Professor Robert Akl, D.Sc.

Professional Summary

Dr. Robert Akl has over three decades of experience in both industry and academia. He is currently a tenured Professor in the Department of Computer Science and Engineering at the University of North Texas and a Senior Member of the *IEEE*. Over the course of his career, he has designed, implemented, and optimized both hardware and software components of wireless communication systems, including CDMA, Wi-Fi, and wireless sensor networks.

Dr. Akl has broad technical expertise in wireless communications and networking technologies, including Bluetooth, CDMA/WCDMA network optimization, GSM, LTE, 5G, emerging 6G systems, VoIP, telephony, computer architecture, and computer networks. He is an active researcher with a strong publication record and has received significant research funding from leading technology companies as well as the National Science Foundation. Throughout his academic career, he has developed and taught more than 100 courses in his field. His contributions have been recognized with numerous awards, including the *IEEE* Professionalism Award in 2008 and the Tech Titan of the Future Award in 2010.

Dr. Akl also has extensive experience in patent-related matters in the wireless and networking industries. Over the past twenty years, he has served as a technical expert in hundreds of patent matters, involving thousands of hours of technical analysis, research, and investigation. He has repeatedly been qualified as an expert by courts, provided technology tutorials to judges and juries, and testified in both depositions and trials. Dr. Akl has worked with companies of all sizes on issues involving patent infringement, validity, and technical interpretation. Through this work, he has developed substantial familiarity with the legal and technical principles underlying patentability, validity, and claim interpretation in wireless and networking technologies.

Areas of Expertise

2G, 3G, 4G, 5G, 6G, CDMA/WCDMA, GPS, GSM, LTE, NFC, NR, RFID, UMTS, VoIP, VPLS, Ad-hoc Networks, Antenna Design, Bluetooth, Call Admission Control, Channel Coding, Channel Estimation, Cloud Computing, Communication Interfaces and Standards, Compression, Computer Architecture, Digital Signal Processing, Internet Protocols, MIMO Systems, Multi-cell Network Optimization, Network Security, Packet-networks, Ring-networks, Server Architecture, Switches and Routers, Telephony, Wi-Fi, Wireless Communication, Wireless Sensors.

Education

Year	College/University	Degree	GPA
2000	Washington University in Saint Louis	D.Sc. in Electrical Engineering	**4.0 / 4.0**

(469) 951-3117; robert.akl@ashumcorp.com

1996	Washington University in Saint Louis	M.Sc. in Electrical Engineering	**4.0 / 4.0**
1994	Washington University in Saint Louis	B.Sc. in Electrical Engineering	**4.0 / 4.0**
1994	Washington University in Saint Louis	B.Sc. 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. 2026 **Cole Schotz P.C.**
Case: Samsung Electronics Co., LTD., Samsung Electronics America, Inc. v. Hannibal IP LLC.
IPR2025-01187; IPR2025-01188; IPR2025-01189; IPR2025-01190;
Matter: *Inter Partes* Review, 5G, Control Resource Sets (CORESETs), Discontinuous Reception (DRX), Listen-Before-Talk (LBT) failure
Project: Four declarations to support four Patent Owner responses

L2. 2026 **Robins Kaplan LLP**
Case: XiFi Networks R&D, Inc. v. Samsung Electronics Co., LTD., Samsung Electronics America, Inc.
Eastern district of Texas, Marshall division, Case No. 2:24-cv-01057-JRG
Matter: Patent infringement, virtual MAC and PHY layers
Project: Declaration regarding claim construction, deposition

L3. 2025 **Latham & Watkins LLP**
Case: Estelgia, LLC v. ASUStek Computer Inc. and ASUS Computer International, D-Link Corporation and D-Link Systems, Inc., and Plume
In the Matter of Certain Wi-Fi Routers, Wi-Fi Devices, Mesh Wi-Fi Network Devices And Components Thereof, ITC Investigation No. 337-TA-1454
Matter: Patent infringement, Wi-Fi and mesh networks
Project: Source code review, expert report regarding infringement and domestic industry, rebuttal report regarding validity, deposition, ITC hearing testimony

L4. 2025 **Susman Godfrey LLP**
Case: Four Batons Wireless, LLC v. Samsung Electronics Co. LTD., Samsung Electronics America, Inc.
Eastern district of Texas, Marshall division, Case No. 2:24-cv-00284-JRG-RSP
Matter: Patent infringement, wireless devices and networks, handoff, cryptography, silent periods, and quality of interfaces
Project: Expert report regarding validity, deposition

L5. 2025 **Alston & Bird LLP**
Case: IoT innovations LLC v. Snap One, LLC
Eastern district of Texas, Marshall division, Case No. 2:24-cv-00704-JRG-RSP
Matter: Patent infringement, mobile devices and networks
Project: Declaration regarding claim construction

L6. 2025 **Robins Kaplan LLP**
Case: Samsung Electronics Co., LTD., Samsung Electronics America, Inc. v. XiFi Networks R&D, Inc.
IPR2025-01203; IPR2025-01204; IPR2025-01205; IPR2025-01206; IPR2025-01207;IPR2025-01208; IPR2025-01209; IPR2025-01270; PGR2025-00067; PGR2025-00068; PGR2025-00069
Matter: *Inter Partes* Review, virtual MAC and PHY layers
Project: Eleven declarations to support eleven Patent Owner preliminary responses, eleven declarations to support eleven Patent Owner responses

L7. 2025 **Latham & Watkins LLP; Cleary Gottlieb Steen & Hamilton LLP**
Case: GoSecure, Inc. v. Crowdstrike, Inc., Crowdstrike Holdings, Inc. et al.
Superior Court of the State of California, County of San Mateo, Case No. 24-CIV-07161
Matter: Trade secret
Project: Declaration in support of motion to compel

L8. 2025 **Banner and Witcoff, LTD**
Case: Fall Line Patents, LLC. v. Sprouts Farmers Market, Inc. and SFM, LLC D/B/A SF Markets, LLC
Eastern district of Texas, Texarkana division, Case No. 5:24-cv00182-RWS
Matter: Patent infringement, data management remote computing devices
Project: Declaration regarding claim construction

L9. 2025 **Cole Schotz P.C.**
Case: SB IP Holdings, Inc.
Matter: *Ex Parte* Reexamination, wireless telecommunication systems
Project: Two declarations regarding validity

L10. 2025 **Fish & Richardson, P.C.**
Case: Apple Inc. v. Apex Beam Technologies LLC
IPR2025-00895; IPR2025-00896; IPR2025-00898; IPR2025-00900; IPR2025-00901;IPR2025-00904; IPR2025-00909; IPR2025-00910; IPR2025-00911; IPR2025-00921; IPR2025-00922; IPR2025-00923
Matter: *Inter Partes* Review, multi-antenna transmission
Project: Twelve declarations to support twelve IPR Petitions

L11. 2025 **Milbank LLP**
Case: Samsung Electronics Co, LTD., Samsung Electronics America, Inc v. Empire Technology Development LLC
IPR2024-00896
Matter: *Inter Partes* Review, MIMO wireless communication, energy consumption
Project: Declaration to support Patent Owner response, deposition

L12. 2025 **Orrick, Herrington & Sutcliffe LLP**
Case: VirtaMove, Corp. v. Oracle Corporation
Western district of Texas, Midland/Odessa division, Case No. 7:24-cv-00339
Matter: Patent infringement, containers of applications, cloud computing
Project: Invalidity consulting

L13. 2025 **Bayes PLLC**
Case: OnePlus Technology (Shenzhen) Co. Ltd. v. Pantech Corporation
IPR2025-00637; IPR2025-00783; IPR2025-00887
Matter: *Inter Partes* Review, radio link failure
Project: Three declarations to support three IPR Petitions

