

Robert Akl, D.Sc.



Professional Summary

Dr. Akl has over 20 years of industry and academic experience. He is currently a Tenured Associate Professor at the University of North Texas and a Senior Member of IEEE. He has designed, implemented, and optimized both hardware and software aspects of several wireless communication systems for CDMA, Wi-Fi, and sensor networks. He has broad expertise in wireless communication, Bluetooth, CDMA/WCDMA network optimization, GSM, LTE, VoIP, computer architecture, and computer networks. He is a very active researcher and is well published and cited. He has given depositions, trial testimony, and has prepared expert reports on claim construction, claim invalidity, infringement, and non-infringement. He has handled both ITC and district court cases. Dr. Akl was the 2008 recipient of the IEEE Professionalism Award and winner of the 2010 Tech Titan of the Future Award.

Areas of Expertise

2G, 3G, 4G, CDMA/WCDMA, GSM, UMTS, LTE, Ad-hoc Networks, Bluetooth, Call Admission Control, Channel Coding, Computer Architecture, Multi-cell Network Optimization, VoIP, Wi-Fi, Wireless Communication, Wireless Sensors.

Education

<u>Year</u>	<u>College/University</u>	<u>Degree</u>	<u>GPA</u>
2000	Washington University in Saint Louis	D.Sc. in Electrical Engineering	4.0 / 4.0
1996	Washington University in Saint Louis	M.S. in Electrical Engineering	4.0 / 4.0
1994	Washington University in Saint Louis	B.S. in Electrical Engineering	4.0 / 4.0
1994	Washington University in Saint Louis	B.S. in Computer Science	4.0 / 4.0

Graduated *summa cum laude* and ranked first in undergraduate class.

Dissertation: "Cell Design to Maximize Capacity in Cellular Code Division Multiple Access (CDMA) Networks." Advisors: Dr. Manju Hegde and Dr. Paul Min.

Litigation Support and Expert Witness Experience

L1.	2015	EIP US LLP
Case:	<u>Good Technology Software, Inc. v. Mobile Iron, Inc.</u> IPR2015-00xxx, IPR2015-00xxx	
Matter:	<i>Inter Partes</i> Review, software management in wireless devices	
Project:	Two declarations to support 2 IPR petitions	

- L2. 2015 **Bragalone Conroy PC**
Case: Global Tel*Link Corporation v. Securus Technologies, Inc.
IPR2014-00810, IPR2014-00824, IPR2014-00825
Matter: *Inter Partes* Review, allocating telecommunication resources
Project: Three declarations to support 3 Patent Owner's responses
- L3. 2015 **McKool Smith**
Case: AirWatch LLC v. Good Technology Corp
Northern District of Georgia, Case No. 1:14-cv-02281-SCJ
Matter: Patent infringement, software management in wireless devices
Project: Claim construction, declaration
- L4. 2014 **Bragalone Conroy PC**
Case: Global Tel*Link Corporation v. Securus Technologies, Inc.
IPR2014-00785
Matter: *Inter Partes* Review, VoIP call monitoring and recording
Project: Declaration to support Patent Owner's response
- L5. 2014 **Orrick, Herrington & Sutcliffe LLP**
Case: Shopkick, Inc. v. Novitaz, Inc.
IPR2015-00277, IPR2015-00278
Matter: *Inter Partes* Review, wireless customer service management
Project: Two declarations to support 2 IPR petitions
- L6. 2014 **Paul Hastings LLP**
Case: Cellular Communications Equipment LLC v. AT&T, et al.
Eastern district of Texas, Tyler division, Case No. 6:13-cv-507-LED
(Lead Case for Consolidation)
Matter: Patent infringement, 3G cellular communication
Project: Claim construction, declaration
- L7. 2014 **EIP US LLP**
Case: Good Technology Software, Inc. v. AirWatch LLC
IPR2015-00248
Matter: *Inter Partes* Review, software management in wireless devices
Project: Declaration to support IPR petition
- L8. 2014 **Bragalone Conroy PC**
Case: Securus Technologies, Inc. v. Global Tel*Link Corporation
IPR2015-00153, IPR2015-00155, IPR2015-00156
Matter: *Inter Partes* Review, VoIP call monitoring and recording
Project: Three declarations to support 3 IPR petitions

- L9. 2014 **Andrews Kurth LLP**
Case: Sony Mobile Communications (USA) v. Adaptix Inc.
IPR2014-01524, IPR2014-01525
Matter: *Inter Partes* Review, subcarrier selection in LTE
Project: Two declarations to support 2 IPR petitions
- L10. 2014 **Steptoe & Johnson LLP, Baker & McKenzie LLP**
Case: VTech Communications, Inc. and Uniden America Corporations v. Spherix Incorporated
IPR2014-01432
Matter: *Inter Partes* Review, IP telephony
Project: Declaration to support IPR petition
- L11. 2014 **Steptoe & Johnson LLP, Baker & McKenzie LLP**
Case: Spherix Inc. v. VTech Telecommunications Ltd., et al.
Spherix Inc. v. Uniden Corp, et al.
Northern District of Texas, Dallas Division, Case No. 3:13-cv-3494 and 3:13-cv-3496
Matter: Patent infringement, IP telephony
Project: Claim construction, declaration, deposition
- L12. 2014 **McKool Smith**
Case: Good Technology Corp. v. MobileIron, Inc.
Good Technology Corp. v. AirWatch LLC
Northern District of California, Case No. 5:12-cv-05826-PSG and 5:12-cv-05827-EJD
Matter: Patent infringement, software management in wireless devices
Project: Claim construction, two declarations, claim invalidity expert report, non-infringement expert report
- L13. 2014 **Lee & Hayes**
Case: Broadcom Corp. v. Ericsson, Inc.
IPR2013-00601, IPR2013-00602, and IPR2013-00636
Matter: *Inter Partes* Review, ARQ protocols
Project: Three declarations to support Patent Owner's Response, two declarations to support Patent Owner's Motion to Amend, deposition, two reply declarations
- L14. 2014 **Sidley Austin LLP**
Case: Adaptix, Inc. v. Huawei Technologies Co., et al.
Eastern District of Texas, Case No. 6:13-cv-00438, 439, 440 and 441
Matter: Patent infringement, subcarrier selection in LTE
Project: Non-infringement consulting, source code review
- L15. 2014 **Finnegan Henderson Farabow Garrett & Dunner LLP**
Case: Cell and Network Selection LLC v. Huawei Technologies Co., et al.

