments," *Computer*, vol. 29, no. 2, Feb 1996.
8. M. Dunham and A. Helal, "Guest Editors Introduction," *ACM SIGMOD Record*, vol. 24, no. 4, Dec 1995.



9. M. Bright, A. Helal, and A. Hurson, Minitrack on Parallel and Distributed Database Systems, "Track Coordinators' Introduction," *Proceedings of the 27th Hawaii International Conference on System Sciences*, Jan 1994.

## 8 ENTREPRENEURSHIP

1. Founded Phoneomena Inc., Gainesville, FL. A mobile middleware and application software firm, 2001–2007.
2. Founded Pervasa Inc., Gainesville, FL. Pervasa commercialized the patented Atlas Sensor Platform –a sensor/device integration platform and middleware, 2006–2011. Pervasa won the Best of SensorExpo Silver Award in 2007.
3. Cofounded Spaceify Oy, Helsinki, Finland. A smart space middleware and development tools company, 2015-present.

## 9 ISSUED PATENTS

	Patent Title	Proprietor	Country	Publication Date	US Patent Number
1	Modular Platform Enabling Heterogeneous Devices, Sensors and Actuators to Integrate Automatically into Heterogeneous Network. Co-inventor.	Sumi Helal	US	01/07/2011	8,631,063 Issued Jan 14, 2014
2	System, Apparatus, and Methods for Proactive Allocation of Wireless Communication Resources. Co-inventor.	Sumi Helal	US	03/5/2010	8,213,417 Issued July 3, 2012
3	Modular Platform Enabling Heterogeneous Devices, Sensors and Actuators to Integrate Automatically into Heterogeneous Network. Co-inventor.	Sumi Helal	US & PCT	10/11/2007	7,895,257 Issued Feb 22, 2011
4	System, Apparatus and Methods for Proactive Allocation of Wireless Communication Resources. Co-inventor.	Sumi Helal	US	03/17/2005	7,697,508 Issued Apr 13, 2010
5	Daily Task And Memory Assistance Using a Mobile Device	U. of Florida	US	7/12/2004	7,397,346 Issued July 8, 2008

6	Multimedia Controller	Sumi Helal	US	7/12/2004	7,339,493 Issued Mar 4, 2008
7	Rapid Mobility Network Emulator Method and System	Sumi Helal	US	8/2/2004	7,231,330 Issued June 12, 2007
8	Portable Device Medical Assistant	Sumi Helal	US	7/12/2004	7,155,202 Issued Dec 26, 2006
9	Remote Surveillance and Assisted Care Using a Mobile Communication Device	Sumi Helal	US	7/12/2004	7,098,788 Issued Aug 29, 2006

## 10 TEACHING EXPERIENCE

### 10.a Courses taught

- **Undergraduate level.** Mobile Platforms - Android, iOS, Windows Mobile and HTML5 (once), Operating Systems (several times), Information Systems (once), Programming Languages (once), C++ (once), Discrete Mathematics (several times), Senior Project Design (several times), Integrated Products and Process Design (several times).
- **Graduate level.** Operating Systems (several times), Distributed Database Systems (several times), Formal Methods for Research (once), Mobile and Pervasive Computing (many times), Wireless Sensor Networks (once).

### 10.b Educational Software / Hardware Tools

- Designed and implemented RAINBOW, a distributed database system and its lab setup and assignments for use in teaching Distributed Database Systems and Distributed Systems classes. RAINBOW was used at the University of Florida in teaching COP 6755: Distributed Database Systems and was published and demonstrated in the Very Large Data Bases Conference (VLDB 2000).
- Designed and implemented VDS, a virtual distributed system and its lab setup and assignments for use in teaching Distributed Operating System classes. It emphasizes several aspects of synchrony, coordination, and control in distributed systems. VDS has been used several times at UF in teaching COP 5615 (graduate OS) and COP 4600 (undergraduate OS).
- Jointly with my students, designed, developed and commercialized an educational toolkit for sensor-based computing education. The toolkit, which is based on the Atlas architecture, has been used in the lab to develop sensor-based systems and pervasive spaces by many universities worldwide. It has been used repeatedly in teaching CNT 5517 (Mobile and Pervasive Computing). The toolkit with Atlas node emulators is available for download as open source.

- Jointly with my students, designed and implemented an ad hoc service discovery and delivery infrastructure called KONARK. KONARK has been used several times in CNT 5517 (Mobile Computing) and is available for download as open source.

## 11 ADVISING EXPERIENCE

### 11.a Summary

- **Graduate Advising:**
  - Advised and graduated 20 PhD students.
  - Advised and graduated 58 Masters students (all thesis option).
  - Advised and graduated 5 undergraduate Honors thesis students.
  - Currently advising 3 PhD students and serve on several PhD committees.
- **Postdoc Advising:**
  - Supervised and trained 8 postdocs and visiting scholars with one- or multiple-year appointments in the Mobile and Pervasive Computing Lab.

### 11.b Doctoral Students

**UFL:** Advising activities at the University of Florida (Aug 1998–date)

**PU:** Advising at Purdue University (Aug 1995–Aug 1997)

**UTA:** Advising at the University of Texas at Arlington (Aug 1991–Aug 1996)

#	Role	Student Name	Research Topic	Grad?	Dept/Univ	Grad Date
22	Chair	Ahmed Khaled	Programming Models for the Internet of Things	No	CISE/UFL	Expected Spring 2018
21	Chair	Sirui (Quincy) Liu	High realism Play-Back Activity Models	No	CISE/UFL	Expected Fall 2016
20	Chair	Jae Wong Lee	Scalable, Context-driven Simulation of Human Activities in Pervasive Spaces	Yes	CISE/UFL	Summer 2015
19	Chair	Yi Xu	Cloud-Sensors System Architecture, Optimization and Performance	Yes	CISE/UFL	Fall 2014
18	Chair	Eunju Kim	Knowledge Assisted Human Activity Recognition for Improved Accuracy and Programmability	Yes	CISE/UFL	Fall 2013
17	Chair	Duckki Lee	Models and a Framework for Cyber Human Persuasion	Yes	CISE/UFL	Fall 2013
16	Chair	Chao Chen	A Programming Model for Safer Pervasive Spaces	Yes	CISE/UFL	Fall 2012
15	Chair	Raja Bose	Scalable Query Processing in Service-Oriented Sensor Networks	Yes	CISE/UFL	Fall 2008

14	Chair	Hen-I Yang	Safety-Oriented Programming Models for Pervasive Computing	Yes	CISE/UFL	Summer 2008
13	Chair	Jeffrey King	Atlas: A Service-Oriented Sensor and Actuator Network Platform to Enable Programmable Pervasive Computing Spaces	Yes	CISE/UFL	Spring 2007
12	Chair	Hicham El-Zabadani	Self-Sensing Spaces	Yes	CISE/UFL	Summer 2006
11	Chair	Erwin Jansen	Context Driven Programming Model for Pervasive Spaces	Yes	CISE/UFL	Fall 2005
10	Chair	Mohammad Al-Turkistany	Adaptation Framework for Wireless Thin-Client Computing	Yes	CISE/UFL	Spring 2006
9	Chair	Jun (Jacky) Tian	A Speed Adaptive Mobile Internet Protocol over Wireless Local Area Network	Yes	CISE/UFL	Fall 2004
8	Chair	Ahmed Abukmail	Pervasive Computing Approach to Energy Management	Yes	CISE/UFL	Fall 2005
7	Chair	Wenzheng Gu	\Ubiquitous Web Caching	Yes	CISE/UFL	Spring 2004
6	Chair	Choonhwa Lee	Context-Aware, Ubiquitous Service Discovery and Delivery for Mobile Clients	Yes	CISE/UFL	Summer 2003
5	Chair	Edwin Hernandez	RAMON- Rapid Mobility Network Emulation	Yes	CISE/UFL	Summer 2002
4	Chair	Jinsuo Zhang	Scalable Mobile File Service	Yes	CISE/UFL	Spring 2002
3	Cochair	Jie Meng	Adaptive and Dynamic Workflow Automation	Yes	CISE/UFL	Spring 2002
2	Cochair	Magdy Ahmed	Optimal Searching and Insertion in Multi-Dimensional Data with Skewed Access Distribution	Yes	CS/Purdue	Summer 1997
1	Cochair	Yousry Taha	Managing Data, Task Dependency, and Consistency in Data Warehousing	Yes	CS/Purdue	Summer 1997

#### Member, PhD Committee

Member	Taesong Hwang	Characterization & Design of High Efficiency Linear Power Amplifiers for Base Stations	Yes	ECE	Spring 2014
Member	Christan Grant	Dissertation title information not available	No	CISE	
Member	Virupaksha Kanjilal	Designing, Querying, Implementing and Integrating Spatial Networks in Spatial Databases	Yes	CISE	Fall 2012
Member	Daniel Nieten	An Unsupervised Learning Approach for Automatic Detection of Metaphors	Yes	CISE	Summer 2011
Member	Ganesh Vithwanathan	BigCube: A User-Centric Modeling Paradigm with Multidimensional Data Types and Operations Supporting Complex Spatial Objects in Data Warehouses	Yes	CISE	Fall 2011