L14. 2025 **Folio Law Group PLLP**
Case: K.Mizra LLC v. Ciena Corporation;
Northern district of Georgia, Atlanta division, Case No. 1:24-cv-05442-SDG
Matter: Patent infringement, telecommunication systems, switches and routers
Project: Declaration in support of plaintiff's amended complaint

L15. 2025 **Folio Law Group PLLP**
Case: K.Mizra LLC v. Nokia of America Corporation
Eastern district of Texas, Marshall division, Case No. 2:24-cv-00974-JRG-RSP
Matter: Patent infringement, telecommunication systems, switches and routers
Project: Declaration regarding claim construction

L16. 2025 **Carter Arnett**
Case: Katana Silicon Technologies, LLC v. GlobalFoundries, Inc, et al.
Western district of Texas, Austin division, Case No. 1:22-cv-00852-RP
Matter: Patent infringement, telecommunication systems
Project: Declaration regarding implied license terms

L17. 2025 **Bunsow De Mory LLP**
Case: Secure Wi-Fi, LLC v. Samsung Electronics Co, LTD., Samsung Electronics America, Inc.
Eastern district of Texas, Marshall division, Case No. 2:24-cv-00047-JRG-RSP
Matter: Patent infringement, Wi-Fi access and security
Project: Declaration regarding claim construction, expert report regarding infringement, rebuttal expert report regarding validity

L18. 2024 **Steptoe LLP**
Case: Corrigent Corporation and Nahum Communication NTB LTD v. Dell Technologies Inc. and Dell Inc.; Corrigent Corporation and Nahum Communication NTB LTD v. Arista Networks Inc.
District of Delaware, Case No. 1:22-cv-496-RGA; Case No. 1:22-cv-497-RGA
Matter: Patent infringement, telecommunication systems, switches and routers
Project: Source code review, two expert reports regarding infringement, two rebuttal expert reports regarding validity, two reply expert reports, two supplemental rebuttal expert reports, two depositions

L19. 2024 **Kilpatrick Townsend & Stockton LLP**
Case: Intellectual Ventures I LLC and Intellectual Ventures II LLC v. Lenovo Group Limited; Intellectual Ventures I LLC and Intellectual Ventures II LLC v. Zebra Technologies Corporation
Western district of Texas, Waco division, Case No. 6:23-cv-000307-ADA; Case No. 6:23-cv-00292-ADA
Matter: Patent infringement, cyclic diversity methods
Project: Source code review, expert report regarding invalidity, two rebuttal expert reports regarding non-infringement, deposition

L20. 2024 **Perkins Coie LLP**
Case: ParkerVision, Inc. v. MediaTek Inc and MediaTek USA Inc.
Western district of Texas, Waco division, Case No. 6:22-cv-01163-ADA
Matter: Patent infringement, frequency translation
Project: Non-infringement consulting

L21. 2024 **Steptoe LLP**
Case: Stingray IP Solutions v. Leedarson IOT Technology, Inc. et al.
Eastern district of Texas, Marshall division, Case No. 2:23-cv-00499-JRG-RSP
Matter: Patent infringement, mobile ad-hoc networks
Project: Declaration regarding claim construction

L22. 2024 **Milbank LLP**
Case: Empire Technology Development LLC v. Samsung Electronics Co, LTD., Samsung Electronics America, Inc.
Eastern district of Texas, Marshall division, Case No. 2:23-cv-00427-JRG-RSP
Matter: Patent infringement, MIMO wireless communication, energy consumption
Project: Source code review, declaration regarding claim construction, expert report regarding infringement, expert report regarding validity, deposition, jury trial testimony

L23. 2024 **Folio Law Group PLLP**
Case: Valve Corporation v. Immersion Corporation
IPR2024-00477; IPR2024-00478; IPR2024-00557; IPR2024-00582; IPR2024-00714
Matter: *Inter Partes* Review, virtual reality and augmented reality
Project: Five declarations to support five Patent Owner responses, deposition

L24. 2024 **Hicks Johnson PLLC**
Case: Cardtek International, Inc. v. The Kroger Co.
Eastern district of Texas, Marshall division, Case No. 2:23-cv-0045-JRG-RSP
Matter: Patent infringement, smart card, payment convergence system
Project: Expert report regarding infringement, rebuttal expert report regarding validity, deposition

L25. 2024 **Kilpatrick Townsend & Stockton LLP**
Case: PLR Worldwide Sales Limited v. Flip Phone Games Inc.
IPR2024-00132; IPR2024-00171; IPR2024-00200; IPR2024-00209; IPR2024-00133
Matter: *Inter Partes* Review, mobile gaming
Project: Four declarations to support four Patent Owner responses, deposition

L26. 2024 **K & L Gates LLP**
Case: STA Group, LLC v. Motorola Solutions, Inc.
Eastern district of Texas, Marshall division, Case No. 2:23-cv-00300-JRG-RSP
Matter: Patent infringement, emergency communication networks
Project: Expert report regarding licenses, rebuttal expert report regarding validity, deposition

L27. 2024 **K & L Gates LLP**
Case: Motorola Solutions, Inc. v. STA Group, LLC
IPR2023-01292; IPR2023-01295 ; IPR2024-00511; IPR2024-00207
Matter: *Inter Partes* Review, emergency communication networks
Project: Four declarations to support four Patent Owner responses

L28. 2024 **K & L Gates LLP**
Case: STA Group, LLC v. Motorola Solutions, Inc.
Eastern district of Texas, Marshall division, Case No. 2:22-cv-00381-JRG-RSP
Matter: Patent infringement, emergency communication networks
Project: Declaration regarding claim construction, deposition, expert report regarding infringement, rebuttal expert report regarding validity

L29. 2024 **White & Case, LLP**
Case: Wangs Alliance Corporation d/b/a WAC Lighting. v. Minka Lighting, LLC
In the Matter of Certain Smart Ceiling Fans, Components Thereof, and Associated Systems and Software Thereof, ITC Investigation No. 337-TA-1374
Matter: Patent infringement, smart ceiling fans
Project: Expert report regarding invalidity, expert rebuttal report, two-day depositions

L30. 2024 **Folio Law Group PLLP**
Case: Immersion Corporation v. Valve Corporation.
Western district of Washington, Seattle, Case No. 2:23-CV-00712-TL
Matter: Patent infringement, virtual reality and augmented reality
Project: Declaration regarding claim construction

L31. 2024 **Latham & Watkins LLP**
Case: AX Wireless LLC v. Dell Inc., et al.; AX Wireless LLC, v. HP Inc.
Eastern district of Texas, Marshall division, Case No. 2:22-cv-277-RWS-RSP; Case No. 2:22-cv-279-JRG-RSP
Matter: Patent infringement, Wi-Fi networks
Project: Source code review, expert report regarding infringement, rebuttal expert report regarding validity, deposition

L32. 2024 **Perkins Coie LLP**
Case: Wi-LAN Inc. et al. v. Huizhou TCL Mobile Communication Co. Ltd., et al.
Central district of California, Southern division, Case No. 8:19-cv-00870-JVS-ADS
Matter: Patent infringement, QoS enhancements for wireless IP networks
Project: Declaration regarding claim construction

L33. 2024 **Kilpatrick Townsend & Stockton LLP**
Case: Flip Phone Games Inc. v. PLR Worldwide Sales Limited
Eastern district of Texas, Marshall division, Case No. 2:23-cv-00139-JRG
Matter: Patent infringement, mobile gaming

Project: Declaration regarding claim construction, deposition

L34. 2024 **K & L Gates LLP**
Case: STA Group, LLC v. Motorola Solutions, Inc.
Eastern district of Texas, Marshall division, Case No. 2:22-cv-00381-JRG-RSP
Matter: Patent infringement, emergency communication networks
Project: Declaration regarding claim construction, deposition, expert report regarding infringement, rebuttal expert report regarding validity