- Eastern District of Texas, Case No. 6:13-cv-00404-LED-JDL
Matter: Patent infringement, base station selection in LTE
Project: Non-infringement consulting
- L16. 2014 **Lott & Fischer**
Case: Zenith Electronics, LLC, et al. v. Craig Electronics, Inc.
Southern District of Florida, Case No. 9:13-cv-80567-DMM/DLB
Matter: Patent infringement, HDTV transmission and reception
Project: Opening expert report regarding nonessentiality
- L17. 2013 **McKool Smith**
Case: Zenith Electronics, LLC, et al. v. Curtis International Ltd.
Southern District of Florida, Case No. 9:13-cv-80568-DMM/DLB
Matter: Patent infringement, HDTV transmission and reception
Project: Claim construction, declaration, deposition
- L18. 2013 **Gibson Dunn**
Case: Straight Path IP Group v. Sharp Corp. and Sharp Electronics Corp.
In the Matter of Certain Point-to-Point Network Communication
Devices and Products Containing Same, ITC Investigation No. 337-
TA-892
Matter: Patent infringement, point-to-point network communication
Project: Non-infringement consulting
- L19. 2013 **Kilpatrick Townsend & Stockton LLP**
Case: Monec Holding AG v. Motorola Mobility LLC, et al.
District of Delaware, Case No. 1:11-cv-798-LPS-SRF
Matter: Patent infringement, displaying books on tablets
Project: Non-infringement expert report for Motorola, non-infringement expert
report for HTC, deposition
- L20. 2013 **Gartman Law Group**
Case: Lone Star WiFi LLC v. Legacy Stonebriar Hotel, Ltd; et al.
Eastern Dist. Of Texas, Tyler, Case No. 6:12-cv-957
Matter: Patent infringement, levels of access in Wi-Fi networks
Project: Claim validity consulting
- L21. 2013 **White & Case, LLP**
Case: Nokia Corp and Nokia, Inc. v. HTC Corp and HTC America, Inc.
In the Matter of Certain Portable Electronic Communication Devices,
Including Mobile Phones and Components Thereof, ITC Investigation
No. 337-TA-885
Matter: Patent infringement, App download and installation
Project: Non-infringement consulting

- L22. 2013 **Heim, Payne & Chorush, LLP**
Case: Rembrandt Wireless v. Samsung Electronics Co., et al.
Eastern Dist. of Texas, Marshal, Case No. 2:13-cv-213-JRG-RSP
Matter: Patent infringement, Bluetooth
Project: Expert report regarding validity, deposition, trial testimony
- L23. 2013 **Davis Polk & Wardwell LLP**
Case: Comcast v. Sprint; and Nextel Inc.
Eastern Dist. of Pennsylvania, Case No. 2:12-cv-00859-JD
Matter: Patent infringement, SMS in Cellular Networks
Project: Infringement consulting
- L24. 2013 **McKool Smith**
Case: Samsung Electronics America v. Ericsson Inc.
In the Matter of Certain Wireless Communications Equipment and
Articles Therein, ITC Investigation No. 337-TA-866
Matter: Patent infringement, LTE uplink and downlink
Project: Prior art research, source code review, claim construction, claim
invalidity expert report, non-infringement expert report, hearing
testimony
- L25. 2012 **DLA Piper US LLP**
Case: CSR Technology Inc. v. Freescale Semiconductor, Inc.
USDC-San Francisco, Case No. 3:12-cv-02619-RS
Matter: Patent infringement, radio transceivers
Project: Claim construction, declaration
- L26. 2012 **Fish & Richardson PC**
Case: GPNE Corp. v. Apple, Inc.; et al.
USDC-ND California, Case No. 5:12-cv-02885-LHK
Matter: Patent infringement, resource allocation in wireless networks
Project: Prior art research consulting
- L27. 2012 **Polsinelli Shughart PC**
Case: Single Touch Interactive, Inc. v. Zoove Corporation
Northern Dist. of California, Case No. 3:12-cv-00831-JSC
Matter: Patent infringement, abbreviated dialing, information delivery
Project: Claim construction, Markman hearing tutorial, declaration
- L28. 2012 **K & L Gates**
Case: EON Corp. IP Holdings, LLC v. Novatel Wireless, Inc.; et al.
DC-Tyler, Texas, Case No. 6:11-cv-00015-LED-JDL
Matter: Patent infringement, wireless modem and 3G services
Project: Non-infringement expert report, deposition

- L29. 2012 **Simpson Thacher & Bartlett LLP**
Case: CSR Technology, Inc. v. Bandspeed, Inc.
Western Dist. of Texas, Case No. 1:12-cv-297-LY
Matter: Patent infringement, packet identification in 2.4 GHz and 5 GHz
Project: Source code review, Markman hearing tutorial, infringement expert report
- L30. 2012 **Sheppard Mullin Richter & Hampton LLP**
Case: Wi-LAN v. HTC America, Inc.
Eastern Dist. of Texas, Case No. 6:10-cv-521-LED
Matter: Patent infringement, CDMA, Orthogonal Codes
Project: Source code review, non-infringement expert report, deposition, trial testimony
- L31. 2012 **Dechert LLP**
Case: Hitachi v. TPV and Vizio, Inc.; and Vizio v. Hitachi, LTD.
Eastern Dist. of Texas, Case No. 2:10-cv-260
Matter: Patent infringement, HD television transmission and reception
Project: Prior art research, claim invalidity consulting
- L32. 2012 **Fish & Richardson PC**
Case: InterDigital Commc'n, LLC v. Huawei Tech. Co. LTD; LG Electronics, Inc.; Nokia, Inc.; and ZTE (USA) Inc.
Certain Wireless Devices With 3G Capabilities and Components Thereof, ITC Investigation No. 337-TA-800
Matter: Patent infringement, channel coding in UMTS, HSDPA
Project: Non-infringement consulting
- L33. 2012 **Fish & Richardson PC**
Case: InterDigital Commc'n, LLC v. Huawei Tech. Co. LTD; LG Electronics, Inc.; Nokia, Inc.; and ZTE (USA) Inc.
Dist. of Delaware, Case No. 1:11-cv-00654-UNA
Matter: Patent infringement, channel coding in UMTS, HSDPA
Project: Non-infringement consulting
- L34. 2011 **O'Melveny & Myers LLP**
Case: MobileMedia Ideas, LLC v. Apple, Inc.
Dist. of Delaware, Case No. 1:10-cv-00258-SLR-MPT
Matter: Patent infringement, voice control, call rejection in mobile phones
Project: Source code review, prior art research, declaration, claim invalidity expert report, non-infringement expert report, deposition, trial testimony
- L35. 2011 **Wilmer Cutler Pickering Hale and Dorr**
Case: Apple, Inc. v. Samsung Electronics Co.
Northern Dist. of California, Case No. 5:11-cv-01846-LHK
Matter: Patent infringement, channel coding in CDMA, E-AGCH, TFCI