Member	Sanghyun Jeon	Adaptive E-Learning Using ECpAA Rules, Bayesian Networks and Group Profile and Performance Data	Yes	CISE	Fall 2010
Member	Zhen Ning Low	High Efficiency Loosely Coupled Wireless Power Transfer System via Magnetic Induction	Yes	ECE	Summer 2009
Member	Jungmin Shin	Dissertation title information not available	Yes	CISE	Summer 2009
Member	Hyunju Shim	Dissertation title information not available	Yes	CISE	Summer 2006
Member	Joong-Seok Park	Power-Aware Routing in Sensor Networks	Yes	CISE	Summer 2005
Member	Shang Woo Youn	Domain-Specific Knowledge-Based Informational Retrieval Model Using Knowledge Reduction	Yes	CISE	Summer 2005
Member	Gilliean Lee	A Web-Service-Based E-Learning Service Infrastructure for Achieving Dynamic and Collaborative E-Learning	Yes	CISE	Summer 2005
Member	Jin-ho Lee	Architecture for a Low-Level Functional Specification Language Supporting Multimodeling and Simulation	Yes	CISE	Summer 2005
Member	Min-Ho Park	Ontology-Based Customizable 3D Modeling for Simulation	Yes	CISE	Spring 2005
Member	Zhenbiao Li	Radio Frequency Circuits for Tunable Multi-Band CMOS Receivers for Wireless LAN Applications	Yes	ECE	Fall 2004
Member	Mark Foster	Process Forensics: The Crossroads of Checkpointing and Intrusion Detection	Yes	CISE	Fall 2004
Member	Oguz Onbilger	A Computation Paradigm for Multiple Mobile Agent Systems	Yes	CISE	Fall 2004
Member	Qianhui Liang	Composite Service Discovery, Description and Invocation	Yes	ECE	Summer 2004
Member	Carlos Oliveira	Optimization Problems in Telecommunications and the Internet	Yes	ISE	Summer 2004
Member	Hyoungjin Kim	Generalized Active Agent System for Extending Active Capabilities of RDBMS	Yes	CISE/UFL	Not Available
Member	Taewoo Kim	A 3-D Modeling Approach for the Unified Modeling Language	Yes	CISE/UFL	Spring 2002
Member	Seokwon Yang	Security and Trust Management in Collaborative Computing	Yes	CISE/UFL	Fall 2003
Member	Jae Yong Lim	Fast and Scalable Internet Service Scheme for Static and Dynamic Web Data Contents	Yes	CISE/UFL	Spring 2003
Member	Amr Abdel-Rahman	Dissertation title information not available	Yes	CE/UFL	Fall 2001
Member	Haifei Li	Automated Negotiation for e-Commerce	Yes	CISE/UFL	Fall 2001
Member	Youzhong Liu	Business Rule Warehouse: Services, Architectures and Applications	Yes	CISE/UFL	Summer 2001

Member	C. Pluempitiwiriya	A New Hierarchical Clustering Model for Efficient Reconciliation of XML-Based, Semistructured Data in Mediated Systems	Yes	CISE/UFL	Spring 2001
Member	Hankil Yoon	Efficient Algorithms and Software for Mining Sparse, High-dimensional Data	Yes	CISE/UFL	Spring 2000
Member	Chunbo Huang	A Replicable Web-based Automated Negotiation Server for E-Commerce Systems	Yes	CISE/UFL	Spring 2000
Member	Minsoo Lee	Event and Rule Services for Achieving a Web-based Knowledge Network	Yes	CISE/UFL	Spring 2000
Member	Byung-Kown Chung	Improving Processor Performance with Multiple-Access Caches and Early Resolution of Branches and Loads	Yes	CISE/UFL	Fall 1999
Member	Haito Jiang	Scene Change Detection in Video Databases	Yes	CS/ PU	Summer 1998
Member	Shunge Li	Distributed Multimedia Systems	Yes	CS/ PU	Summer 1997
Member	Jin Jing	Data Consistency Management in Wireless Client-Server Information Systems	Yes	CS/ PU	Spring 1996
Member	Gyung-Lee Park	Roll-forward Recovery Schemes in Tightly Coupled Multiprocessors	Yes	CSE/UTA	Fall 1995
Member	Choong Gun Oh	Efficient Fault-Tolerance Approaches For Parallel Architectures	Yes	CSE/UTA	Spring 1995
Member	V. Koramajan	Temporal Databases: Access Structures, Search Methods, Migration Strategies, and De-clustering Techniques	Yes	CSE/UTA	Spring 1994
<b>Member, International PhD Committee</b>					
Member	Andrea Reale	Quality of Service in Distributed Stream Processing for Large Scale Pervasive Environments	Yes	University of Bologna, Italy	Spring 2013
Opponent	Eemil Lagerspetz	Collaborative Mobile Energy Awareness	Yes	University of Helsinki, Finland	Fall 2014

### 11.c Master of Science Students

**UFL:** Advising activities at the University of Florida (Aug 1998 to date)

**UTA:** Advising at the University of Texas at Arlington (Aug 1991 to Aug 1996)

#	Role	Student Name	Research Topic	Grad?	Dept/Univ	Grad Date
58	Chair	Prithvi Raj	Plantair – Crowdsourced Newsification using Twitter	Yes	CISE/UFL	Dec 2012

57	Chair	Shantonu Hussein	PerSim: Pervasive System Simulator and Dataset Synthesis.	Yes	CISE/UFL	Spring 2010
56	Chair	Aneel Mola	Query optimization in Atlas sensor Networks	Yes	CISE/UFL	Fall 2007
55	Chair	Raja Bose	Scalable Query Processing Architecture using the Atlas sensor platform	Yes	CISE/UFL	Fall 2006
54	Chair	Ahmed Al-Kouch	Wireless Power enablement in the Atlas Sensor platform	Yes	CISE/UFL	Fall 2006
53	Chair	Younghyun Park	Transaction Processing in the UbiData Mobile Database System	Yes	CISE	Spring 2005
52	Chair	James Russo	OSGi based Sensor Networks for Pervasive Computing	Yes	CISE/UFL	Fall 2004
51	Chair	Mihir Patel	YCAB.net — Wireless, Ad-hoc Collaboration using .NET Compact Framework	Yes	CISE/UFL	Spring 2004
50	Chair	Andiputranto Sukuju	Smart Kitchens for the Elder Population	Yes	CISE/UFL	Spring 2004
49	Chair	Satish Veerapuneni	A Robotic Approach to Benchmarking Elder Daily Activity in a Pervasive Space	Yes	CISE/UFL	Summer 2003
48	Chair	Ying Chun (Lisa) Ran	Integrated Indoor/Outdoor Navigation System for the Blind	Yes	CISE/UFL	Spring 2003
47	Chair	Baldeep Anand	Security Enhancement to Bluetooth	Yes	CISE/UFL	Spring 2003
46	Chair	Corneliu Manescu	Audio Streaming over Wireless Channels	Yes	CISE/UFL	Spring 2003
45	Chair	Pushkar Pradhan	Maintaining Consistent Group Membership in Ad Hoc Networks	Yes	CISE/UFL	Fall 2002
44	Chair	Peter Handle	Multimedia Delivery in Wireless Environments	Yes	CISE/UFL	Fall 2002
43	Chair	Subramanian Arumugam	aZIMA Mobile Agent System	Yes	CISE/UFL	Fall 2002
42	Chair	Sapan Anand	BlueSec – A Bluetooth Stack Extension for Secure Service Access	Yes	CISE/UFL	Fall 2002
41	Chair	Sasidah Parvatham	A Bluetooth LAN Access Profile Simulator	Yes	CISE/UFL	Fall 2002
40	Chair	Yanli Xia	Currency based Dynamic Database Design and Reconfiguration	Yes	CISE/UFL	Fall 2002
39	Chair	Jingting Lu	Web Service based User Centric Information Fusion	Yes	CISE/UFL	Summer 2002
38	Chair	Ajay Kang	Algorithms for Reduced Content Document Synchronization	Yes	CISE/UFL	Summer 2002
37	Chair	Bryon Winkler	High Precision Indoor Location / Positioning Tracking Systems	Yes	CISE/UFL	Summer 2002
36	Chair	Sree Charan Kuchibhotla	An OSGi based infrastructure for the Smart Homes of the future	Yes	CISE/UFL	Summer 2002
35	Chair	Dushiant Kochhar	Proxy Gator – A Server-side Wireless Toolkit	Yes	CISE/UFL	Summer 2002
34	Chair	Steve Moore	Drishti – Wireless and Mobile Navigation System for the Blind	Yes	CISE/UFL	Summer 2002
33	Chair	Varun Verma	KONARK – A ServiceDelivery Protocol for Ad-hoc Networks	Yes	CISE/UFL	Spring 2002