L35. 2024 **Alston & Bird LLP**
Case: Stingray IP Solutions v. Snap One Holdings Corp., et al.
Eastern district of Texas, Marshall division, Case No. 2:23-cv-00003-JRG-RSP
Matter: Patent infringement, mobile ad-hoc networks
Project: Declaration regarding claim construction, deposition

L36. 2024 **Kilpatrick Townsend & Stockton LLP**
Case: Askeladden LLC v. Calabrese Stemer LLC
IPR2024-00367; IPR2024-00368; IPR2024-00369
Matter: *Inter Partes* Review, ATM and secure transactions and payments
Project: Declaration to support three IPR petitions

L37. 2024 **Orrick, Herrington & Sutcliffe LLP**
Case: OptiMorphix, Inc. v. Oracle Corporation
District of Delaware, Case No. 1:23-cv-01249-UNA
Matter: Patent infringement, differentiated services, service module, servers
Project: Invalidity consulting

L38. 2023 **McGuireWoods LLP**
Case: VoIP-Pal.com, Inc. v. Huawei Technologies Co., Ltd., et al.
Northern district of Texas, Dallas division, Case No. 3:23-cv-0151-X
Matter: Patent infringement, call routing
Project: Declaration regarding 101 Motion

L39. 2023 **Steptoe LLP**
Case: Corrigent Corporation v. Cisco Systems, Inc.
Western district of Texas, Waco division, Case No. 6:22-cv-00396-ADA
Matter: Patent infringement, telecommunication systems, switches and routers
Project: Source code review, expert report regarding infringement, expert report regarding validity, two-day depositions, supplemental expert report, jury trial testimony

L40. 2023 **Latham & Watkins LLP**
Case: Netgear Inc. v. TP-Link Technologies Co., Ltd., TP-Link Corporation Limited, TP-Link USA Corporation, and TP-Link Research America Corp.
In the Matter of Certain Wi-Fi Routers, Wi-Fi Devices, Mesh Wi-Fi Network Devices, and Hardware and Software Components Thereof, ITC Investigation No. 337-TA-1361
Matter: Patent infringement, Wi-Fi and mesh networks
Project: Source code review, expert report regarding infringement and domestic industry, expert report regarding validity, supplemental expert report, deposition, ITC hearing testimony

L41. 2023 **Winston & Strawn LLP**
Case: Google, LLC. v. Flypsi, Inc.
IPR2023-00357; IPR2023-00358; IPR2023-00359; IPR2023-00360; IPR2023-00361
Matter: *Inter Partes* Review, primary and secondary call processing
Project: Five declarations to support five Patent Owner responses, deposition

L42. 2023 **Carter Arnett**
Case: Correct Transmission, LLC v. Nokia Corporation, et al.
Eastern district of Texas, Marshall division, Case No. 2:22-cv-00343-JRG-RSP
Matter: Patent infringement, telecommunication systems, switches and routers
Project: Declaration regarding claim construction

L43. 2023 **Carter Arnett**
Case: Smart Path Connections, LLC v. Nokia Corporation, et al.
Eastern district of Texas, Marshall division, Case No. 2:22-cv-00296-JRG
Matter: Patent infringement, network communication systems, switches and routers
Project: Two declarations regarding claim construction

L44. 2023 **Devlin Law Firm**
Case: Google, LLC. v. Motion Offense, LLC
IPR2022-01311; IPR2022-01312; IPR2022-01313
Matter: *Inter Partes* Review, cloud storage and file requests
Project: Three declarations to support three Patent Owner responses, deposition

L45. 2023 **Carter Arnett**
Case: Cisco Systems, Inc. v. Zilkr Cloud Technologies, LLC
IPR2023-00553; IPR2023-00663; IPR2023-00822
Matter: *Inter Partes* Review, integration of communication services
Project: Two declarations to support two Patent Owner preliminary responses

L46. 2023 **Friedman, Suder & Cooke; Kane Russell Coleman Logan PC**
Case: Q Technologies, Inc. v. Walmart Inc.
Western district of Texas, Waco division, Case No. 6:21-cv-00779-ADA
Matter: Patent infringement, RFID, NFC, and payment systems
Project: Validity expert report, declaration, deposition

L47. 2023 **K & L Gates LLP**
Case: Entropic Communications, LLC v. DirectTV, LLC, Dish Network Corporation et al.
Central district of California, Southern division, Case No. 2:22-cv-07775-JWH-JEM, 2:22-cv-07959
Matter: Patent infringement, satellite and cable receivers and systems
Project: Declaration regarding claim construction, deposition, tech tutorial testimony

L48. 2023 **Folio Law Group PLLP**
Case: Immersion Corporation v. Meta Platforms, Inc., f/k/a Facebook, Inc.
Western district of Texas, Waco division, Case No. 6:22-cv-00541-ADA
Matter: Patent infringement, virtual reality and augmented reality
Project: Source code review, expert report regarding infringement, supplemental expert report regarding infringement, rebuttal expert report regarding validity, two depositions

L49. 2023 **Cole Schotz P.C.**
Case: SB IP Holdings, Inc. v. Vivint Smart Home, Inc., Vivint, Inc.
Eastern district of Texas, Sherman division, Case No. 4:20-cv-00886-ALM
Matter: Patent infringement, wireless telecommunication systems
Project: Source code review, expert report regarding infringement, expert report regarding validity, two-day depositions, rebuttal expert report regarding non-infringing alternatives, 2 additional depositions, jury trial testimony

L50. 2023 **Cole Schotz P.C.**
Case: Vivint Inc. v. SB IP Holdings LLC
IPR2022-00812; IPR2022-01449
Matter: *Inter Partes* Review, wireless telecommunication systems
Project: Two declarations to support Patent Owner responses, deposition

L51. 2023 **Carter Arnett**
Case: Samsung Electronics Co., LTD v. G+ Communications, LLC
IPR2022-01598; IPR2023-00171; IPR2023-00665
Matter: *Inter Partes* Review, 4G/5G cellular systems

Project: Three declarations to support three Patent Owner preliminary responses, two declarations to support Patent Owner responses, two depositions

L52. 2023 **Fish & Richardson, P.C.**
Case: Neo Wireless, LLC v. General Motors Co. et al.;
Neo Wireless, LLC v. Tesla Inc.
Eastern district of Michigan, Southern division, Case No. 2:22-cv-11407-TGB; Case No. 2:22-cv-11408-TGB
Matter: Patent infringement, 4G/LTE wireless communication
Project: Tech tutorial testimony, declaration regarding claim construction

L53. 2023 **Carter Arnett**
Case: G+ Communications v. Samsung Electronics Co., LTD et al.
Eastern district of Texas, Marshall division, Case No. 2:22-cv-00078-JRG
Matter: Patent infringement, 4G/5G cellular systems
Project: Source code review, declaration regarding claim construction, supplemental declaration regarding claim construction, infringement expert report, rebuttal expert report regarding validity, deposition, two supplemental reports, second deposition, jury trial testimony, jury retrial testimony (for damages)

L54. 2022 **Kilpatrick Townsend & Stockton LLP**
Case: TP-Link Technologies Co., Ltd. and TP-Link Corporation Limited v. Stingray IP Solutions
IPR2022- *To be Assigned*; IPR2022-*To be Assigned*
Matter: *Inter Partes* Review, security and intrusion detection in wireless systems
Project: Two declarations to support two IPR petitions

L55. 2022 **Devlin Law Firm**
Case: CDN Innovations, LLC v. Mediacom Communication Corporation
Middle district of Georgia, Columbus division
Matter: Patent infringement, telecommunication systems
Project: Declaration to support infringement contentions