- Project: Prior art research, claim construction consulting
- L36. 2011 **Weil, Gotshal & Manges LLP**
Case: Vizio, Inc. v. Renesas Electronics America, Inc.
ITC Investigation No. 337-TA-789
Matter: Patent infringement, HD television transmission and reception
Project: Claim invalidity consulting
- L37. 2011 **Shapiro Cohen**
Case: TenXc Wireless Inc. v. Andrew LLC
TenXc Wireless Inc. v. Mobi Antenna Technologies Ltd.
Matter: Patent infringement, antenna design, sectorized cellular network
Project: Claim validity consulting
- L38. 2010 **Fish & Richardson PC**
Case: Vizio, Inc., v. LG Electronics, Inc.
ITC Investigation No. 337-TA-733
Matter: Patent infringement, HD television transmission and reception
Project: Claim charts, claim construction expert report, deposition
- L39. 2010 **Fish & Richardson PC**
Case: Vizio, Inc., v. LG Electronics, Inc.
Dist. of Maryland, Case No. 1:09-cv-1481-BEL
Matter: Patent infringement, HD television transmission and reception
Project: Claim charts, claim construction expert report, deposition
- L40. 2008 **Kaye Scholer LLP**
Case: eBay Inc. v. IDT.
Western Dist. of Arkansas, Case No. 4:08-cv-4015-HFB
Matter: Patent infringement, long distance communication using Internet
Project: Prior art research, claim construction consulting
- L41. 2008 **Simpson Thacher & Bartlett LLP**
Case: Commil USA, LLC v. Cisco Systems, Inc.
Eastern Dist. of Texas, Case No. 2:07-cv-00341-DF-CE
Matter: Patent infringement, two-level wireless protocol
Project: Prior art research
- L42. 2006 **Woodfill and Pressler**
Case: Charles Russell v. Interinsurance Exchange of the Auto Club
Harris County, Texas, Case No. 2005-19706
Matter: House fire and insurance claim
Project: Determining user location using cellular phone records, expert report, deposition, trial testimony

Consulting History

From: 1/2013 **Heim, Payne & Chorush, LLP**
To: 3/2013 Houston, TX
Duties: Analyze patents on wireless technologies.

From: 4/2007 **Collin County Sheriff's Office**
To: 5/2007 McKinney, TX
Duties: Analyzed cellular record data and determined user location in a double-homicide investigation.

From: 4/2004 **Allegiant Integrated Solutions**
To: 5/2004 Fort Worth, TX
Duties: Designed and developed an integrated set of tools for fast deployment of wireless networks. The tools optimize the placement of Access Points and determine their respective channel allocations to minimize interference and maximize capacity.

From: 3/2002 **Input/Output Incorporated**
To: 4/2002 New Orleans, LA
Duties: Designed and implemented an algorithm in MATLAB for optimizing the frequency selection process used by sonar for scanning the bottom of the ocean.

From: 6/1998 **Teleware Corporation**
To: 7/1998 Seoul, South Korea
Duties: Designed and developed a software package for analyzing the capacity in a CDMA network to maximize the number of subscribers.

Employment History

From: 5/2008 **University of North Texas**
To: Present Denton, TX
Position: *Tenured Associate Professor Department of Computer Science and Engineering*
Conducting research on cellular networks and wireless sensor networks. Teaching wireless communication courses. Advising graduate and undergraduate students.

From: 9/2002 **University of North Texas**
To: 5/2008 Denton, TX
Position: *Assistant Professor Department of Computer Science and Engineering*
Conducting research on WCDMA/UMTS wireless networks. Teaching wireless communication and computer architecture courses. Advising graduate and undergraduate students.

From: 1/2002 **University of New Orleans**
To: 8/2002 New Orleans, LA
Position: *Assistant Professor Department of Electrical Engineering*
Designed and taught two new courses “Computer Systems Design I and II”. Developed a Computer Engineering Curriculum with strong hardware-design emphasis. Formed a wireless research group. Advised graduate and undergraduate students.

From: 10/2000 **Comspace Corporation**
To: 12/2001 Coppell, TX
Position: *Senior Systems Engineer*
Designed, coded (in Matlab), and simulated Viterbi decoding, Turbo coding, trellis coded modulation (TCM), and Reed-Muller codes. Optimized soft decision parameters and interleavers for additive white Gaussian and Rayleigh faded channels. Extended the control and trunking of push-to-talk Logic Trunked Radio (LTR) to include one-to-one and one-to-many voice and data messaging.

From: 8/1996 **MinMax Corporation**
To: 8/2000 Saint Louis, MO
Position: *Research Associate*
Designed software packages that provide the tools to flexibly allocate capacity in a CDMA network and maximize the number of subscribers. Validated, simulated (logical and timing), and developed the hardware architecture for an ATM switch capable of channel group switching.

From: 8/1994 **Washington University**
To: 8/2000 Saint Louis, MO
Position: *Research and Teaching Assistant*
Taught, consulted, and graded Circuit Analysis at the undergraduate level and Network Design at the graduate level.

Publications

Journal Publications

- J1. M. Haidar, H.M. Al-Rizzo, **R. Akl**, and Z. Elbazzal, “The Effect of an Enhanced Channel Assignment Algorithm in an IEEE 802.11 WLAN,” *World Scientific and Engineering Academy and Society Transactions on Communications*, WSEAS, Vol. 8, Issue 12, December 2009.
- J2. **R. Akl**, P. Kadiyala, and M. Haidar, “Non-Uniform Grid-Based Coordinated Routing in Wireless Sensor Networks”, *Journal of Sensors*, article ID 491349, volume 2009, 11 pages.
- J3. M. Haidar, M. Al-Rizzo, Y. Chan, **R. Akl**, “User-Based Channel Assignment