32	Chair	Madhav Chinta	ILC-TCP: An Interlayer Collaboration Protocol for TCP Performance Improvement in Mobile and wireless Environments	Yes	CISE/UFL	Spring 2002
31	Chair	Nitin Desai	KONARK – An Ad-Hoc Service Discovery Protocol	Yes	CISE/UFL	Spring 2002
30	Chair	Michael Procopio	Ycab.NET: Ad-Hoc Groupware API and Framework for Mobile Collaboration	Yes	CISE/UFL	Spring 2002
29	Chair	Kyung Joo Suh	CRYPTO-AD-HOC Network: An Ad hoc Network Protocol Embedded Cryptography	Yes	CISE/UFL	Fall 2001
28	Chair	David Nordstedt	uJini – A Service Discovery and Delivery Infrastructure for Pervasive Computing	Yes	CISE/UFL	Fall 2001
27	Chair	Vidya Renganarayanan	Web Agents Programming Model	Yes	CISE/UFL	Fall 2001
26	Chair	Tapan Divekar	PEMOCO –An Infrastructure for Personal M-Commerce using Java Enabled Smart Phones	Yes	CISE/UFL	Summer 2001
25	Chair	Kevin Birkett	Implementation of a Mobile / Wireless Video Delivery System	Yes	CISE/UFL	Summer 2001
24	Chair	Rajanikanth Kanyaboina	e-Staurant: A Software Infrastructure for restaurant management	Yes	CISE/UFL	Summer 2001
23	Chair	Arun Jagatheesan	Architecture and Protocols for Sangam Communities and E-Service Brokering	Yes	CISE/UFL	Summer 2001
22	Chair	Raja Krithivasan	BIZBUILDER: An E-services Framework for Internet Workflow	Yes	CISE/UFL	Summer 2001
21	Chair	Amar Nalla	AZIMAS – Almost Zero Infrastructure Mobile Agents System	Yes	CISE/UFL	Summer 2001
20	Chair	Subodh Shah	CAD-HOC: A CAD Like Tool for Generating Mobility Benchmarks in Ad-Hoc Networks	Yes	CISE/UFL	Spring 2001
19	Chair	Abhinav Khshraj	IncCoda: Incremental Hoarding and Reintegration in Mobile Environments	Yes	CISE/UFL	Spring 2001
18	Chair	Sam Coons	Virtual Wireless Thin Client	Yes	CISE/UFL	Spring 2001
17	Chair	Rick Loy	Active Mode Power Management in Mobile Devices	Yes	CISE/UFL	Spring 2001
16	Chair	Latha Sampath	Wireless and Mobile Video Delivery	Yes	CISE/UFL	Fall 2000
15	Chair	Wei-Hsing (Dan) Lee	Decentralized, Ad-Hoc Groupware API and Framework for Mobile Collaboration	Yes	CISE/UFL	Fall 2000
14	Chair	Siva Ramamurthy	Optimizing Thin Clients for Wireless Computing via Localization of Keyboard Activities During High Network Latency.	Yes	CISE/UFL	Summer 2000
13	Chair	Dominik Buzsko	Light Weight API for Ad-Hoc Mobile Collaboration	Yes	CISE/UFL	Summer 2000
12	Chair	Cumhur Aksoy	Wireless Thin Client Optimizations for Multimedia Applications	Yes	CISE/UFL	Spring 2000



11	Chair	Mei Wang	Service-oriented Brokering in Dynamic e-Business Communities.	Yes	CISE/UFL	Fall 1999
10	Chair	Hua Li	Modernization of The Rainbow Distributed Database System	Yes	CISE/UFL	Fall 1999
9	Chair	Santosh Balakrishnan	Location-Sensitive Naming Service for Mobile Computing Environments	Yes	CSE/UTA	Summer 1996
8	Chair	Jamie Patterson	A Workflow-based Management of Data Warehouses	Yes	CSE/UTA	Summer 1996
7	Chair	Mike Pafford	Distributed Transaction Processing Standards and a Proposal for Mobile X/Open XA	Yes	CSE/UTA	Fall 1995
6	Chair	Ravi Badrachalam	Enterprise Modeling Using Distributed Interoperable Objects	Yes	CSE/UTA	Fall 1995
5	Chair	Yuan (David) Yaowu	Dynamic Data Allocation Strategies in Parallel Database Systems	Yes	CSE/UTA	Spring 1995
4	Chair	Bob Welch	A Resilient Application-Level Failure Detection System for Distributed Computing Environments	Yes	CSE/UTA	Fall 1994
3	Chair	Judson Fortner	Scalability of Database Systems, A Performance Evaluation Approach	Yes	CSE/UTA	Summer 1994
2	Chair	Vinay Rao	Message Scheduling and Integrated Task-Message Scheduling in Distributed Real-Time Systems	Yes	CSE/UTA	Spring 1994
1	Chair	Tunghui Ku	Adaptive Concurrency Control and Transaction Scheduling	Yes	CSE/UTA	Spring 1993

### Member, Masters Committee

Member	Güliz Seray Tuncay	Thesis title information not available	Yes	CISE/UFL	Fall 2013
Member	Gabriel Reyes	Activity-level Monitoring Using a Doppler Rader Sensor Platform	Yes	ECE/UFL	Summer 2011
Member	Ataur Katebi	Thesis title information not available	Yes	CISE/UFL	Fall 2004
Member	Nam Kyu Lim	Thesis title information not available	Yes	CISE/UFL	Summer 2004
Member	Gargi Sur	Thesis title information not available	Yes	CISE/UFL	Summer 2003
Member	Kristian Damkjar	Thesis title information not available	Yes	CISE/UFL	Summer 2003
Member	Nicky Joshi	Thesis title information not available	Yes	CISE/UFL	Fall 2002
Member	Richard Bean	Thesis title information not available	Yes	CISE/UFL	Fall 2002
Member	Mark Fraser	Thesis title information not available	Yes	CISE/UFL	Fall 2002
Member	Rajesh Kana	Thesis title information not available	Yes	CISE/UFL	Fall 2002
Member	Mark Conner	Thesis title information not available	Yes	CISE/UFL	Fall 2002
Member	Jing Huo	Thesis title information not available	Yes	CISE/UFL	Spring

					2002
Member	Brennan Folmer	Thesis title information not available	Yes	CISE/UFL	Spring 2002
Member	Ryan Donahue	Thesis title information not available	Yes	CISE/UFL	Spring 2002
Member	Minho Park	Thesis title information not available	Yes	CISE/UFL	Spring 2002
Member	Chandra Olson	Integrating Jini and TINi into a Pervasive Computing Infrastructure	Yes	CISE/UFL	Fall 2001
Member	Amit Date	Thesis title information not available	Yes	CISE/UFL	Fall 2001
Member	Younghun Kim	A Generalized Active Agent System for Extending the Active Capabilities of RDBMS	Yes	CISE/UFL	Fall 2000
Member	Jiong-Hua Ji	Semi-Automatic Ontology-based Knowledge Extraction	Yes	CISE/UFL	Fall 2000
Member	S. Balasubramanian	Architecture for Protection from Denial of Service Attacks	Yes	CISE/UFL	Summer 2000
Member	Lan Huang	Parallel Speedup and Scale-up in Asynchronous Trigger Systems	Yes	CISE/UFL	Summer 2000
Member	Jagadah Sivan	Researching the Use of Mobile Agents for trading in Electronic Marketplace	Yes	CISE/UFL	Summer 2000
Member	Mike Ruby	Mobile Knowledge Based System for Medical Applications	Yes	CISE/UFL	Summer 1999
Member	Surabh Chadha	Catalog, Constraints, and Algorithms for Schema Evolution in Temporal Object-Oriented Databases	Yes	CSE/UTA	Summer 1995
Member	B. Krishnamsetty	Analysis and Simulation of Replication Protocols Using Logical Structures	Yes	CSE/UTA	Spring 1995
Member	Jeff Spiess	Fuzzy-Based 2-D String Matching For Image Retrieval	Yes	CSE/UTA	Spring 1995
Member	Shaona Berry	An Object-Oriented Model For Schema Versioning in an Epilepsy Patient Database	Yes	CSE/UTA	Fall 1994
Member	Chris Turbeville	Mask Generation From VHDL Behavioral Descriptions	Yes	CSE/UTA	Summer 1994
Member	Suman Janardan	A Hybrid Hash Join Algorithm For The Query Execution Engine of the Open OODB	Yes	CSE/UTA	Spring 1994
Member	Ram Kovelmudi	An Evaluation of Feasible Solutions to Inference Threats In Multilevel RDBMS's	Yes	CSE/UTA	Fall 1993
Member	Shian Fernando	Representing Temporal Relationships in an Object Oriented Database Model	Yes	CSE/UTA	Fall 1993
Member	Narendra Kanar	Design and Implementation of Cooperative Spreadsheet	Yes	CSE/UTA	Fall 1993
Member	Medhat Saleh	An Object-Oriented Architecture For Managing Manufacturing Resources	Yes	CSE/UTA	Spring 1993
Member	Han-Chien Wei	Implementation of Concurrency Control and Recovery For The OOSS System	Yes	CSE/UTA	Spring 1993

Member	Yuanmin Ku	Distributed Query Decomposition and Optimization: Algorithms For GORDAS	Yes	CSE/UTA	Spring 1993
Member	Ranjini Das	A Gordas Processor to Translate EER Queries	Yes	CSE/UTA	Fall 1992

## 12 SCHOLARLY EDITORIAL ACTIVITIES

### 12.a Editor-in-Chief

1. Editor-in-Chief, *Computer*, the flagship publication of the IEEE Computer Society, Jan 2015–present.
2. Associate Editor-in-Chief, *Computer*. June 2009–Dec 2014.
3. Associate Editor-in-Chief, *IEEE Pervasive Computing*. Apr 2014–Jan 2015.
4. Editor-in-Chief of the *Bulletin of the IEEE Technical Committee on Operating Systems and Application Environments*, Jan 1995–Mar 1997.

### 12.b Editorial Board Memberships

1. Editorial Advisory Board Member, the IEEE Internet of Things Journal. January 2016 – present.
2. Editorial Board Member, *The Biomedicine Hub Journal*, Karger Medical and Scientific Publishers, Oct 2015 – present.
3. Area (Field) Editor (Ubiquitous Computing) of *Computing*, Springer. Aug 2014–July 2016.
4. Editorial Board Member of the *IEEE Pervasive Computing* magazine, IEEE Computer Society Press, Mar 2002–Dec 2014.
5. Editor of the “Standards, Tools and Emerging Technologies” department of *IEEE Pervasive Computing*, Mar 2002–2011.
6. Editor of the Industry Perspective department, *Computer* magazine, May 2009 – present.
7. Editorial Advisory Board member, the *International Journal of Pervasive Computing and Communications* (IJPPCC), Emerald Publishing Company, UK, Dec 2010 – present.
8. Member of the Advisory Board, *Journal of Mobile Multimedia*, Rinton Press, US, Mar 2014 – present.
9. Editorial Board Member of *GERONTOLOGY – The International Journal of Experimental, Clinical, Behavioral and Technological Gerontology*, Nov 2009 – present.
10. Associate Editor and the Networking Area Chair, *Computer* magazine, 2008–2009.
11. Editor of the “Web Technologies” Department of *Computer* magazine, 2002–2004.