L56. 2022 **Jenner & Block LLP**
Case: WSOU Investments, LLC v. Netgear, Inc.
District of Delaware, Case No. 21-cv-01117-MN-CJB, 21-cv-01119-MN-CJB, 21-cv-01120-MN-CJB
Matter: Patent infringement, adaptive antennas, routers
Project: Declaration regarding claim construction

L57. 2022 **Simpson Thacher & Bartlett LLP**
Case: XR Communications, LLC. v. Ubiquiti Networks, Inc.
Central district of California, Case No. 2:21-cv-1065-DOC(JDE)
Matter: Patent infringement, Wi-Fi and adaptive antennas
Project: Non-infringement expert report, deposition

L58. 2022 **Ropes & Gray LLP**
Case: Speir Technologies Ltd. v. Apple Inc.
Western district of Texas, Waco division, Case No. 6:22-cv-00077-ADA
Matter: Patent infringement, channel estimation
Project: Declaration regarding claim construction

L59. 2022 **Fish & Richardson, P.C.**
Case: Constellation Designs, LLC v. LG Electronics, Inc. et al.
Eastern district of Texas, Marshall division, Case No. 2:21-cv-448
Matter: Patent infringement, channel coding
Project: Source code review, invalidity expert report, non-infringement expert report, two-day depositions, jury trial testimony

L60. 2022 **Calfee, Halter & Griswold LLP**
Case: Resi Media LLC v. BoxCast Inc.
IPR2022-00066; IPR2022-00067
Matter: *Inter Partes* Review, autonomous broadcasting
Project: Combined declaration to support Patent Owner response, declaration to support Patent Owner sur-reply, deposition

L61. 2022 **Fish & Richardson, P.C.**
Case: FedEx Corporation v. Transcend Shipping Systems, LLC
IPR2022-01117; IPR2022-01219; IPR2022-01252; IPR2022-01261; IPR2022-01314
Matter: *Inter Partes* Review, location management
Project: Five declarations to support five IPR petitions

L62. 2022 **Finnegan Henderson Farabow Garrett & Dunner LLP**
Case: Toyota Motor Corp and Continental Automotive Systems. v. Intellectual Ventures II, LLC
IPR2022-00971; IPR2022-00972; IPR2022-00973; IPR2022-00974; IPR2022-01130
Matter: *Inter Partes* Review, multicarrier communication
Project: Five declarations to support five IPR petitions, four depositions, three supplemental declarations, two depositions

L63. 2022 **Fenwick & West LLP**
Case: TrackThings LLC v. Amazon.com, Inc. et al.
Western district of Texas, Waco division, Case No. 6:21-cv-00720
Matter: Patent infringement, mobile ad-hoc networks
Project: Invalidity consulting

L64. 2022 **Fenwick & West LLP**
Case: Stingray IP Solutions v. Amazon.com, Inc. et al.
Eastern district of Texas, Marshall division, Case No. 2:21-cv-00193-JRG; Case No. 2:21-cv-00194-JRG
Matter: Patent infringement, mobile ad-hoc networks
Project: Noninfringement consulting

L65. 2022 **Fitch, Even, Tabin & Flannery**
Case: L2 Mobile Technologies LLC v. Ford Motor Company
District of Delaware, Case No. 1:21-cv-01409-JLH
Matter: Patent infringement, wireless communication systems
Project: Standard essentiality consulting

L66. 2022 **Susman Godfrey LLP**
Case: California Institute of Technology v. Samsung Electronics Co., Ltd. et al.
Eastern district of Texas, Marshall division, Case No. 2:21-cv-00446-JRG
Matter: Patent infringement, low-density parity-check codes
Project: Source code review, infringement expert report, deposition, supplemental infringement expert report

L67. 2022 **Devlin Law Firm**
Case: Dropbox, Inc. v. Motion Offense, LLC; Motion Offense, LLC v. Dropbox, Inc.
Western district of Texas, Waco division, Case No. 6:20-cv-00251-ADA; 6:21-cv-00758-ADA
Matter: Patent infringement, telecommunication systems and networking
Project: Source code review, infringement expert report, supplemental infringement expert report, validity expert report, supplemental validity expert report, deposition, jury trial testimony

L68. 2022 **Bayes PLLC**
Case: Guangdong OPPO Mobile Telecommunications Corp., Ltd. v. Nokia Solutions and Networks Oy
IPR2022-00632
Matter: *Inter Partes* Review, PDU and SDU
Project: Declaration to support IPR petition, deposition, supplemental declaration, second deposition

L69. 2022 **Finnegan Henderson Farabow Garrett & Dunner LLP**
Case: NetApp, Inc. v. Proven Networks, LLC
IPR2022-00644
Matter: *Inter Partes* Review, allocating resources
Project: Declaration to support IPR petition

L70. 2022 **Devlin Law Firm**
Case: Motion Offense, LLC v. Google, LLC
Western district of Texas, Waco division, Case No. 6:21-cv-00514-ADA
Matter: Patent infringement, telecommunication systems and networking
Project: Declaration regarding claim construction

L71. 2022 **Jenner & Block LLP**
Case: Netgear, Inc. v. WSOU Investments, LLC
IPR2022-00516; IPR2022-00606
Matter: *Inter Partes* Review, telecommunication systems
Project: Two declarations to support two IPR petitions

L72. 2022 **Calfee, Halter & Griswold LLP**
Case: BoxCast Inc. v. Resi Media LLC
Eastern district of Texas, Marshall division, Case No. 2:21-cv-00217-JRG
Matter: Patent infringement, autonomous broadcasting
Project: Source code review, declaration regarding claim construction, declaration regarding validity, declaration regarding infringement, deposition

L73. 2022 **Fish & Richardson, P.C.**
Case: Apple Inc. v. Ericsson Inc.
IPR2022-00341; IPR2022-00346;
IPR2022-*To be assigned*; IPR2022-*To be assigned*;
IPR2022-*To be assigned*
Matter: *Inter Partes* Review, wireless communication systems
Project: Five declarations to support five IPR petitions, deposition

L74. 2022 **Ropes & Gray LLP**
Case: Godo Kaisha IP Bridge 1 v. Nokia Corporation, Ericsson Inc. et al.
Eastern district of Texas, Marshall division, Case No. 2:21-CV-213-JRG; Case No. 2:21-CV-215-JRG
Matter: Patent infringement, wireless communication systems
Project: Declaration regarding claim construction

L75. 2022 **Fish & Richardson, P.C.**
Case: Apple Inc. and HP Inc. v. XR Communication Inc
IPR2022-00367; IPR2022-01155; IPR2022-01362
Matter: *Inter Partes* Review, adaptive antennas
Project: Two declarations to support two IPR petitions, deposition, declaration to support petitioners' reply

L76. 2021 **Mayer Brown LLP**
Case: Pantech Corp. v. Coolpad Group Ltd.
Eastern district of Texas, Texarkana division, Case No. 5:21-cv00065
Matter: Patent infringement, LTE wireless communication systems
Project: Infringement consulting

L77. 2021 **Fitch, Even, Tabin & Flannery**
Case: L2 Mobile Technologies LLC v. Google LLC
Western district of Texas, Waco division, Case No. 6:21-cv-00358-ADA
Matter: Patent infringement, wireless communication systems
Project: Claim construction consulting

L78. 2021 **Morgan Lewis**
Case: Intellectual Tech LLC v. Zebra Technologies Corporation
Western district of Texas, Waco division, Case No. 6:19-cv-00628-ADA
Matter: Patent infringement, RFID tags
Project: Source code review, claim construction consulting, invalidity expert report, deposition