- Algorithm in a Load-Balanced IEEE 802.11 WLAN”, *International Journal of Interdisciplinary Telecommunications & Networking (IJITN)*, April-June 2009, 1(2), pp. 66-81.
- J4. **R. Akl**, D. Keathly, and R. Garlick, “Strategies for Retention and Recruitment of Women and Minorities in Computer Science and Engineering,” *iNEER Special Volume: Innovations 2007- World Innovations in Engineering Education and Research*, 9 pgs., 2007.
 - J5. R. Garlick and **R. Akl**, “Motivating and Retaining CS2 Students with a Competitive Game Programming Project,” *iNEER Special Volume: Innovations 2007- World Innovations in Engineering Education and Research*, 9 pgs., 2007.
 - J6. **R. Akl** and S. Nguyen, “UMTS Capacity and Throughput Maximization for Different Spreading Factors,” *Journal of Networks*, July 2006, vol. 1, issue 3, pp. 40-49. ISSN: 1796-2056
 - J7. W. Li, K. Kavi, and **R. Akl**, “A Non-preemptive Scheduling Algorithm for Soft Real-time Systems,” *Journal of Computer and Electrical Engineering*, 2006, vol. 32, 18 pgs. ISSN: 0045-7906
 - J8. **R. Akl**, A. Parvez, and S. Nguyen, “Effects of Interference on Capacity in Multi-Cell CDMA Networks,” *Journal of Systemics, Cybernetics and Informatics*, 2006, vol. 3, no. 1, p825612, 7 pgs. ISSN: 1690-4524
 - J9. **R.G. Akl**, M. Hegde and M. Naraghi-Pour, “Mobility-based CAC Algorithm for Arbitrary Traffic Distribution in CDMA Cellular Systems,” *IEEE Transactions on Vehicular Technology*, March 2005, vol. 54, no. 2, pp. 639-651.
 - J10. **R.G. Akl**, M.V. Hegde, M. Naraghi-Pour, P.S. Min, “Multi-Cell CDMA Network Design,” *IEEE Transactions on Vehicular Technology*, May 2001, vol. 50, no. 3, pp. 711-722.

Conference Proceedings

- C1. R. Tidwell, S. Akumalla, S. Karlaputi, **R. Akl**, K. Kavi, and D. Struble, “Evaluating the Feasibility of EMG and Bend Sensors for Classifying Hand Gestures,” *1st International Conference on Multimedia and Human Computer Interaction*, July 2013, paper no. 63, 8 pgs.
- C2. **R. Akl**, K. Pasupathy, and M. Haidar, “Anchor Nodes Placement for Effective Passive Localization,” *2011 IEEE International Conference on Selected Topics in Mobile and Wireless Networks (iCOST)*, October 2011, paper no. 1569490799, pp. 127 - 132.

- C3. **R. Akl**, P. Kadiyala, and M. Haidar, "Non-Uniform Grid-Based Routing in Sensor Networks", *9th IEEE Malaysia International Conference on Communications*, December 2009, paper no. 1569243649, pp. 536 - 540.
- C4. M. Haidar, M. Al-Rizzo, Y. Chan, **R. Akl**, M. Bouharras, "Throughput Validation of an Advanced Channel Assignment Algorithm in IEEE 802.11 WLAN", *ICCSN 2009 – International Conference on Communication Software and Networks*, February 2009, paper no. P385, pp. 801 - 806.
- C5. **R. Akl** and D. Keathly, "Robocamp: Encouraging Young Women to Embrace STEM," 4th Annual TETC Best Practices Conference, February 2009, 13 pgs.
- C6. M. Haidar, R. Ghimire, M. Al-Rizzo, **R. Akl**, Y. Chan, "Channel Assignment in an IEEE 802.11 WLAN Based on Signal-to-interference Ratio", *IEEE CCECE – Canadian Conference on Electrical and Computer Engineering: Communications and Networking*, May 2008, paper no. 1569092894, pp. 1169 - 1174.
- C7. H. Al-Rizzo, M. Haidar, **R. Akl**, and Y. Chan, "Enhanced Channel Assignment and Load Distribution in IEEE 802.11 WLANs," *IEEE International Conference on Signal Processing and Communication*, November 2007, paper no. 1569042132, pp. 768 - 771.
- C8. **R. Akl** and Y. Saravanos, "Hybrid Energy-Aware Synchronization Algorithm in Wireless Sensor Networks," *18th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications*, September 2007, paper no. 692, 5 pgs.
- C9. M. Haidar, **R. Akl**, and H. Al-Rizzo, "Channel Assignment and Load Distribution in a Power-Managed WLAN," *18th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications*, September 2007, paper no. 463, 5 pgs.
- C10. D. Keathly and **R. Akl**, "Attracting and Retaining Women in Computer Science and Engineering: Evaluating the Results," *Proceedings of American Society for Engineering Education: ASEE Annual Conference*, June 2007, paper no. AC 2007-1229, 10 pgs.
- C11. M. Haidar, **R. Akl**, H. Al-Rizzo, Y. Chan, R. Adada, "Optimal Load Distribution in Large Scale WLAN Networks Utilizing a Power Management Algorithm," *Proceedings of IEEE Sarnoff Symposium*, May 2007, 5 pgs.
- C12. R. Dantu, P. Kolan, **R. Akl**, and K. Loper, "Classification of Attributes and Behavior in Risk Management Using Bayesian Networks," *Proceedings of IEEE Intelligence and Security Informatics Conference*, May 2007, pp. 71-74.

- C13. **R. Akl** and A. Arepally, "Dynamic Channel Assignment in IEEE 802.11 Networks," *Proceedings of IEEE Portable 2007: International Conference on Portable Information Devices*, March 2007, pp 309-313.
- C14. **R. Akl** and U. Sawant, "Grid-based Coordinated Routing in Wireless Sensor Networks," *Proceedings of IEEE CCNC 2007: Consumer Communications and Networking Conference*, January 2007, pp. 860-864.
- C15. **R. Akl** and A. Arepally, "Simulation of Throughput in UMTS Networks with Different Spreading Factors," *Proceedings of IEEE VTC Fall 2006: Vehicular Technology Conference*, September 2006, pp. C1-5.
- C16. A. Alhabsi, H. Al-Rizzo, and **R. Akl**, "Parity Assisted Decision Making for QAM Modulation," *International Conference on Mobile Computing and Wireless Communications*, September 2006, paper no. 1568988776, 5 pgs.
- C17. **R. Akl** and R. Garlick, "Retention and Recruitment of Women in Computer Engineering," *ICEE 2006: International Conference on Engineering Education*, July 2006, paper no. 3318, 5 pgs.
- C18. R. Garlick and **R. Akl**, "Intra-Class Competitive Assignments in CS2: A One-Year Study," *ICEE 2006: International Conference on Engineering Education*, July 2006, paper no. 3325, 5 pgs.
- C19. **R. Akl**, D. Tummala, and X. Li, "Indoor Propagation Modeling at 2.4 GHz for IEEE 802.11 Networks," *WNET 2006: Wireless Networks and Emerging Technologies*, July 2006, paper no. 510-014, 6 pgs.
- C20. P. Chen, K. Kavi, and **R. Akl**, "Performance Enhancement by Eliminating Redundant Function Execution," *Proceedings of IEEE: 39th Annual Simulation Symposium*, April 2006, pp. 143-150.
- C21. **R. Akl** and S. Nguyen, "Capacity Allocation in Multi-cell UMTS Networks for Different Spreading Factors with Perfect and Imperfect Power Control," *Proceedings of IEEE CCNC 2006: Consumer Communications and Networking Conference*, January 2006, vol. 2, pp. 928-932.
- C22. W. Li, K. Kavi, and **R. Akl**, "An Efficient Non-Preemptive Real-Time Scheduling," *18th International Conference on Parallel and Distributed Computing Systems*, Las Vegas, NV, September 2005, pp. 154-160.
- C23. S. Nguyen and **R. Akl**, "Approximating User Distributions in WCDMA Networks Using 2-D Gaussian," *CCCC20T 05: International Conference on Computing, Communications, and Control Technologies*, July 2005, 5 pgs.
- C24. **R. Akl** and S. Park, "Optimal Access Point Selection and Traffic Allocation in