12. Editorial Board Member, *IEEE Transactions on Mobile Computing*, 2005 – 2007.
13. Editorial Board Member, *Pervasive and Mobile Computing Journal*, Elsevier Publishing Company, Sept 2004 – Sept 2006; [www.elsevier.com/locate/pmc](http://www.elsevier.com/locate/pmc).
14. Editorial Board Member, *Journal of Ambient Intelligence and Smart Environments*, 2009 – 2012.
15. Editorial Board Member, *Wireless Communications and Mobile Computing Journal*, John Wiley & Sons, 2000-2005.
16. Editorial Board Member, *International Journal on Distributed and Parallel Databases*, Kluwer Academic Publisher, 1999–2004.
17. Editorial Board Member, *International Journal of Web Services (IJWS)*, 2003–2007.
18. Editorial Board Member, *Journal of Ubiquitous Computing and Intelligence*, 2005 – present.

### **12.c Guest Editor of Special Issues of Journals and Periodicals**

1. *IEEE Transactions on Service Computing*, Special Issue on InternetWare (with Hong Mei and Brian Blake), 2016.
2. *IEEE Pervasive Computing*, Special Issue on Smart Spaces (with Sasu Tarkoma), Jan-Mar 2015.
3. *Computer*, Special Issue on Smart Cities, June 2011.
4. *Computer*, Special Issue on Healthcare and Web 2.0, June 2010.
5. *IEEE Pervasive Computing*, Special Issue on Pervasive Computing for Successful Aging (with Gregory Abowd and Andre Sixsmith), vol. 3, no. 2, Apr–June 2004.
6. *Baltzer Science Journal on Cluster Computing*, Special issue on Advances in Distributed and Mobile Systems, Jan 2002. Five articles.
7. *ACM-Baltzer Journal on Mobile Networks and Applications (MONET)*, Special issue on Wireless and Mobile Software Architectures (with Eric Brewer), vol. 5, no. 4, Dec 2000. Six articles.
8. *Journal of Intelligent Information Systems (JIIS)*, Special Issue on Workflow Management Systems, vol. 10, no. 2, Mar 1998. Five articles.
9. The *ACM SIGMOD RECORD*, Special Issue on Mobile Databases, vol. 24, no. 4, Dec 1995. Six articles.

## 13 TALKS, LECTURES, AND SPEECHES

### 13.a Keynote Speaker / Distinguished Lecture Series Speaker

1. Keynote Speaker, "Pervasive Intelligence – Bridging the Gap between Theory and Practice in Smart Spaces," The 29th International FLAIRS Conference on Artificial Intelligence, May 16 - 18, 2016, Key Largo, Florida, USA
2. Keynote Speaker, "Internet-of-Things Platforms: The Next IT Frontier," The Smart World Summit / Congress, Aug 10-14, 2015, Beijing, China,
3. Distinguished Lecture Series speaker. Microsoft Research Distinguished Lecture Series on Mobility and Networking Research, "A Scalable Cloud-Sensor Architecture for the Internet of Things," Apr 2015.
4. Keynote Speaker, "Participatory and Persuasive Telehealth," ICT Labs Action Line on Smart and Connected Health, Eindhoven, the Netherlands, Dec 2013.
5. Keynote Speaker, "Entrepreneurship in US Universities," the Innovation and Entrepreneurship Forum, Umm Al Qura University, Makkah, Saudi Arabia, May 2013.
6. Distinguished Lecture Series speaker. The 2012 Peking University Distinguished Lecture Series on the Future of Information Technology, "ICT for a Smarter Planet: Challenges, Enablers, and Opportunities," Oct 2012.
7. Keynote Speaker of the International Workshop on Situation, Activity and Goal Awareness (SAGAware), in conjunction with ACM Ubicomp Conference, Beijing, China, Sept 2011.
8. Keynote Speaker of the 11th IEEE/IPSJ SAINT Workshop on Semantic Interoperability in Smart Spaces, Munich, Germany, July 2011.
9. Keynote Speaker of the 8th International Conference on Wearable, Micro and Nano Technologies for Personalized Health (pHealth), Lyon, France, June 2011.
10. Keynote Speaker of the AIT Workshop on Ambient Assisted Living – Smart Homes and Beyond. Austrian Institute of Technology, May 2011.
11. Keynote Speaker of the European Union South East Europe (SEE) Conference on Efficient Technology Transfer in Industrial Informatics and Embedded Systems, Vienna, Austria, May 2011.
12. Keynote Speaker of the Second International ICST Conference on Sensor Systems and Software (S-Cube). Keynote title: "Programming Pervasive Spaces," Miami, Florida, Dec 13, 2010.
13. Keynote Speaker of the 7th International Conference on Ubiquitous Intelligence and Computing (UIC 2010). Keynote title: "Programming Pervasive Spaces," Xi'an, China, Oct 28, 2010.

14. Keynote Speaker of the 18th Annual Meeting of the IEEE International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems. Keynote title: "The Cloud, the Edge and Beneath," Miami Beach, Florida, Aug 18, 2010.
15. Joint CMU/Pitt Quality of Life Technologies Center Lecture Series: "Gator Tech Smart House: A Smart Home in a Box," Pittsburg, PA, Nov 12, 2009.
16. Keynote Speaker of the 3rd IET International Conference on Intelligent Environments (IE07). Keynote title: "Assistive Environments for Successful Aging," Ulm, Germany, Sept 24-25, 2007.
17. Keynote Speaker of the 31st Annual IEEE International Computer Software and Applications Conference (COMPSAC). Keynote title: "Software Foundation for Critical Pervasive Computing," Beijing, China, July 23-27, 2007.
18. Keynote Speaker of the 5th International Conference on Smart Homes and Health Telematics (ICOST07). Keynote title: "Assistive Environments for Successful Aging," Nara, Japan, June 21-23, 2007.
19. Distinguished Lecture Series, School of Computing, Queen's University. Talk title: "Programmable Pervasive Spaces," Kingston, Ontario, Canada, May 2006.
20. Plenary Speaker of the 23rd Biennial Symposium on Communications, hosted by Queen's University. Keynote title: "Plug and Play Sensor Networks," Kingston, Ontario, Canada, May 2006.
21. Keynote Speaker: The International Conference on Aging, Disability and Independence. Keynote title: "Smart Homes for Successful Aging," St. Petersburg, Florida, Feb 2006.
22. Keynote Speaker of the Institute for InfoComm Research Horizon Conference. Keynote title: "Programmable Pervasive Spaces for Aging, Disabilities and Independence," Singapore, Sept 2005.
23. Keynote Speaker of the IEEE International Conference on Information and Computer Science. Keynote title: "Pervasive Computing: Promise and Challenges," Dammam, Saudi Arabia, Nov 2004.
24. Distinguished Lecture Series: Unisys Distinguished Lecture series, University of Minnesota, Computer Science Department. Lecture title: "Pervasive Computing for Successful Aging," Oct 4, 2004
25. Keynote Speaker of the IEEE Workshop on Wireless Local Networks (WLN). Keynote title: "Pervasive Computing = Service Discovery + Wireless Local Connectivity," Tampa, Florida, Nov 2002.
26. Keynote Speaker of the AAAI Workshop on Automation as Caregiver. Keynote title: "The Role of Intelligent Technology in Elder Care," Edmonton, Canada, July 2002.

### 13.b Invited Colloquia/Conference Speaker

27. "Scalable Cloud-Sensor Architecture for Smart City Deployments," Qualcomm Research, Santa Clara, CA, March 4, 2016.
28. "Taming High-Velocity Big Data in Emerging Cloud-Sensor Systems," Center on Big Data, Software Engineering Department, China University of Petroleum, Qingdao, China, Nov 2015.
29. "Cloud-Sensor Architectures for the Internet of Things," National I-Lan University (NIU), Taiwan, July 2015.
30. "Understanding User Behavior and Interactions in Future Smart Spaces—A Context-Driven Simulation Approach," The NUI/NUX Platform Research Center Annual Workshop. Dongguk University, Seoul, Korea, Apr 2015.
31. "Smart Space Ecosystem and Platforms for the Web of Things," Faculty of Informatics, Technical University of Vienna, Austria. Mar 2015.
32. "Scalable Cloud-Sensor Architecture for the Internet of Things," colloquia talk, Indiana University/Purdue University (IUPUI) in Indianapolis, USA. Oct 2014.
33. "Scalable Cloud-Sensor Architecture for Smart Spaces," colloquia talk, College of Engineering, University of Bridgeport, Connecticut, USA, Mar 2014.
34. "ICT for a Smarter Planet: Challenges, Enablers, and Opportunities," Institute of Advanced Studies, University of Bologna, Italy, Feb 2014.
35. Invited Seminar, "Spaceify: An Ecosystem for Smart Spaces," Joint Thursday Luncheon Seminar, Helsinki Institute for Information Technology (HIIT) and the European Innovation for Technology (EIT) ICT Labs, Helsinki, Finland, Dec 2013.
36. Invited Speaker, "Lessons Learned from User-Centered Research at the Gator Tech Smart House," Information Technology Research Center, Donggok University, Seoul, Korea, Nov 2013.
37. "Research Agenda in Pervasive Computing," EIT ICT Labs, Finland, May 2012.
38. "Sentience and Energy Efficiencies in Cloud Sensor Systems," University of Notre Dame, May 2012.
39. "Cloud-Sensor Systems," Department of Computer Sciences, Purdue University, Apr 2012.
40. Invited Speaker in the 2nd International Workshop on Sustainable Medical Collaboration in East & West 2011 (SMCEW 2011), "Smart Space Design, Programming and Operation—Lessons Learnt from the Gator Tech Smart House," Korea, Sept 2011.
41. Invited Speaker in Workgroup 9 in the European Forum Alpbach Technology Forum, "Smart Home in a Box—An Ecosystem & Enablers for Assistive Environments," Alpbach, the Tyrol, Austria, Aug 2011.