L79. 2021 **Carter Arnett**
Case: Correct Transmission LLC v. Adtran, Inc.
Northern district of Alabama, Northeastern division, Case No. 5:21-cv-00690-LCB
Matter: Patent infringement, telecommunication systems, switches and routers
Project: Declaration regarding claim construction

L80. 2021 **Carter Arnett**
Case: Juniper Networks, Inc. v. Correct Transmission, LLC
IPR2021-00463; IPR2021-00682; IPR2022-00815
Matter: *Inter Partes* Review, network communication systems, switches and routers
Project: Two declarations to support 2 Patent Owner responses, two depositions; declaration to support Patent Owner preliminary response

L81. 2021 **King & Wood Mallesons LLP**
Case: ToT Power Control, S.L. v. AT&T Mobility et al.; ToT Power Control, S.L. v. T-Mobile USA, Inc. et al.
Western district of Texas, Waco division, Case No. 6:21-CV-00107-ADA; 6:21-CV-00109-ADA
Matter: Patent infringement, WCDMA cellular systems
Project: Declaration regarding claim construction

L82. 2021 **Finnegan Henderson Farabow Garrett & Dunner LLP**
Case: Xiaomi Communications Co., Ltd. v. Koninklijke KPN N.V.
IPR2022-00025
Matter: *Inter Partes* Review, network communication systems
Project: Declaration to support IPR petition

L83. 2021 **Carter Arnett**
Case: Juniper Networks, Inc. v. Smart Path Connections, LLC
IPR2021-001170; IPR2021-01356; IPR2022-00240; IPR2022-00815
Matter: *Inter Partes* Review, network communication systems, switches and routers
Project: Declaration to support Patent Owner preliminary response, three declarations to support three Patent Owner responses, two depositions

L84. 2021 **Devlin Law Firm**
Case: Dyfan LLC v. Target Corporation
District of Delaware, Case No. 6:19-cv-00179-ADA
Matter: Patent infringement, network communications
Project: Declaration to support summary judgement, deposition

L85. 2021 **Alston & Bird LLP**
Case: Stingray IP Solutions v. Signify N.V., et al.
Eastern district of Texas, Marshall division, Case No. 2:21-cv-00043-JRG; Case No. 2:21-cv-00044-JRG
Matter: Patent infringement, mobile ad-hoc networks
Project: Declaration regarding claim construction

L86. 2021 **Cole Schotz P.C.**
Case: SkyBell Technologies, Inc. v. Vivint Smart Home, Inc., SimpliSafe, Inc., and Arlo Technologies Inc
In the Matter of Certain IP Camera Systems Including Video Doorbells and Components Thereof, ITC Investigation No. 337-TA-1242
Matter: Patent infringement, wireless telecommunication systems
Project: Source code review, expert report infringement and domestic industry, rebuttal expert report, three-day depositions

L87. 2021 **Axinn, Veltrop & Harkrider LLP**
Case: Koninklijke Philips N.V. v. Thales DIS AIS USA, LLC et al.
In the Matter of Certain UMTS and LTE Cellular Communication Modules and Products Containing the Same, ITC Investigation No. 337-TA-1240
Matter: Patent infringement, wireless communication systems
Project: Expert report regarding non-infringement and no domestic industry, deposition, ITC hearing testimony

L88. 2021 **Morgan Lewis & Bockius LLP**
Case: SIPCO, LLC v. Aruba Networks, LLC and Hewlett Packard Enterprise Company
District of Delaware, Case No. 1:20-cv-00537-MN
Matter: Patent infringement, wireless communication systems
Project: Declaration regarding claim construction

L89. 2021 **Ropes & Gray LLP**
Case: Palo Alto Networks Inc. v. Centripetal Networks, Inc.
IPR2021-01150, IPR2021-01151, IPR2021-01155, IPR2021-01156, IPR2021-01270, PGR2021-00108, IPR2021-01520, IPR2021-01521
Matter: *Inter Partes* Review, network security systems
Project: Seven declarations to support seven IPR petitions, declaration to support post grant review, deposition

L90. 2021 **Devlin Law Firm**
Case: CDN Innovations, LLC v. Grande Communications Networks, LLC
Eastern district of Texas, Sherman division, Case No. 4:20-cv-653-SDJ
Matter: Patent infringement, telecommunication systems
Project: Declaration to support infringement contentions

L91. 2021 **Banner Witcoff**
Case: Sisvel International S.A., 3G Licensing S.A. v. ZTE (USA) Inc. et al.
Northern district of Texas, Case No. 3:20-cv-01289-M
Matter: Patent infringement, wireless communication systems
Project: Declaration regarding claim construction, deposition

L92. 2021 **Paul Hastings LLP**
Case: G. Holdings Ltd. v. Samsung Electronics Co., et al.
Eastern district of Texas, Marshall division, Case No. 2:20-cv-00342-JRG
Matter: Patent infringement, electronic payment systems
Project: Declaration regarding claim construction

L93. 2021 **Morgan Lewis & Bockius LLP**
Case: Aruba Networks, LLC and Hewlett Packard Enterprise Company v. SIPCO, LLC
IPR2021-00787
Matter: *Inter Partes* Review, wireless communication systems
Project: Declaration to support IPR petition

L94. 2021 **Jenner & Block LLP**
Case: Virentem Ventures LLC D/B/A Enounce v. TiVo Corp and Xperi Holding Corporation
District of Delaware, Case No. 20-787-MN
Matter: Patent infringement, telecommunication systems
Project: Declaration regarding claim construction

L95. 2021 **Carter Arnett**
Case: Correct Transmission LLC v. Adtran, Inc. and Juniper Networks, Inc.
Western district of Texas, Waco division, Case No. 6:20-cv-669-ADA
Matter: Patent infringement, telecommunication systems
Project: Source code review, declaration regarding claim construction

L96. 2021 **Fish & Richardson, P.C.**
Case: Quectel Wireless Solutions Co. Ltd. v. Koninklijke Philips N.V.
IPR2021-00558, IPR2021-00559, IPR2021-00561
Matter: *Inter Partes* Review, wireless communication systems
Project: Three declarations to support three IPR petitions, declaration to support reply, two depositions

L97. 2021 **Goldberg Kohn Ltd**
Case: United States ex. rel. Todd Heath v. Wisconsin Bell, Inc
District of Columbia, Case No. 11-cv-01897
Matter: Networking systems
Project: Technology consulting

L98. 2021 **Fish & Richardson, P.C.**
Case: Samsung Electronics Co. Ltd. v. Ericsson Inc.
IPR2021-00447, IPR2021-00588, IPR2021-00613, IPR2021-00614, IPR2021-00643, IPR2021-00645, IPR2021-00684
Matter: *Inter Partes* Review, wireless communication systems
Project: Seven declarations to support seven IPR petitions

L99. 2020 **Kilpatrick Townsend & Stockton LLP**
Case: GREE Inc. v. Supercell Oy
Eastern district of Texas, Marshall division, Case No. 2:19-cv-00413-JRG-RSP
Matter: Patent infringement, mobile gaming

Project: Source code review, infringement expert report, supplemental expert report, validity expert report, deposition

L100. 2020 **Banner Witcoff**
Case: Sisvel International S.A., 3G Licensing S.A. v. ZTE (USA) Inc. et al.
Northern district of Texas, Case No. 3:19-cv-01694-N
Matter: Patent infringement, wireless communication systems
Project: Declaration regarding claim construction, deposition

L101. 2020 **Fish & Richardson, P.C.**
Case: Cellco Partnership D/B/A Verizon Wireless v. Huawei Technologies Co., Ltd
IPR2020-01352, IPR202-01356, IPR2020-01357
Matter: *Inter Partes* Review, network communication systems
Project: Three declarations to support 3 Patent Owner' responses