- IEEE 802.11 Networks,” *Proceedings of 9th World Multiconference on Systemics, Cybernetics and Informatics (WMSCI 2005): Communication and Network Systems, Technologies and Applications*, July 2005, vol. 8, pp. 75-79.
- C25. **R. Akl**, M. Naraghi-Pour, M. Hegde, “Throughput Optimization in Multi-Cell CDMA Networks,” *IEEE WCNC 2005 - Wireless Communications, and Networking Conference*, March 2005, vol. 3, pp. 1292-1297.
- C26. **R. Akl**, “Subscriber Maximization in CDMA Cellular Networks,” *Proceedings of CCCT 04: International Conference on Computing, Communications, and Control Technologies*, August 2004, vol. 3, pp. 234-239.
- C27. **R. Akl** and A. Parvez, “Global versus Local Call Admission Control in CDMA Cellular Networks,” *Proceedings of CITSA 04: Communications, Information and Control Systems, Technologies and Applications*, July 2004, vol. 2, pp. 283-288.
- C28. **R. Akl** and A. Parvez, “Impact of Interference Model on Capacity in CDMA Cellular Networks,” *Proceedings of SCI 04: Communication and Network Systems, Technologies and Applications*, July 2004, vol. 3, pp. 404-408. Selected as **best paper** of those presented in the session: Tele-Communication Systems, Technologies and Application II.
- C29. **R.G. Akl**, M.V. Hegde, M. Naraghi-Pour, P.S. Min, “Call Admission Control Scheme for Arbitrary Traffic Distribution in CDMA Cellular Systems,” *IEEE Wireless Communications and Networking Conference*, September 2000, vol. 1, pp. 465-470.
- C30. **R.G. Akl**, M.V. Hegde, M. Naraghi-Pour, P.S. Min, “Cell Placement in a CDMA Network,” *IEEE Wireless Communications and Networking Conference*, September 1999, vol. 2, pp. 903-907.
- C31. **R.G. Akl**, M.V. Hegde, P.S. Min, “Effects of Call Arrival Rate and Mobility on Network Throughput in Multi-Cell CDMA,” *IEEE International Conference on Communications*, June 1999, vol. 3, pp. 1763-1767.
- C32. **R.G. Akl**, M.V. Hegde, M. Naraghi-Pour, P.S. Min, “Flexible Allocation of Capacity in Multi-Cell CDMA Networks,” *IEEE Vehicular Technology Conference*, May 1999, vol. 2, pp. 1643-1647.

Technical Papers

- T1. J. Williams, **R. Akl**, et al, “Flight Control Subsystem,” *The Eagle Feather*, Special Section: Undergraduate Research Initiative in Engineering, University of North Texas, Vol. 7, 2010.
- T2. **R.G. Akl**, M.V. Hegde, A. Chandra, P.S. Min, “CDMA Capacity Allocation and

Planning,” Technical Document, Washington University Department of Electrical Engineering WUEE-98, April 1998.

Book Chapters

- B1. R. Akl, Y. Saravanos, and M. Haidar, “Chapter 18: Hybrid Approach for Energy-Aware Synchronization in Sensor Networks,” *Sustainable Wireless Sensor Networks*, December 2010, pgs. 413-429, ISBN: 978-953-307-297-5.
- B2. K. Kavi, **R. Akl** and A. Hurson, “Real-Time Systems: An Introduction and the State-of-the-Art,” *Encyclopedia of Computer Science and Engineering*, John Wiley & Sons, Volume 4, January 2009, pgs. 2369-2377.
- B3. **R. Akl** and K. Kavi, “Chapter 12: Modeling and Analysis using Computational Tools,” *Introduction to Queuing Theory: Modeling and Analysis*, Birkhauser Boston, December 2008, pgs. 295-320.

Technical Presentations

- P1. “Bio-Com Project,” Raytheon, Richardson TX, May 2012, (invited).
- P2. “Bio-Com Project,” Net-Centric Software and Systems I/UCRC Meeting, Denton TX, December 2011, (invited).
- P3. “Student Outreach Report: Robocamp,” College of Engineering Advisory Board Meeting, Denton TX, May 2011, (invited).
- P4. “Robocamp: Encouraging Young Women to Embrace STEM,” 4th Annual TETC Best Practices Conference, Austin TX, February 2009, (invited).
- P5. “Self-Configuring Wireless MEMS Network (demo),” Southern Methodist University, Dallas TX, January 2008, (invited).
- P6. “Energy-aware Routing and Hybrid Synchronization in Sensor Networks,” *Southern Methodist University*, Dallas TX, September 2007, (invited).
- P7. “Retention and Recruitment of Women in Computer Engineering,” *ICEE 2006: International Conference on Engineering Education*, Puerto Rico, July 2006, (refereed).
- P8. “Capacity Allocation in Multi-cell UMTS Networks for Different Spreading Factors with Perfect and Imperfect Power Control,” *IEEE CCNC 2006: Consumer Communications and Networking Conference*, Las Vegas, NV, January 2006, (refereed).
- P9. “Research, Teaching, and Outreach,” CSE Advisory Council Meeting, *UNT*

Research Park, Denton, TX, December 2005, (invited).