42. Invited Speaker at the College of Engineering, Suzhou University of Science and Technology (SUST), "The Gator Tech Smart House An Assistive Environment for Successful Aging," Suzhou, China, Mar 2011.
43. "Programming Pervasive Spaces," Microsoft Research Beijing, China, Oct 2010.
44. "Programming Pervasive Spaces," Nokia Research Labs, Palo Alto, California, May 2010.
45. "Programmable Pervasive Spaces," Bell Labs (Alcatel-Lucent Research), Antwerp, Belgium, May 2010.
46. "The Gator Tech Smart House," The Future Design Conference, Seoul, Korea, Oct 2007.
47. "The Atlas Middleware for Pervasive Spaces," General Electric Global Research Laboratory, New York, USA, Mar 2007.
48. "Smart Homes as Platforms for Personal Health," IBM Emerging Standards Group, Raleigh, NC, USA, Dec 2007.
49. "The Gator Tech Smart House," Iowa State University, Ames, Iowa, June 2006.
50. "Programming Pervasive Spaces," School of Information Systems, Singapore Management University, Sept 30, 2005.
51. "Pervasive Computing and Sensor Networks," Motorola Labs, Plantation, Florida, Sept 20, 2005.
52. "Pervasive Computing for Successful Aging," IEEE Computer Society Jacksonville Chapter, July 17, 2004.
53. "Wireless LANs/WANs abridged," Motorola iDEN R&D group, Plantation, FL, May 12, 1999.
54. "The Wireless Thin Client Architecture," CITRIX Systems Corporation, Ft. Lauderdale, FL, May 11, 1999.
55. "Mobile and Ad-Hoc Service Discovery," Auburn University, Auburn, AL, Apr 2002.
56. "The Internet Enterprise," University of Louisville, Louisville, KY, Apr 2002.
57. "Exploiting Thin Clients for Mobile and Pervasive Computing," Microsoft Mobile and Wireless Computing Research, Redmond, WA, Oct 27, 2000.
58. "Mobile Databases," IBM T.J. Watson Research Center, Hawthorn, Invited by the Data Management Professional Impact Committee (PIC), NY, Aug 25, 1999.
59. "Ubiquitous Computing: How?" IBM Watson Research Center, Mobility Software group, Yorktown Heights, NY, May 21, 1999.
60. "Heterogeneous Workflow Integration for the Virtual Enterprise," IBM Watson Research Center, e-Business group, Yorktown Heights, NY, May 20, 1999.
61. "Transaction Service Handoff in Mobile Environments," DIMACS Workshop on Mobile Networks and Computing, Rutgers, NJ, Mar 1999.
62. "A Data Warehousing Approach to Mobile Data Management," Panasonic Information and Networking Technologies Lab (PINTL), Princeton, NJ, Mar 26, 1999.



63. "Mobile Computing R&D in the US," colloquia talk, Department of Computer Science, University of Helsinki, Sept 1997.
64. "Large Scalable Database Design," the Center for Innovation of Padova University, Padova, Italy, Jan 1995.
65. "Research in Distributed Database Systems," 25th Anniversary of the Computer Science Department, Alexandria University, Alexandria, Egypt, Dec 1994.
66. "Large-Scale Database Design," N. American Phillips Corp., Briarcliff Manor, NY, Nov 1994.
67. "ScaleTool: Analyzing High Contention Systems," Hewlett Packard Research Laboratory, Palo Alto, CA, Oct 1994.
68. "Research on Distributed Database Systems," Bell Northern Research, Richardson, TX, Mar 1994.
69. "Distributed Database Systems: Living with Failures and Surviving Catastrophes," The State of the Art Talks, 12th IEEE Symposium on Reliable Distributed Systems, Oct 1993.
70. "Wireless Thin Clients: A Universal Mobility Middle-ware Infrastructure," Cairo University, Summer 2001.
71. "Mobile Computing Research," the Computer Science Department of University of Helsinki, Helsinki, Finland, Sept 1997.

### **13.c Conference Tutorials**

1. "Cloud-Sensor Systems: Architectures and Optimizations," Sumi Helal, 8th International Conference on Wireless Communication and Mobile Computing, Cyprus, Aug 2012.
2. "Mobile Client/Server Computing," Sumi Helal, The ACM Fourth Annual International Conference on Mobile Computing and Networking (MobiCom'98), Dallas, Texas, Oct 1998.
3. "Mobile Computing and Communications: Overview, Limitations, and State of Technology," Sumi Helal, The IEEE International Performance, Computing, and Communications Conference (IPCCC), Phoenix, Arizona, Feb 1998.
4. "Computing and Transacting in the Mobile Environment," Sumi Helal, The 6th IEEE International Symposium on High Performance Distributed Computing (HPDC'97), Portland, Oregon, Aug 1997.
5. "Portability and Interoperability Standards for Database Systems and Applications," Sumi Helal and Ramez Elmasri, 12th International Conference on Data Engineering, New Orleans, LA, Feb 1996.
6. "Building Enterprise-Wide Client/Server Applications," Sumi Helal, The 29th Hawaii International Conference on System Sciences, Maui, Hawaii, Jan 1996.
7. "Distributed and Object-Oriented Database Systems," 9th Brazilian Database Symposium, Sao Carlos, Sao Paulo, Brazil, Sept 1994.

8. "Distributed and Object-Oriented Database Systems," Sumi Helal and Ramez Elmasri, The 6th IEEE Symposium on Parallel and Distributed Processing, Arlington, TX, Oct 1994.
9. "Distributed and Object--Oriented Database Systems," Sumi Helal and Ramez Elmasri, The 26th Hawaii International Conference on System Sciences, Maui, HA, Jan 1993.
10. "Reliability and Performance Evaluation of Distributed Database Systems: A Practical Approach," Sumi Helal, IEEE 11th Symposium on Reliable Distributed Systems, Houston, TX, Oct 1992.
11. "Standards for Database Portability and Interoperability," Sumi Helal and Ramez Elmasri, The 22nd International Conference on Very Large Data Bases (VLDB'96), Bombay, India, Sept 1996.
12. "Portability and Interoperability Standards In Databases: CORBA, ODMG-93, and SQL-3 Information Systems," Ramez Elmasri (presenter) and Sumi Helal, 1st IFCIS International Conference on Cooperative (CoopIS), Brussels, Belgium, June 1996.
13. "Interoperability Standards for Applications and Systems," Sumi Helal, 10th Brazilian Database Symposium, Recife, Brazil, Oct 1995.

## 14 PROFESSIONAL ACTIVITIES AND SERVICES

### 14.a Society Memberships and Activities

1. Member of the IEEE Magazines Operation Committee (MOC), Jan 2015 – present.
2. IEEE Computing Now Editor-in-Chief Search Committee Chair, 2015-2016
3. *Computer* Editor-in-Chief Search Committee member, 2010 and 2012.
4. *IEEE Transactions on Services Computing* Editor-in-Chief Search Committee member, 2010.
5. Member of the IEEE Industrial Advisory Board (IAB) Subcommittee on Publications (2009–present).
6. Coordinator of IEEE Computer Society Region 3 Activities, 2009.
7. Member of the Executive Committee of the IEEE CS Technical Committee on the Internet (TCI) (1998–present).
8. Chair of the IEEE CS Technical Committee on the Internet, <http://computer.org/portal/web/TCI>. (Sept 2000–Apr 2003)
9. Vice Chair and member of the executive committee of the IEEE-CS Technical Committee on the Internet (TCI) (Mar 1998–Aug 2000)
10. Member of the Executive Committee of the IEEE Computer Society Special Technical Community on Operating Systems (STCOS, previously: TCOS), [www.tcos.org](http://www.tcos.org), Jan 1995–present.

11. Fellow Member of the IEEE and a member of the IEEE Computer Society (Student/full Member since 1980, Senior Member since Oct 2000, Fellow Member since 2015)
12. Member of the IEEE CS Technical Committees on the Internet, Operating Systems, Distributed Processing and Data Engineering (1995–present)
13. Member of the American Association for the Advancement of Science, AAAS (Apr 2015–present).
14. Member of the USENIX Association (June 1998–present)
15. Serving as the University of Florida Liaison to the USENIX Association (Apr 1999–present).
16. Member of the Association of Computing Machinery (ACM) (1990–present)
17. Member of the ACM Special Interest Group in Management of Data (SIGMOD) (1990–present)

#### **14.b Program/General Chair of Conferences/Workshops**

Organized and chaired 26 conferences, workshops or symposia in the capacity of General or Program Chair or Cochair.