L102. 2020 **Kilpatrick Townsend & Stockton LLP**
Case: GREE Inc. v. Supercell Oy
Eastern district of Texas, Marshall division, Case No. 2:20-cv-00113-JRG-RSP
Matter: Patent infringement, mobile gaming
Project: Source code review, declaration supporting claim construction, infringement expert report, validity expert report, supplemental report, deposition

L103. 2020 **Kilpatrick Townsend & Stockton LLP**
Case: GREE Inc. v. Supercell Oy
Eastern district of Texas, Marshall division, Case No. 2:19-cv-00200-JRG-RSP, Case No. 2:19-cv-00237-JRG-RSP, Case No. 2:19-cv-00310-JRG-RSP; Case No. 2:19-cv-00311-JRG-RSP
Matter: Patent infringement, mobile gaming
Project: Source code review, four infringement expert reports, two supplemental infringement expert reports, four validity expert reports, two supplemental expert reports, two second supplemental expert reports, three-day depositions, jury trial testimony

L104. 2020 **Sheridan Ross P.C.**
Case: Justservice.net LLC v. Dropbox, Inc.
Western district of Texas, Waco division, Case No. 6:20-CV-00070-ADA
Matter: Patent infringement, computer systems and networking
Project: Source code review, declaration regarding claim construction

L105. 2020 **Perkins Coie LLP**
Case: Huizhou TCL Mobile Communication Co. Ltd., TCT Mobile (US) Inc., and TCL Mobile Communication (HK) Co., Ltd. v. Wi-LAN Inc.
Matter: *Ex Partes* Reexamination, QoS enhancements for wireless IP networks
Project: Declaration to support Requesters

L106. 2020 **Perkins Coie LLP**
Case: Intel Corporation v. UNM Rainforest Innovations
IPR2020-01576, IPR2020-01578, IPR2020-*to be assigned*
Matter: *Inter Partes* Review, wireless broadband
Project: Three declarations to support three IPR petitions

L107. 2020 **Calfee, Halter & Griswold LLP**
Case: Motorola Solutions, Inc. v. Hytera Communications Corp. Ltd. et al.
Northern district of Illinois, Case No. 1:17-cv-01972
Matter: Patent infringement, two-way radios
Project: Declaration regarding claim construction, deposition, expert report regarding invalidity, rebuttal expert report regarding non-infringement, three-day depositions

L108. 2020 **Fish & Richardson, P.C.**
Case: Huawei Technologies Co., Ltd et al. v. Verizon Communications, Inc. et al.
Western district of Texas, Waco division, Case No. 6-20-cv-00090
Matter: Patent infringement, video communication
Project: Source code review, declaration regarding claim construction, infringement expert report, validity expert report, deposition

L109. 2020 **Kilpatrick Townsend & Stockton LLP**
Case: GREE Inc. v. Supercell Oy
Eastern district of Texas, Marshall division, Case No. 2:19-cv-00070-JRG-RSP, Case No. 2:19-cv-00071-JRG-RSP
Matter: Patent infringement, mobile gaming
Project: Source code review, two infringement expert reports, two supplemental infringement expert reports, two second supplemental infringement expert reports, two rebuttal expert reports on validity, two-day depositions, seven declarations supporting Gree's opposition to Supercell's motions for summary judgement, jury trial testimony

L110. 2020 **Cooley LLP**
Case: Saint Lawrence Communications, LLC v. Amazon.com, Inc., et al.
Eastern district of Texas, Marshall division, Case No. 2:19-cv-00027-JRG
Matter: Patent infringement, AMR-WB, speech compression, coding and decoding

Project: Invalidity expert report

L111. 2020 **Prince Lobel Tye LLP**
Case: Intellectual Ventures I and II LLC v. VMware, Inc.
Western district of Texas, Austin division, Case No. 1:19-cv-01075-ADA
Matter: Patent infringement, networking systems
Project: Declaration regarding claim construction

L112. 2020 **Gibson, Dun & Crutcher LLP**
Case: Cellular Evolution LLC v. T-Mobile US, Inc. et al.
Eastern district of Texas, Marshall division, Case No. 2:19-cv-232-JRG
Matter: Patent infringement, cellular systems
Project: Invalidity consulting

L113. 2020 **Faegre Baker Daniels LLP**
Case: CommScope, Inc. v. Rosenberger Technology, et al.
District of New Jersey, Case No. 19-cv-15962-MCA-LDW
Matter: Trade secret software, base station antenna design
Project: Declaration, deposition

L114. 2020 **Ropes & Gray LLP**
Case: Canon, Inc. v. TCL Electronics Holdings Ltd., et al.
Eastern district of Texas, Marshall division, Case No. 2:18-cv-546-JRG
Matter: Patent infringement, communication interfaces
Project: Source code review, declaration regarding claim construction, deposition

L115. 2019 **Perkins Coie LLP**
Case: Huizhou TCL Mobile Communication Co. Ltd., TCT Mobile (US) Inc., and TCL Mobile Communication (HK) Co., Ltd. v. Wi-LAN Inc.
IPR2020-00302, IPR2020-00303
Matter: *Inter Partes* Review, QoS enhancements for wireless IP networks
Project: Two declarations to support two IPR petitions

L116. 2019 **Fish & Richardson**
Case: Bell Northern Research v. Huawei, et al.
Southern district of California, Case No. 3:18-cv-1784-CAB-BLM
Matter: Patent infringement, wireless networks
Project: Invalidity consulting

L117. 2019 **K & L Gates LLP**
Case: EVS CODEC Technologies, LLC and Saint Lawrence Communications, LLC v. ZTE Corporation, et al.
Northern district of Texas, Dallas division, Case No. 3:19-cv-00385-MBH
Matter: Patent infringement, EVS, speech compression, coding and decoding
Project: Invalidity expert report

L118. 2019 **Feinberg Day Alberti Lim & Belloli LLP**
Case: Uniloc 2017 LLC v. AT&T Mobility LLC, et al.
Eastern district of Texas, Marshall division, Case No. 2:18-cv-00514-JRG
Matter: Patent infringement, wireless frequency bands and devices
Project: Two declarations regarding claim construction, deposition

L119. 2019 **Susman Godfrey LLP**
Case: Sol IP, LLC v. AT&T Mobility LLC, et al.
Eastern district of Texas, Marshall division, Case No. 2:18-cv-00526; 2:18- cv-00527; and 2:18-cv-00528
Matter: Patent infringement, Wi-Fi and LTE
Project: Validity consulting

L120. 2019 **Ropes & Gray LLP**
Case: Huawei Technologies Co. Ltd. v. Harris Global Communications, Inc.
IPR2019-01512, IPR2019-01631
Matter: *Inter Partes* Review, routing and security in wireless networks
Project: Two declarations to support two IPR petitions

L121. 2019 **Ropes & Gray LLP**
Case: Harris Corporation v. Huawei Device USA, Inc. et al.
Eastern district of Texas, Marshall division, Case No. 2:18-cv-00439-JRG
Matter: Patent infringement, routing and security in wireless networks
Project: Declaration regarding claim construction

L122. 2019 **Erise IP**
Case: Semcon IP Inc. v. ASUSTeK Computer Inc.
Eastern district of Texas, Marshall division, Case No. 2:18-cv-00193-JRG
Matter: Patent infringement, adaptive power control
Project: Non-infringement expert report

L123. 2019 **Cooley LLP**
Case: Facebook Inc. v. BlackBerry Corp. et al.
Northern District of California, Oakland division, Case No. 4:18-cv-05434-JSW
Matter: Patent infringement, mobile computing
Project: Declaration regarding claim construction

L124. 2019 **Sidley Austin LLP**
Case: Semcon IP Inc. v. Amazon.com, Inc.
Eastern district of Texas, Marshall division, Case No. 2:18-cv-00192-JRG
Matter: Patent infringement, adaptive power control
Project: Expert report regarding patent marking, rebuttal report regarding patent marking, deposition