- P10. "WiFi and WCDMA Network Design," *University of Arkansas*, Little Rock, AR, April 2005, (invited).
- P11. "WiFi and WCDMA Network Design," *Southern Methodist University*, Dallas, TX, March 2005, (invited).
- P12. "Current Research in Wireless at UNT," *Nortel Networks*, Richardson, TX, October 2004, (invited).
- P13. "Subscriber Maximization in CDMA Cellular Networks," *International Conference on Computing, Communications, and Control Technologies*, Austin, TX, August 2004, (refereed).
- P14. "Global versus Local Call Admission Control in CDMA Cellular Networks," *International Conference on Cybernetics and Information Technologies, Systems and Applications*, Orlando, FL, July 2004, (refereed).
- P15. "Impact of Interference Model on Capacity in CDMA Cellular Networks," *8th World Multi-Conference on Systemics, Cybernetics, and Informatics*, Orlando, FL, July 2004, (refereed).
- P16. "CDMA Network Design," *IEEE Communications Society – New Orleans Chapter*, New Orleans, LA, May 2002, (invited).
- P17. "Cell Design to Maximize Capacity in CDMA Networks," *Louisiana State University*, Baton Rouge, LA, April 2002, (invited).
- P18. "Call Admission Control Scheme for Arbitrary Traffic Distribution in CDMA Cellular Systems," *IEEE Wireless Communications and Networking Conference*, Chicago, IL, September 2000, (refereed).
- P19. "Cell Placement in a CDMA Network," *IEEE Wireless Communications and Networking Conference*, September 1999, (refereed).
- P20. "Effects of Call Arrival Rate and Mobility on Network Throughput in Multi-Cell CDMA," *IEEE International Conference on Communications*, June 1999, (refereed).
- P21. "Flexible Allocation of Capacity in Multi-Cell CDMA Networks," *IEEE Vehicular Technology Conference*, May 1999, (refereed).
- P22. "CCAP: A Strategic Tool for Managing Capacity of CDMA Networks," *Teleware Co. Ltd.*, Seoul, South Korea, 1998, (invited).

Courses Developed

- CSCE 5593: Fundamentals of VoIP. Fundamentals of VoIP, with emphasis on network infrastructure implementation and security. Topics include IP protocol suite, SS7, speech-coding techniques, quality of service, session initiation protocol, and security issues.
- CSCE 5540: Introduction to Sensor Networks. Topics include: design implications of energy (hardware and software), and otherwise resource-constrained nodes; network self-configuration; services such as routing under network dynamics, localization, time-synchronization and calibration; distributed data management, in-network aggregation and collaborative signal processing, programming tools and language support.
- CSCE 5510. Wireless Communication. Point-to-point signal transmission through a wireless channel, channel capacity, channel encoding, and multi-user transmissions. First, second, and third generation cellular systems, and mobility management.
- CSCE 3510. Introduction to Wireless Communication. Fundamentals of wireless communications and networking, with emphasis on first, second, and third generation cellular systems. Topics include point-to-point signal transmission through a wireless channel, cellular capacity, multi-user transmissions, and mobility management.
- CSCE 3020. Communications Systems. Introduction to the concepts of transmission of information via communication channels. Amplitude and angle modulation for the transmission of continuous-time signals. Analog-to-digital conversion and pulse code modulation. Transmission of digital data. Introduction to random signals and noise and their effects on communication. Optimum detection systems in the presence of noise.
- ENEE 3583. Computer Systems Design I (UNO). The design process of digital computer systems is studied from the instruction set level, system architecture level, and digital logic level. Topics include machine organization, register transfer notation, processor design, memory design, and input/output considerations. Includes semester project.
- ENEE 3584. Computer Systems Design II (UNO). The design and evaluation of contemporary computer systems are analyzed to compare the performance of different architectures. Topics include performance metrics, computer arithmetic, pipelining, memory hierarchies, and multiprocessor systems.
- ENEE 3514. Computer Architecture Laboratory (UNO). Selected experiments examining programmable logic, VHDL and logic synthesis, and including a final design project, to accompany and complement the lecture course ENEE 3584. Three hours of laboratory.

Courses Taught

Fall 2014

- CSCE 3010.1: Signals and Systems
- CSCE 6590.1: Advanced Topics in Wireless Communications & Networks: 4G/LTE

Spring 2014

- CSCE 3510.1: Intro to Wireless Communication (808 – Highly Effective)
- CSCE 5510.1: Wireless Communications (808 – Highly Effective)

Fall 2013

- CSCE 6590.1: Advanced Topics in Wireless Communications & Networks: 4G/LTE (804 – Highly Effective)

Spring 2013

- CSCE 4890.743: Directed Study (no evaluation done)
- CSCE 6940.743: Individual Research (no evaluation done)

Fall 2012

- CSCE 3010.1: Signals and Systems (793 – Highly Effective)
- CSCE 5540.1: Intro to Sensor Networks (814 – Highly Effective)

Spring 2012

- CSCE 3020.1: Communication Systems (809 – Highly Effective)
- CSCE 3510.1: Intro to Wireless Communication (811 – Highly Effective)
- CSCE 5510.1: Wireless Communications (817 – Highly Effective)
- EENG 3810.1: Communication Systems (801 – Highly Effective)

Fall 2011

- CSCE 3010.1: Signals and Systems (793 – Highly Effective)
- CSCE 5540.1: Intro to Sensor Networks (824 – Highly Effective)

Spring 2011

- CSCE 3020.1: Communication Systems (820 – Highly Effective)
- CSCE 3510.1: Intro to Wireless Communication (812 – Highly Effective)
- CSCE 5510.1: Wireless Communications (812 – Highly Effective)
- EENG 3810.1: Communication Systems (826 – Highly Effective)

Fall 2010

- CSCE 3010.1: Signals and Systems (857 – Highly Effective)
- CSCE 5540.1: Intro to Sensor Networks (831 – Highly Effective)

Spring 2010

- CSCE 3020.1: Communication Systems (792 – Highly Effective)
- CSCE 3510.1: Intro to Wireless Communication (793 – Highly Effective)
- CSCE 5510.1: Wireless Communications (834 – Highly Effective)
- EENG 3810.1: Communication Systems (854 – Highly Effective)

Fall 2009

- CSCE 3010.1: Signals and Systems (4.40 / 5.00)
- CSCE 5540.1: Intro to Sensor Networks (4.70 / 5.00)
- EENG 2620.1: Signals and Systems (4.40 / 5.00)