1. General Cochair of Smart Environment Workshop (SmartE), held in conjunction with IEEE International Conference on Pervasive Computing (Percom), St. Louis, Missouri, Mar 2015.
2. Cochair of Assistive Technology for Smart Environment Workshop to be held in conjunction with the IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Belfast, UK, Nov 2014.
3. General Cochair of 12th International Conference on Smart Homes and Health Telematics (ICOST 2014), Denver, Colorado, USA, June 25-27, 2014.
4. General Chair of 19th ACM International Conference on Mobile Computing (MobiCom 2013), Miami, Florida, USA, Sept 2013.
5. General Cochair of 9th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC 2012), Fukuoka, Japan, Sept 2012.
6. Chair of Domotics and Robotics for Supporting Seniors Symposium, in conjunction with the 7th ISG World Conference of Gerontechnology, Vancouver, BC, Canada, May 27-30, 2010.
7. General Chair of 11th ACM International Conference on Ubiquitous Computing (UbiComp 2009), Orlando, Florida, Sept 29-Oct 3, 2009.
8. General Cochair of 6th International Conference on Ubiquitous Intelligence and Computing (UIC-09), July 7 - 10, 2009, Brisbane, Australia.
9. Conference Development Cochair of 5th International Conference on Intelligent Environments (IE 2009), Barcelona, Spain, July 2009.
10. General Cochair of 4th IET International Conference on Intelligent Environments (IE08), Seattle, Washington, Sept 2008.

11. Program Cochair of 6th International Conference on Smart Homes and Health Telematics (ICOST 08), Ames, Iowa, June 2008.
12. Chair of the Scientific Committee of the 5th International Conference on Smart Homes and Health Telematics (ICOST 07), Nara, Japan, June 2007.
13. Chair of the Research Themes of the Third EU/US International Conference on Aging, Disability, and Independence (ICADI), St. Petersburg, Florida, Feb 2006.
14. General Cochair of the 23rd IEEE Symposium on Reliable Distributed Systems (SRDS), Orlando, Florida, Oct 2005.
15. General Cochair of the 4th IEEE/IPSJ International Symposium on Applications and the Internet (SAINT), Tokyo, Japan, 2004.
16. Chair of the Smart Technology track of the EU/US International Conference on Aging, Disability, and Independence (ICADI), to be held in Washington, D.C., Dec 2003.
17. Program Cochair of the NSF-supported Preparatory Workshop for the EU/US International Conference on Aging, Disability, and Independence (preICADI), Royal Academy of Engineering, London, England, June 2003.
18. Program Cochair of the 3rd IEEE/IPSJ International Symposium on Applications and the Internet (SAINT), [www.saint2003.org](http://www.saint2003.org), Orlando, Florida, Jan 2003.
19. General Cochair of the 21th IEEE International Performance, Computing, and Communications Conference (IPCCC 2002), <http://ipccc.org>, Phoenix, Arizona, Apr 2002.
20. General Vice Chair of the 20th IEEE International Performance, Computing and Communications Conference (IPCCC), Phoenix, Arizona, Apr 2001.
21. Program Cochair of the 10th IEEE Workshop on Research Issues in Data Engineering (RIDE), San Diego, California, Feb 2000.
22. Track Cochair of the Software Technology Track of the 33rd International Conference on System Sciences (HICSS-2000), Maui, Hawaii, Jan 2000.
23. Program Chair of the 19th IEEE International Performance, Computing and Communications Conference (IPCCC), Phoenix, Arizona, Feb 2000.
24. General Chair of the 2nd International Workshop on Mobile Computing Systems and Applications – HotMobile (then named IEEE Workshop on Mobile Computing Systems and Applications (WMCSA 99)), New Orleans, Louisiana, Feb 1999. Currently HotMobile is sponsored by ACM.
25. Program Cochair of the Minitrack on Parallel and Distributed Database Systems of the Hawaii International Conference on Systems Sciences, Jan 1994.
26. Program Vice-Chair of the IEEE Workshop on Advances in Parallel and Distributed Systems, Princeton, New Jersey, Oct 1993.

#### **14.c Member (or Chair) of Steering/Advisory Committee/Advisory Board**

1. Chair of the Scientific Committee of 14th International Conference on Smart Homes and Health Telematics (ICOST 2016), Wuhan, China, May 25-27, 2016.
2. Member of the Steering Committee of the EAI International Conference on IoT in Urban Space (Urb-iot), 2014–present.
3. Chair of the Advisory Committee of the 8th International Conference on Ubiquitous Intelligence and Computing (UIC 11).
4. Member of the International Advisory Board of the International Conference on Wearable, Micro and Nano Technologies for Personalized Health (pHealth), 2011–2012.
5. Member of the Steering Committee of the ACM International Conference on Ubiquitous Computing (Ubicomp), 2009–2011.
6. Member of the Steering Committee of the IEEE/IPSJ Symposium on Applications and the Internet, SAINT - [www.saintconference.org](http://www.saintconference.org), (1999–2012).
7. Chair of the Steering Committee of the IEEE/IPSJ Symposium on Applications and the Internet, SAINT - [www.saintconference.org](http://www.saintconference.org), (2006–2008 and 2010–2012).
8. Member of the standing Committee of the IEEE COMPSAC Conference ([www.compsac.org](http://www.compsac.org)), (2008–present).
9. Member of the International Advisory Committee. The International Conference on Ubiquitous Intelligence and Computing, (2006–2008)
10. Member of the Steering Committee, the IEEE Workshop on Internet Applications, WIAPP, (1999–2005).
11. Member of the Steering Committee, the IEEE Workshop on Mobile Computing Systems and Applications, WMCSA, (1998–2003).
12. Member of the International Advisory Committee, the IEEE International Conference on Industrial Technology (ICIT), Dec 2001.
13. Member of the Steering Committee, the IEEE International Symposium on Performance Analysis of Systems and Software, ISPASS, (2000–2004).
14. Member of the Advisory committee, the Software Technology Track of the 31st and 32nd Hawaii International Conferences on System Sciences (HICSS), 1998–1999.

#### **14.d Panelist / Panel Chair**

1. Panelist: “The Top 10 Challenges for a Smart World,” 2015 Smart World Congress, Beijing, China, Aug 12, 2015.
2. Panelist: “Looking into the Future through a Value View of the Internet-of-Things,” Stephen S. Yau Special Academic Symposium, in conjunction with COMPSAC Conference, Taichung, Taiwan, July 2015.

3. Panelist: "Ubiquitous Intelligence in the Era of IoT and Big Data," 11th IEEE Conference on Ubiquitous and Intelligent Computing (UIC), Bali, Indonesia, 2014.
4. Panelist: "Cloud Computing Research Execution Strategies," A Panel on Qatar National Research Strategy in Computing, Doha, Qatar, Oct 2012.
5. Panel Chair: "Smart Planet Challenges—Impediments and Enablers," 9th IEEE Conference on Ubiquitous and Intelligent Computing (UIC), Fukuoka, Japan, 2012.
6. Chair of the Panels Program at 35th Annual IEEE International Computer Software and Applications Conference (COMPSAC), Munich, Germany, 2011.
7. Panel Chair: "Towards New Roles and System Architecture Supporting the Full Life Cycle of Smart Spaces," 34th Annual IEEE International Computer Software and Applications Conference (COMPSAC), Seoul, S. Korea.
8. Panel Chair: "Location-Based Services—Back to the Future," 32nd Annual IEEE International Computer Software and Applications Conference (COMPSAC), Turku, Finland, July/Aug 2008.
9. Panelist: "Future Trends—Computing as a Core Discipline," the 31st Annual IEEE International Computer Software and Applications Conference (COMPSAC), Beijing, China, July/Aug 2007.
10. Panelist in the closing panel of the IEEE Pervasive Computing Conference, Fort Worth, Texas, Mar 2003.
11. Panelist in the 3rd IEEE/IPSJ International Symposium on Applications and the Internet (SAINT). Panel title: "The Future of the Internet," Orlando, Florida, Jan 2003.
12. Panelist: "The Future of the Internet," The 2nd IEEE/IPSJ International Symposium on Applications and the Internet (SAINT), held in Nara, Japan, Jan 2002.
13. Panel Chair: "Mobility Middleware: What Is Lacking?," 10th IEEE Workshop on Research Issues in Data Engineering (RIDE-2000), San Diego, California, Feb 2000.
14. Panelist: "The Future of the Internet," 4th IEEE Symposium on Computers and Communications, Sharm El-Sheikh, Red Sea, Egypt, July 1999.
15. Panelist: "Does Database Research Have a Role in Workflow Management?" ATMA Workshop on Advanced Transaction Models and Architecture, in conjunction with VLDB 96, Goa, India, Sept 1996.
16. Panel Chair: "Standards for Interoperability," ACM International Conference on Information and Knowledge Management, Washington, DC, Nov 1994.