L125. 2019 **Oblon, McClelland, Maier & Neustadt, LLP**
Case: MV3 Partners LLC v. Roku, Inc.
Western district of Texas, Waco division, Case No. 6:18-cv-308-ADA
Matter: Patent infringement, mobile set top box
Project: Declaration regarding claim construction, deposition, Markman hearing and tech tutorial testimony

L126. 2019 **Banner & Witcoff, LTD.**
Case: Kathrein USA, Inc. v. Fractus S.A.
IPR2019-00954, IPR2019-00955, IPR2019-00956, IPR2019-00957
Matter: *Inter Partes* Review, multiband antenna arrays
Project: Four declarations to support four IPR petitions

L127. 2019 **Fish & Richardson, P.C.**
Case: LG Electronics Inc. v. Saint Lawrence Communications LLC
Southern district of New York, Case No. 1:18-cv-11082-DLC
Matter: Patent infringement, EVS, speech compression, coding and decoding
Project: Declaration relating to motion for summary judgment, expert report, deposition

L128. 2019 **Ropes & Gray LLP**
Case: SIPCO, LLC v. Emerson Electric Co.
In the Matter of Certain Wireless Mesh Networking Products and Related Components Thereof, ITC Investigation No. 337-TA-1131
Matter: Patent infringement, links in wireless networks and remote monitoring
Project: Source code review, declaration regarding claim construction, invalidity expert report, rebuttal expert report regarding non-infringement and no domestic industry

L129. 2019 **Fish & Richardson, P.C.**
Case: Maxell Ltd. v. Huawei Technologies Co. Ltd., ZTE, et al.
Eastern district of Texas, Texarkana division, Case No. 5:18-cv-0033-RWS
Matter: Patent infringement, portable computing devices
Project: Declaration regarding claim construction

L130. 2019 **Ropes & Gray LLP**
Case: Emerson Electric Co. v. SIPCO, LLC
IPR2019-00548, IPR2019-00549
Matter: *Inter Partes* Review, routing in wireless networks
Project: Two declarations to support two IPR petitions

L131. 2018 **Mishcon de Reya New York LLP; King & Wood Mallesons LLP**
Case: ChanBond, LLC v. Cox Communications, Inc.
District of Delaware, Case No. 1:15-cv-00849-RGA
Matter: Patent infringement, wideband signal distribution system
Project: Validity expert report, deposition, sur-reply expert report, second sur-reply expert report, second deposition, jury trial with settlement mid-trial

L132. 2018 **Fish & Richardson, P.C.**
Case: In re: Qualcomm Antitrust Litigation (Client: Apple)
Southern district of California, Case No. 3:17-cv-00108-GPC-MDD
Matter: Qualcomm antitrust litigation
Project: Two expert rebuttal reports, deposition

L133. 2018 **Susman Godfrey LLP**
Case: In re: Qualcomm Antitrust Litigation (Client: Class Action)
Northern district of California, Case No. 5:17-md-02773-LHK
Matter: Qualcomm antitrust litigation
Project: Expert declaration on standard essential patents, expert report on deemed essential patents, rebuttal expert report, deposition

L134. 2018 **284 Partners**
Case: Federal Trade Commission. v. Qualcomm Incorporated
Northern district of California, Case No. 5:17-cv-00220
Matter: Qualcomm antitrust litigation
Project: Expert report on standard essential patents, expert rebuttal report, deposition

L135. 2018 **Vorys, Sater, Seymour and Pease LLP**
Case: Route1 Inc. v. Airwatch LLC
District of Delaware, Case No. 17-331-RGA
Matter: Patent infringement, remote access

Project: Source code review, declaration regarding claim construction, infringement expert report, validity expert report, reply expert report, deposition, three declarations regarding re-exam

L136. 2018 **Sidley Austin LLP**
Case: Samsung Electronics Co., Ltd v. Huawei Technologies Co., Ltd.
IPR2017-01471, IPR2017-01474, IPR2017-01475
Matter: *Inter Partes* Review, 4G/LTE
Project: Three declarations to support three Patent Owner responses, supplemental declaration, deposition

L137. 2018 **Fitzpatrick Cella Harper & Scinto**
Case: IPC Systems, Inc. v. Cloud9 Technologies, LLC
District of Delaware, Case No. 16-cv-443-GMS
Matter: Patent infringement, telephone stations and trading turrets
Project: Source code review, declaration regarding claim construction, supplemental declaration regarding claim construction

L138. 2018 **Haynes and Boone, LLP**
Case: LG Electronics Inc., et al. v. Wi-LAN Inc., et al.
IPR2018-00673, IPR2018-00674, IPR2018-00704, IPR2018-00705, IPR2018-00709, IPR2018-00710
Matter: *Inter Partes* Review, bandwidth allocation
Project: Six declarations to support six IPR petitions, two depositions, two reply declarations

L139. 2018 **Pillsbury Winthrop Shaw Pittman LLP**
Case: Cellular Communications Equipment v. ZTE, HTC Corporation, et al.
Eastern district of Texas, Case No. 6:16-cv-475-RWS
Matter: Patent infringement, LTE, power control, emergency notification
Project: Invalidity expert report, deposition

L140. 2018 **Finnegan Henderson Farabow Garrett & Dunner LLP**
Case: FanDuel, Inc. DraftKings, Inc., and Bwin.Party Digital Entertainment PLC. v. CG Technology Development, LLC
IPR2017-00902, IPR2017-01333, IPR2017-01491, IPR2017-01532
Matter: *Inter Partes* Review, location-based gaming
Project: Four declarations to support four Patent Owner responses, two supplemental declarations, four depositions

L141. 2018 **Calfee, Halter & Griswold LLP**
Case: Hytera Communications Corp. Ltd. v. Motorola Solutions, Inc.
Northern district of Ohio, Case No. 1:17-cv-01794-DNC
Matter: Patent infringement, two-way radios

Project: Source code review, declaration regarding claim construction, rebuttal declaration regarding claim construction, deposition, infringement expert report, validity expert report, two-day depositions

L142. 2017 **Covington & Burling LLP**
Case: Sharp Corporation, et al. v. Hisense Co., Ltd., et al.
In the Matter of Certain Wi-Fi Enabled Electronic Devices and Components Thereof, ITC Investigation No. 337-TA-1072
Matter: Patent infringement, Wi-Fi, OFDMA
Project: Declaration regarding claim construction

L143. 2017 **Vorys, Sater, Seymour and Pease LLP**
Case: Airwatch LLC and VMWare Inc. v. Route1 Inc.
IPR2017-02145
Matter: *Inter Partes* Review, remote access
Project: Declaration to support Patent Owner response

L144. 2017 **Arnold & Porter Kaye Scholer**
Case: Uniloc USA, Inc. v. Google, Inc.
Eastern district of Texas, Marshall division, Case No. 2:17-cv-0214-JRG, 2:17-cv-0224-JRG, 2:17-cv-0231-JRG, 2:17-cv-0465-JRG, 2:17-cv-0466-JRG, 2:17-cv-0467JRG
Matter: Patent infringement, VoIP messaging
Project: Invalidity consulting

L145. 2017 **Simpson Thacher & Bartlett LLP**
Case: XR Communications, LLC. v. Ubiquiti Networks, Inc.
Central district of California, Case No. 2:17-cv-02968-AG(JCGx)
Matter: Patent infringement, Wi-Fi and adaptive antennas
Project: Declaration regarding claim construction, deposition

L146. 2017 **Covington & Burling LLP**
Case: Huawei Device USA Inc. v. Hitachi Maxell, Ltd.
IPR2018-00209, IPR2018-00210
Matter: *Inter Partes* Review, base station selection, GPS/Cellular location
Project: Two declarations to support two IPR petitions