Spring 2009

- CSCE 3020.1: Communication Systems (4.87 / 5.00)
- CSCE 3510.1: Intro to Wireless Communication (4.65 / 5.00)
- CSCE 5510.1: Wireless Communications (4.79 / 5.00)

Fall 2008

- CSCE 3010.1: Signals and Systems (4.91 / 5.00)
- CSCE 5540.2: Intro to Sensor Networks (4.10 / 5.00)
- EENG 2620.3: Signals and Systems (4.91 / 5.00)

Spring 2008

- CSCE 3020.1: Communication Systems (4.68 / 5.00)
- CSCE 3510.1: Intro to Wireless Communication (3.96 / 5.00)
- CSCE 5510.1: Wireless Communications (4.75 / 5.00)

Fall 2007

- CSCE 3010.1: Signals and Systems (4.57 / 5.00)
- CSCE 5540.2: Intro to Sensor Networks (4.01 / 5.00)

Summer 2007

- CSCE 3020.1: Fund. of Communication Theory (no evaluation done)
- EENG 3810.1: Communication Systems (no evaluation done)

Spring 2007

- CSCE 5510.2: Wireless Communications (4.75 / 5.00)
- CSCE 5933.6: Fundamentals of VoIP (4.70 / 5.00)

Fall 2006

- CSCE 3010.1: Signals and Systems (4.58 / 5.00)
- CSCE 5540.1: Intro to Sensor Networks (4.70 / 5.00)
- EENG 2620.1: Signals and Systems (4.58 / 5.00)

Summer 2006

- CSCE 3020.1: Fund. of Communication Theory (no evaluation done)
- CSCE 3510.21: Intro to Wireless Communications (no evaluation done)
- CSCE 5510.21: Intro to Wireless Communications (no evaluation done)
- EENG 3810.1: Communication Systems (no evaluation done)

Spring 2006

- CSCE 2610.2: Computer Organization (3.69 / 5.00)
- CSCE 3010.1: Signals and Systems (4.41 / 5.00)
- EENG 2620.1: Signals and Systems (4.41 / 5.00)

Fall 2005

- CSCE 3510.1: Intro to Wireless Communications (4.52 / 5.00)
- CSCE 5510.1: Wireless Communications (4.46 / 5.00)
- CSCE 5933.6: Intro to Sensor Networks (4.60 / 5.00)

Summer 2005

- CSCE 3010.21 (2020): Signals and Systems (no evaluation done)
- CSCE 3510.21: Intro to Wireless Communications (no evaluation done)

Spring 2005

- CSCE 3510.02: Intro to Wireless Communications (4.46 / 5.00)
- CSCI 3100.02: Computer Organization (4.14 / 5.00)

Fall 2004

- CSCE 3510.01: Intro to Wireless Communications (4.15 / 5.00)
- CSCI 4510.01: Machine Structures (4.55 / 5.00)
- CSCI 5330.02: Intro to Wireless Communications (4.05 / 5.00)

Summer 2004

- CSCI 4330.22: Intro to Wireless Communications (no evaluation done)
- CSCI 4330.23: Intro to Wireless Communications (no evaluation done)
- CSCI 5330.22: Intro to Wireless Communications (no evaluation done)

Spring 2004

- CSCI 3100: Computer Organization (4.64 / 5.00)
- CSCI 4330: Intro to Wireless Communications (4.22 / 5.00)

Fall 2003

- CSCI 4510: Machine Structures (4.49 / 5.00)
- CSCI 5330: Intro to Wireless Communications (4.83 / 5.00)

Summer 2003

- CSCI 3100: Computer Organization (no evaluation done)

Spring 2003

- CSCI 3100: Computer Organization (3.84 / 5.00)

Fall 2002

- CSCI 4510: Machine Structures (4.38 / 5.00)

Funded Proposals

- R1. “Robotics, Game and App Programming Summer Camps” under Texas Workforce Commission: Summer Merit Program. Requested amount is \$63,000. Submitted 12/14/12. Robert Akl (PI), **awarded \$63,000.**
- R2. “Bio-Com Project,” funded by Raytheon under Net-Centric Software and Systems I/UCRC 2nd year. Requested amount is \$30,000. Submitted 5/12/12. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$30,000.**
- R3. “Bio-Com Project,” funded by Raytheon under Net-Centric Software and Systems I/UCRC. Requested amount is \$30,000. Submitted 5/12/11. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$30,000.**
- R4. “Game Programming for Xbox 360 Summer Camp” under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is \$20,000. Submitted 3/21/11. Robert Akl (PI), **awarded \$20,000.**
- R5. “RoboCamps and Game Programming Summer Camps” under Texas Workforce Commission: Summer Merit Program. Requested amount is \$63,000. Submitted 2/17/11. Robert Akl (PI), **awarded \$63,000.**
- R6. “Game Programming for Xbox 360 Summer Camp” under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount

- is \$13,000. Submitted 2/22/10. Robert Akl (PI), **awarded \$18,000.**
- R7. “Robotics and Game Programming Summer Camps” under Texas Workforce Commission: Summer Merit Program. Requested amount is \$63,000. Submitted 10/16/09. Robert Akl (PI), **awarded \$63,000.**
- R8. “Micro Air Vehicle Design: A Collaborative Undergraduate Project for Electrical Engineering, Computer Engineering, and Computer Science Students,” under UNT Undergraduate Research Initiative. Submitted 9/25/2009. Robert Akl (co-PI), **awarded \$8,000.**
- R9. “Summer Merit Program” under Texas Workforce Commission. Requested amount is \$42,000. Submitted 3/20/09. Robert Akl (PI), **awarded \$42,000.**
- R10. “Robocamp at Stewpot” under Dallas Women's Foundation. Requested amount is \$20,000. Submitted 2/23/09. Robert Akl (PI), **awarded \$18,600.**
- R11. “Robocamp Jump Start” under Motorola Foundation Innovation Generation Grant. Requested amount is \$29,852. Submitted 2/12/09. Robert Akl (PI), **awarded \$30,700.**
- R12. “Engineering Summer Program” under Texas Higher Education Coordinating Board. Requested amount is \$7,944. Submitted 2/13/09. Robert Akl (PI), **awarded \$11,111.**
- R13. “Texas Youth in Technology” under Texas Workforce Commission. Requested amount is \$152,393. Submitted 11/10/08. Robert Akl (PI), **awarded \$152,393.**
- R14. “IUCRC Center Proposal: Net-Centric Software and Systems,” under NSF-07-537: Industry/University Cooperative Research Centers. Requested amount is \$349,482. Submitted 9/26/08. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$60,000 per year for 5 years.**
- R15. “Robocamp and Beyond” under Motorola Foundation Innovation Generation Grant. Requested amount is \$30,000. Submitted 6/20/08. Robert Akl (PI), **awarded \$30,000.**
- R16. Texas Youth in Technology” under Texas Workforce Commission. Requested amount is \$30,000. Submitted 2/27/08. Robert Akl (PI), **awarded \$31,500.**
- R17. “Robocamp Program for Young Women” under RGK foundation. Requested amount is \$30,000. Submitted 11/5/07. Robert Akl (PI), **awarded \$15,000.**
- R18. “Texas Youth in Technology” under Texas Workforce Commission. Requested amount is \$102,514. Submitted 10/22/07. Robert Akl (PI), **awarded \$102,514.**