#### **14.e Program Committee Member**

1. ACM 11th International Conference on Advances in Mobile Computing and Multimedia (MoMM 13), Vienna, Austria.

2. IEEE International Conference on Data Engineering, Istanbul, Turkey, Apr 2007.
3. IEEE International Conference on Pervasive Computing, (PerCom), Kauai, Hawaii, Mar 2005.
4. IEEE/ACM International Conference on Mobile Data Management (MDM), Cyprus, May 2005.
5. ACM Workshop on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN 04).
6. IEEE/ACM International Conference on E-business and Telecommunication Networks (ICETE), Setubal, Portugal, Aug 2004.
7. International Workshop on Ubiquitous Computing IWUC 04, Apr 2004, Porto, Portugal.
8. Workshop on Pervasive Computing Education, In conjunction with the IEEE Conference on Pervasive Computing, Apr 2004.
9. International Computer Engineering Conference (ICENCO 04), Cairo, Egypt, Dec 2004.
10. The 2003 ACM Workshop on Modeling and Simulation of Wireless and Mobile Systems (MSWIM 03).
11. The 2003 International Conference on Enterprise Information Systems, France, Aug 2003.
12. The 2003 IEEE Semiannual Vehicular Technology Conference (VTC), Orlando, Florida, Oct 2003.
13. The 2003 IEEE Workshop on Internet Applications (IEEE WIAPP'03), San Jose, CA, June 2003.
14. The 1st IEEE Conference on Pervasive Computing, Fort Worth, Texas, Apr 2003.
15. The 2003 Parallel and Distributed Computing Systems (PDCS), Reno, Nevada, Aug 2003.
16. The 2003 IEEE Local Computing Networks (LCN), Bonn, Germany.
17. The 2003 IEEE Conference on E-Commerce, New Port Beach, CA, June 2003.
18. The 2003 International Conference on Web Services (ICWS 03) – on the Technical Advisory Board of the conference. Las Vegas, Nevada, June 2003.
19. ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 03) Tunisia, July 2003.
20. The 2002 Pacific Rim International Symposium on Dependable Computing, Tsukuba City, Japan, Dec 16-18, 2002.
21. The 2nd ACM International Workshop on Mobile Commerce, to be held in conjunction with MobiCom 02. Atlanta, GA, Sept 2002.
22. IEEE 11th International Workshops on Enabling Technologies: Infrastructure for Collaborative Enterprise, June 2002, Pittsburgh, PA, USA.
23. IEEE Workshop on Wireless Local Networks (WLN), to be held in conjunction with IEEE Local Computer Networks, Tampa, Florida, Nov 2002.

24. MDB: the Workshop on Mobile Databases to be held in conjunction with the 31st International Conference on Parallel Processing, Vancouver, British Columbia, Canada, Aug 2002.
25. The 2002 IFIP Workshop on Internet Technologies, Applications, and Societal Impact (WITASI 02), Wroclaw, Poland, Oct 2002.
26. The 4th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 2002), to be held in Aix-en-Provence, France, Sept 4-6, 2002.
27. The 2002 Pacific Rim International Symposium on Dependable Computing, Tsukuba City, Japan, Dec 16–18, 2002.
28. The 4th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 2002), to be held in Aix-en-Provence, France, Sept 4-6, 2002.
29. The 3rd ACM Conference on Ubiquitous Computing (UbiComp), Atlanta, GA, Oct 2001.
30. The 20th International Conference on Conceptual Modeling (ER2001), Yokohama, Japan, Nov 2001.
31. The 2nd Asian International Mobile Computing Conference (AMOC 2002), Indonesia, May 2002.
32. The 12th IEEE International Workshop on Research Issues on Data Engineering (RIDE 2002), San Jose, CA, Feb 2002.
33. The 2001 Pacific Rim International Symposium on Dependable Computing (PRDC), Seoul, Korea, Dec 17–19, 2001.
34. NSF International Workshop on an Infrastructure for Mobile and Wireless Systems, Scottsdale, Arizona, Oct 2001.
35. The ACS International Conference on Computer Systems and Applications, Beirut, Lebanon, June 26–29, 2001.
36. Third International Conference on Data Warehousing and Knowledge Discovery (DaWaK'01), Munich, Germany, Sept 5-7, 2001.
37. The ACS International Conference on Computer Systems and Applications, Beirut, Lebanon, June 26-29, 2001
38. The 21<sup>st</sup> IEEE International Conference on Distributed Computing Systems (ICDCS-2001), Phoenix, AZ, Apr 2001
39. IEEE 11th International Workshop on Research Issues on Data Engineering (RIDE'01). Heidelberg, Germany, Apr 1-2, 2001
40. The First Workshop on Advanced Software for Pervasive Environments and Information and Server Appliances (ASPEISA), to be held in Hsinchu, Taiwan, Dec 29, 2000.
41. The 12th International Conference on Parallel and Distributed Computing and Systems (PDCS'2000) Las Vegas, Nevada, Nov 6-9, 2000.



42. Asian International Mobile Computing Conference (AMOC 2000), Penang, Malaysia, 1-3 Nov 1-3, 2000.
43. ADBIS-DASFAA-2000 Symposium on Advances in Databases and Information Systems. Special Session on Mobile Database Technology, Prague, Czech Republic, Sept 5-8, 2000.
44. Third International Workshop on Mobility in Databases and Distributed Systems. In conjunction with the 11th International Conference on Database and Expert Systems Applications (DEXA'2000), Greenwich, UK, Sept 6-8, 2000.
45. The 26th Very Large Data Bases Conference (VLDB) in Cairo, Egypt, Sept 10-14, 2000.
46. The Workshop on Pervasive Computing (in conjunction with the 29th International Conference on Parallel Processing (ICPP 2000)), Toronto, Canada, Aug 21-24, 2000.
47. The Workshop on Wireless Networks and Mobile Computing (WMNC), Taipei, Taiwan, Republic of China, (in conjunction with ICDCS), June 2000.
48. Third IEEE Symposium on Application-Specific Systems and Software Engineering and Technology (ASSET), Richardson, Texas, Mar 24-25, 2000.
49. Second IEEE Symposium on Application-Specific Systems and Software Engineering Technology, Richardson, Texas(ASSET), Mar 1999.
50. The International Conference on Advances in Databases and Information Systems (ADBIS), Poland, 1998.
51. International Workshop on Mobility in Databases and Distributed Systems, (in conjunction with DEXA), U.K., 1998.
52. IEEE Symposium on Reliable Distributed Systems (SRDS), West Lafayette, Indiana, 1998.
53. IEEE International Conference on Data Engineering (ICDE), Orlando, Florida, 1998.
54. ACM Symposium on Applied Computing (SAC), Atlanta, GA, 1998.
55. IEEE Symposium on Reliable Distributed Systems (SRDS), Durham, North Carolina, 1997.
56. IASTED First Int'l Conference on Parallel and Distributed Systems (EURO-PDS), IEEE Symposium, Vienna, Austria, 1997.
57. IEEE Symposium on Reliable Distributed Systems (SRDS), Ontario, Canada, 1996.
58. First IFCIS International Conference on Cooperative Systems (CoopIS), Brussels, Belgium, 1996.
59. IEEE Workshop on Research Issues on Data Engineering (RIDE), New Orleans, Louisiana, 1996.
60. IEEE First International Conference on Complex Computer Systems, Ft Lauderdale, Florida, 1995.
61. International Conference on Entity-Relationship Approach, Dallas, Texas, 1993.
62. ACM International Conference on Information and Knowledge Management (CIKM), Gaithersburg, MD, 1993.

63. IEEE International Conference on Distributed Computing Systems (ICDCS), Pittsburgh, PA, 1993.

#### **14.f Reviewer for Scholarly Journals**

1. *IEEE Transaction on Mobile Computing*
2. *IEEE Pervasive Computing*
3. *IEEE Transactions on Computers*
4. *IEEE Computer*
5. *IEEE Transactions on Software Engineering*
6. *IEEE Transactions on Biomedical Engineering*
7. *IEEE Transactions on Human Machine Systems*
8. *IEEE Transactions on Service Computing*
9. *IEEE Transactions on Knowledge and Data Engineering*
10. *IEEE Transactions on Parallel and Distributed Systems*
11. *IEEE Parallel Distributed Technology* (renamed as *IEEE Concurrency*)
12. *IEEE Software*
13. *Proceedings of the IEEE*
14. *Communications of the ACM*
15. *ACM Transactions on Sensor Networks*
16. *ACM SIGBIT Data base Journal*
17. *ACM-Baltzer Mobile Networks and Applications Journal*
18. *Journal of Parallel and Distributed Computing*
19. *Information Systems: An International Journal*
20. *Distributed and Parallel Databases Journal*, Kluwer Publishing Company
21. *Journal of Brazilian Computer Society*
22. *European Data and Knowledge Engineering Journal*
23. *Journal of Intelligent Information Systems*, Kluwer Publishing Company
24. *Software: Practice and Experience Journal*, John Wiley and Sons

#### **14.g Reviewer for National & International Funding Organizations**

1. National Science Foundation, Reviewer for several programs in multiple directorates, and member of ERC, Research Instrumentation, and other site visit committees (5 site visits) (1997–present).
2. National Institute on Aging Special Emphasis Panel (ZAG1 ZIJ-8 A1, Aging and Technology). Panel Chairperson (2016).

3. National Institutes of Health, Reviewer on numerous on-site and internet-based review panels (2010–present).
4. Natural Sciences and Engineering Research Council of Canada, several proposals, (1996–present).
5. National Institute on Disability and Rehabilitation Research, reviewer on several panels (2007–present)
6. Over 30 promotion or tenure & promotion cases in the US, Europe, Canada, and the Middle East (1987–present)
7. Soumen Akatemi (Academy of Finland), advisor and evaluator of Centers of Excellence (2008–2015), reviewed joint Japanese–Finnish research collaborations, 2008.
8. Netherlands Organization for Scientific Research (2014)
9. Swiss National Science Foundation (2014)
10. Research Grants Council of Hong Kong. External reviewer, Apr 2013
11. Qatar National Research Fund (2010–2012)
12. Iowa State University. External reviewer of the Department of Computer Science, reporting to the Dean of the College of Liberal Arts and Sciences. Nov 2011.
13. Sweden Technology Foundation. Funding programs evaluator, Oct 2011.
14. Member of Technical Advisory Board of Microsoft Innovation Lab, Cairo, Egypt, 2006–2007
15. FWF Austrian Science Fund, Austria, reviewed technology commercialization programs (2006)
16. Portuguese Foundation for Science and Technology, 2004, reviewed research funding program, Lisbon, Portugal, May 2003.

#### **14.h National & International Advising / Consulting**

1. Expert opinion/witness on technology infringement litigation cases to several US law firms.
2. Consultant to King Saud University in matters of RFID and other sensing and wireless technologies, 2012–2014.
3. Member of External Review Committee of a Computer Science department in the US (2013)
4. Member of the Technical Advisory Board, Microsoft Innovation Lab in Cairo (CMIC), Cairo, Egypt, 2009–2011.
5. Expert advisor to The World Health Organization (WHO) on technical matters surrounding the World Report on Disability, a joint project of WHO and the World Bank, 2009.
6. Scientific advisor and an annual external reviewer of research programs to the Agency for Science, Technology and Research (A\*STAR), Singapore, 2005–2009.

7. Nomura Research Institute, Japan, June 2008, preliminary research into the open services platform project undertaken by the Taiwanese government.
8. Auburn University IT Center of Excellence, Strategic Plan Evaluation Committee member, Mar 2004.
9. NTT DoCoMo Research Labs, San Jose, CA, 2003–2006, recruited members of technical staff in the networking and operating systems areas.

#### **14.I University Governance and Service**

1. Faculty Advisor – University of Florida Software Engineering Club (2015-).
2. Faculty Advisor – Egyptian Students Association at the University of Florida (2015-).
3. CISE Department Steering Committee member (2013–2015). Committee Chair 2014/2015.
4. Faculty Tenure and Promotion Advisory Committee (2012–present)
5. Scholarship & Awards Committee (2014–present).
6. CISE Department Chair's Advisory Committee (2012–2013)
7. Budget Cut and EE-CS School ad hoc committee (2012)
8. College of Engineering School of IT Exploration Committee (2011–2012).
9. CISE Faculty Awards Committee (member: 2006–2012), (Chair: 2006–2008), (Chair: 2012–present)
10. CISE Systems Facilities Committee (2001–2006, 2012)
11. CISE Industrial Advisory Board (IAB) Committee (1998–1999, 2000 (Chair), 2001 (Chair), 2002, 2003 (Chair), 2004–2006, 2008–2010).
12. CISE Faculty Search Committee (2002–2005, 2006 (Chair), 2008–2010)
13. CISE Space Facilities Committee (2001, 2002)
14. CISE Facilities Violations and Appeals Subcommittee (2000, 2001)
15. CISE Graduate Students Affairs Committee (1999–2006)
16. CISE Ph.D./MS Exam Committee (2000, 2001, 2003)
17. Search Committee of the BellSouth Chair in Telecommunication Position (1998–2001)
18. Search Committee for the CISE Department Chair position (2001)
19. NERDC University-wide Instruction and Research Users' Group Committee (I&R) (1999–2001)
20. CISE Colloquium Committee (member, 2000, 2008–2010) (Chair, 2011–2012)
21. Member of UF Information Technology Advisory Council (ITAC): Network Infrastructure Subcommittee (2001–2006)
22. Chair of the UF Wireless Campus initiative (2001–2002)

## 14.j Visiting Professorships

1. Peking University, Beijing, China. Summer 2015. Participated in the College of Engineering Summer School on Ubiquitous Computing. Lectured on the “Ecosystem Enablement of the Internet of Things.”
2. Finland Distinguished Professor - Aalto University and the EIT Digital labs, Sept 2011- Dec 2013.
3. University of Bologna Institute of Advanced Studies, Jan –Feb 2014.
4. University of Ulster, Northern Islands. Jan 2011 – Jan 2012, visiting the Smart Environments Research group at the Computer Science Research Institute. Program review and collaborative research.
5. American University in Cairo. Summer 2010. One week visit to participate in a series of lectures and review curriculum.
6. Edinburgh University, Edinburgh, Scotland. Summer 2009. Participated in the MATCH (Mobilizing Advanced Technologies for Care at Home) summer school. MATCH is a collaborative research project funded by the Scottish government, focused on technologies for care at home.

## 14.k Other Consulting

1. Qualcomm Research. Consulting services on state of the art on security in industrial Internet of Things.
2. SHANDS Hospital, Florida, Jan 2002. Guided IT department in its Wireless Pilot Trail in which mobile devices were used and integrated with the hospital’s existing workflow.
3. Motorola, Plantation, Florida, May 2000. Designed Architectures for Motorola’s future Smart Phones utilizing impromptu service discovery, Sun Microsystem’s Jini and dual RF/local connectivity.
4. Sarnoff Corporation, Princeton, N.J., Apr 2000. Evaluated existing design schemes for scalable Home Multimedia Storage Servers and provided a comprehensive survey of the current developments and research.
5. Motorola, Austin, Texas, May–Aug 1998. Consulted for the Remote Computing Project and provided performance evaluation studies to a wireless thin/client setup over Nextel’s iDEN network.
6. MCC, Austin, Texas, Apr 1996. Conducted a research study on Mobile Transactions prior to joining MCC in June 1996.
7. Skill Dynamics: IBM Educational Center, Atlanta, May 1994. Georgia. Designed and taught a short course on the Design and Implementation of a Client-Server System.

## 15 MEDIA COVERAGE AND HONORABLE MENTIONS

Dr. Helal's research and technology innovations have received significant media coverage, especially his work on pervasive and mobile computing and their applications in proactive health, aging, disability, and independence. This includes the *New York Times*, the *MIT Technology Review*, the *Chicago Tribune*, *USA Today*, the Discovery Channel Beyond Tomorrow TV program, and many other newspapers and famous computer magazines. In March 2010, Dr. Helal was featured as the cover story highlight in *Florida Trends Magazine*, the premier business and technology magazine of the state of Florida.



Details of all media coverage of Dr. Helal, his students, and his research findings are available at [www.icta.ufl.edu/media.htm](http://www.icta.ufl.edu/media.htm), but a quick list is provided here.

1. *C/Net Magazine*, Nov 2015. A feature titled “Beyond Convenience” provides a look inside the Gator Tech Smart House that uses home-automation tools to empower the elderly and disabled. [www.icta.ufl.edu/images/CNET.pdf](http://www.icta.ufl.edu/images/CNET.pdf).
2. The *Florida High Tech Corridor* magazine, Sept 2012. Featured among 19 Florida high tech pioneers. Video interview accessible on page 47 of the magazine, available at <http://read.dmtmag.com/issue/83317>.
3. *Die Presse*, Austria, Aug 2011, article discussing the use of technology to help the Baby Boomer generation live independently as they age.
4. *Der Standard*, Austria, June 2011, an article about the use of smart homes and domestic robots in support of health aging and proactive health.
5. Cover story of the *Florida Trends* magazine titled “Invisible Tech,” Mar 2010 issue. [www.icta.ufl.edu/images/Florida-Trend-Article.pdf](http://www.icta.ufl.edu/images/Florida-Trend-Article.pdf).
6. A series of press releases and TV coverage of joint development between University of Florida and IBM on Open Standards for Smart Home & Future Connected Health Services (May–Sept 2007). These include an IBM press release concurrent with a University of Florida press release, Eclipse Foundation, InfoWorld magazine, PC World magazine, Linux World magazine, Computer World magazine, the Washington Post, Information Week magazine and the WESH (NBC) regional TV station in Florida.
7. Discovery Channel, Beyond Tomorrow TV Show, Aug 2006. 15-minute program covering the Gator Tech Smart House, aired around the world.
8. *MIT Technology Review*, Aug 2006. Article on Blind Navigation Technologies and systems.
9. *Sun Sentinel*, Aug 2004. Article title: “Smart Home Thinks for Itself.”
10. *Herald Tribune*, May 2004. Article title: “The Smart House: at UF, Matilda the Mannequin Is Helping Seniors Stay at Home, Independently.”

11. *Chicago Tribune*, Sept 2004. Article title: "Tapping Technology for Elder Care."
12. *Chicago Tribune*, May 2004. Article title: "A Smart Home for the Elderly."
13. *Chicago Tribune*, Mar 2004. Article title: "A Robot May Help Improve Your Senior Home Life."
14. *Orlando Sentinel*, Mar 2004. Article title: "Computers and Sensors Find a Home in a UF Seniors Project."
15. *Robb Report*, Mar 2004. Article title: "Smart & Wired: Safe At Home."
16. *UF Today – The Alumni Magazine for the Gator Nation*, Feb 2004, Article titled: "For the Elderly, UF's Experimental House Is a Smart Idea."
17. *Explore Magazine: Research at UF*, Jan 2004. Article titled: "Smart House – Keeps Tabs on Elderly," by Aaron Hoover.
18. *Gainesville Sun*, Nov 2003. Article title: "House with a Brain – UF Researchers Develop House for Aging People."
19. *New York Times*, Oct 17, 2002 (Technology Circuit Section), covering the Drishti project on blind navigation. Article title: "Step-by-Step Prompts Put the Blind on Track," by Thomas J. Fitzgerald.
20. *Al-Shark Al-Awsat*, Oct 23, 2002, covering the Drishti project on blind navigation. Based on the *NYT* coverage on Oct 17, 2002.
21. *Gainesville Sun*, Apr 2001, covering Dr. Helal's Mobile Computing Killer App Competition sponsored by Motorola. Article title: "UF Students Designing Gadgets to Sell Phones."
22. *Gainesville Sun*, Jan 1999, reporting on the first wireless classroom trial at UF led by Dr. Helal. Article title: "UF Class is Going Wireless."
23. Quoted as provider of expert opinion in several newspapers including the *Gainesville Sun* (local, several times), the *Miami Sun Sentinel*, the *Miami Herald*s, the *Seattle Post Intelligencer*, and the *Canadian Edmonton Star*.