- R19. “Women Art Technology” under Hispanic and Global Studies Initiatives Fund. Requested amount is \$14,125. Submitted 9/30/07. Jennifer Way (PI), Robert Akl (co-PI), **awarded \$12,785.**
- R20. “Robocamp Mobile Unit” under Motorola Foundation Innovation Generation Grant. Requested amount is \$35,000. Submitted 6/20/07. Robert Akl (PI), **awarded \$30,000.**
- R21. “ICER: UNT Engineering Challenge Camps” under NSF 0547299. Requested amount is \$35,000. Submitted 4/27/07. Oscar Garcia (PI), Robert Akl (senior personnel), **awarded \$32,792.**
- R22. “IUCRC-Planning Proposal: UNT Research Site Proposal to join Embedded Systems I/UCRC,” under NSF-01-116: Industry/University Cooperative Research Centers. Requested amount is \$10,000. Submitted 3/31/07. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$10,000.**
- R23. “High-assurance NCCS: Ultra Dependability Integration Engineering,” Department of Defense. Requested amount is \$20,000. Submitted 3/12/07. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$20,000.**
- R24. “Recruiting and Retention Strategies for Computer Science at UNT” under Texas Technology Workforce Development Grant Program – 2005. Requested amount is \$163,322. Submitted 3/17/05. Robert Akl (PI), **awarded \$125,322.**
- R25. UNT Faculty Research Grant for Fall 2003, Robert Akl (PI), \$5,000, **awarded \$4,000.**
- R26. UNT Junior Faculty Summer Research Fellowship for Summer 2003, Robert Akl (PI), \$5,000, **awarded \$5,000.**

Professional Associations and Achievements

Membership in Professional Organizations

- Senior Member IEEE
- Member, Federation Council of North Texas Universities
- Member, Eta Kappa Nu Electrical Engineering Honor Society
- Member, Golden Key National Honor Society
- Member, Tau Beta Pi Engineering Honor Society

Offices and Committee Assignments in Professional Organizations

- Technical Program Committee Member, IEEE Wireless Communications and Networking Conference, IEEE WCNC 2012
- Technical Program Committee Member, International Wireless Symposium, IWS

2012

- Technical Program Committee Member, IEEE International Conference on Computational Science, IEEE ICCS 2012
- Technical Program Committee Member, IASTED International Conference on Wireless Communications, WC 2012
- Technical Program Committee Member, IEEE WCNC 2011
- International Program Committee Member, IASTED International Conference on Wireless Communications, WC 2011
- Technical Program Committee Member, WTS Wireless Telecommunications Symposium 2009
- Technical Program Committee Member, Mosharaka International Conference on Computer Science and Engineering, Amman, 2008
- Invitation to serve as an NSF reviewer/panelist for Engineering Research Centers (ERC) proposals, 2007
- Technical Program Committee Member, 18th IEEE International Symposium on Personal, Indoor and Mobile Radio Communication, Greece, 2007
- Technical Program Committee Member, Mosharaka International Conference on Computer Science and Engineering, Amman, 2007
- International Program Committee, IASTED International Conference on Wireless and Optical Communication, Canada, 2007
- Program Committee Member, Fifth Annual Wireless Telecommunications Symposium, CA, 2006
- Technical Publications Chair, IEEE Vehicular Technology Conference, Dallas TX, 2005
- Session Chair, International Conference on Computing, Commun. and Control Tech., Austin TX, 2004
- Session Chair, International Conference on Cybernetics and Information Technologies, Orlando FL, 2004
- Session Chair, 8th World Multi Conference on Systemics, Cybernetic, and Informatics, Orlando FL, 2004

Additional Responsibilities and Activities

- Reviewer, *Wireless Communications and Mobile Computing*, 2012 – present
- Reviewer, *Journal of Sensor and Actuator Networks*, 2012 – present
- Reviewer, *IEEE Transactions on Vehicular Technology*, 2011 – present
- Reviewer, *Elsevier Journal of Computers & Electrical Engineering*, 2008 – present
- Reviewer, *IEEE Globecom*, 2007 – present
- Reviewer, *IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS)*, 2008 – present
- Reviewer, *The International Wireless Communications and Mobile Computing Conference*, 2007 – present
- Reviewer, *Journal on Wireless Communications and Networking*, 2007 – present
- Reviewer, *IEEE Transactions on Communications*, 2007 - present

- Reviewer, *International Journal of Communication Systems*, 2007 – present
- Reviewer, *IEEE Communications Magazine*, 2005 – present
- Reviewer, *Journal of Wireless Networks*, 2004 – present
- Reviewer, *IEEE Transactions on Mobile Computing*, 2004 – present
- Reviewer, *IEEE Transactions on Wireless Communications*, 2004 – present
- Reviewer, *ACM Crossroads*, 2004 – present

Honors and Awards

- Who's Who in America, 2012 Edition
 - Winner of Tech Titan of the Future – University Level Award for UNT Robocamps for Girls, Metroplex Technology Business Council, 2010 with **\$15,000 cash prize**.
 - IEEE Professionalism Award, Ft Worth Chapter, 2008
 - UNT College of Engineering Outstanding Teacher Award, 2008
 - Certificate of Appreciation: IEEE Vehicular Technology Conference, Dallas, TX, 2005
 - Certificate of Appreciation: Denton County Boosting Engineering, Science and Technology (BEST) Robotics Competition, 2004
 - Summa Cum Laude Graduate, Ranked First in Undergraduate Class
 - The Computer Science Departmental Award for Academic Excellence, Washington University, 1993
 - The Dual Degree Engineering Award for Outstanding Senior, Washington University, 1993
 - The 1992 Technical Writing Competition Award, The Society for Technical Communication
-