L147. 2017 **Calfee, Halter & Griswold LLP**
Case: Hytera Communications Corp. Ltd. v. Motorola Solutions, Inc.
IPR2018-00128, IPR2017-02183
Matter: *Inter Partes* Review, two-way radios
Project: Declaration to support IPR petition, deposition, two supplemental declarations, two depositions

L148. 2017 **Finnegan Henderson Farabow Garrett & Dunner LLP**
Case: Hytera Communications Corp. Ltd. v. Motorola Solutions, Inc.
IPR2017-02179, IPR2017-02183
Matter: *Inter Partes* Review, two-way radios
Project: Two declarations to support two IPR petitions, deposition

L149. 2017 **Mayer Brown LLP**
Case: Silver Spring Networks, Inc. v. Sunrise Technologies, Inc.
Silver Spring Networks, Inc. v. Weatherproof Wireless, LLC
IPR2017-*To Be Assigned*, IPR2017-*To Be Assigned*
Matter: *Inter Partes* Review, power meter
Project: Two declarations to support two IPR petitions

L150. 2017 **Covington & Burling LLP**
Case: Hitachi Maxell, Ltd. v. Huawei Device USA Inc. et al.
Eastern district of Texas, Texarkana division, Case No. 5:16-cv-00178-RWS
Matter: Patent infringement, 3G/4G
Project: Source code review, declaration regarding claim construction, invalidity expert report, non-infringement expert report, non-infringing alternatives expert report, two depositions

L151. 2017 **Finnegan Henderson Farabow Garrett & Dunner LLP**
Case: LG Electronics, Inc. et al. v. BLU Products, Inc. and CT Miami, LLC
In the Matter of Certain LTE Wireless Communication Devices and Components Thereof, ITC Investigation No. 337-TA-1051
Matter: Patent infringement, 4G/LTE
Project: Declaration regarding claim construction, second declaration regarding claim construction

L152. 2017 **Sidley Austin LLP**
Case: Huawei Technologies Co., Ltd. v. Samsung Electronics Co., Ltd.
IPR2017-01979, IPR2017-01980, IPR2017-01986
Matter: *Inter Partes* Review, 4G/LTE
Project: Three declarations to support three IPR petitions, deposition

L153. 2017 **Finnegan Henderson Farabow Garrett & Dunner LLP**
Case: Motorola Solutions, Inc. v. Hytera Communications Corp. Ltd. et al.
In the Matter of Certain Two-way Radio Equipment Systems, Related Software and Components Thereof, ITC Investigation No. 337-TA-1053
Matter: Patent infringement, two-way radio
Project: Source code review, declaration regarding claim construction, invalidity expert report, non-infringement expert report, deposition, ITC hearing testimony

L154. 2017 **Haynes and Boone, LLP**
Case: Rackspace US, Inc. v. Realtime Data LLC
IPR2017-01691
Matter: *Inter Partes* Review, data compression
Project: Declaration to support IPR petition

L155. 2017 **Pillsbury Winthrop Shaw Pittman LLP**
Case: ZTE (USA), HTC Corporation, et al. v. Cellular Communications Equipment
IPR2017-01508, IPR2017-01509
Matter: *Inter Partes* Review, LTE, power control, emergency notification
Project: Two declarations to support two IPR petitions, two depositions

L156. 2017 **Alston & Bird LLP; Womble Carlyle Sandridge & Rice LLP**
Case: Itron, Inc. and Duke Energy Corp. v. Smart Meter Technologies
IPR2017-01199
Matter: *Inter Partes* Review, power meter
Project: Declaration to support IPR petition, deposition

L157. 2017 **Haynes and Boone, LLP**
Case: Ericsson Inc. v. Regents of the University of Minnesota
IPR2017-01186, IPR2017-01200, IPR2017-01213
Matter: *Inter Partes* Review, OFDM and MIMO
Project: Three declarations to support three IPR petitions

L158. 2017 **Quinn Emanuel Urquhart & Sullivan, LLP**
Case: GENBAND US, LLC v. Metaswitch Networks Ltd, et al.
Eastern district of Texas, Marshall division, Case No. 2:16-cv-582-JRG-RSP
Matter: Patent infringement, Internet protocols and VoIP, switches and routers
Project: Expert report regarding essentiality

L159. 2017 **Mayer Brown LLP**
Case: Uniloc USA, Inc. et al. v. Avaya Inc., ShoreTel, Inc., et al.
Eastern district of Texas, Tyler division, Case Nos. 6:15-cv-1168-JRG
Matter: Patent infringement, instant messaging and conference calling
Project: Source code review, non-infringement consulting

L160. 2017 **Fish & Richardson P.C.**
Case: Nokia Solutions and Networks US LLC, et al. v. Huawei Technologies Co. Ltd., et al.
Eastern district of Texas, Marshall division, Case Nos. 2:16-cv-753-JRG-RSP, 2:16-cv-754
Matter: Patent infringement, 4G/LTE
Project: Claim construction, two declarations

L161. 2017 **Rothwell Figg Ernst & Manbeck, PC; Pepper Hamilton LLP**
Case: Samsung Electronics, et al. v. Rembrandt Wireless Technologies, LP IPR2015-00555
Matter: *Ex Parte* Reexamination, Bluetooth
Project: Two declarations to support two Patent Owner responses, supplemental declaration to support Patent Owner reply

L162. 2016 **Sidley Austin LLP**
Case: Huawei Technologies Co., et al. v. Samsung Electronics Co, et al. and Samsung Research America v. Hisilicon Technologies Co, LTD Northern district of California, San Francisco division, Case No. 3:16-cv-2787-WHO
Matter: Patent infringement, 3G/4G/LTE
Project: Source code review, declaration regarding claim construction, declaration opposing summary judgement, infringement expert report, invalidity expert report, non-infringement expert report, validity expert report, two depositions

L163. 2016 **Bragalone Conroy PC**
Case: Securus Technologies, Inc. v. Global Tel*Link Corporation CBM2017-00034
Matter: Covered Business Method Review, call monitoring and recording
Project: Declaration to support CBM petition, deposition

L164. 2016 **Braxton, Hilton & Perrone PLLC**
Case: Biosonix, LLC. v. Hydrowave, LLC et al.
Eastern district of Texas, Case No. 2:16-cv-139-RC
Matter: Patent infringement, underwater transceivers
Project: Claim construction, Markman hearing and tech tutorial testimony

L165. 2016 **Gray Reed & McGraw**
Case: Optis Cellular Technology, LLC and PanOptis Patent Management, LLC. v. Blackberry Corporation, et al.
Eastern district of Texas, Marshall division, Case No. 2:16-cv-59-JRG-RSP, Case No. 2:16-cv-61-JRG-RSP, Case No. 2:16-cv-62-JRG-RSP
Matter: Patent infringement, LTE
Project: Claim construction, three declarations regarding claim construction, deposition

L166. 2016 **Ropes & Gray LLP; Davidson Berquist Jackson & Gowdey**
Case: SIPCO, LLC et al v. Emerson Electric Co. et al
Eastern district of Texas, Tyler division, Case No. 6:15-cv-907
Emerson Electric Co. et al v. SIPCO, LLC et al.
Northern district of Georgia, Atlanta division, Case No. 1:15-cv-00319-AT
Matter: Patent infringement, links in wireless networks and remote monitoring
Project: Source code review, invalidity consulting

L167. 2016 **McKool Smith**
Case: Regents of University of Minnesota v. AT&T Mobility LLC, et al.
District of Minnesota, Case No. 0:14-cv-04666-JRT-TNL
Matter: Patent infringement, LTE and MIMO
Project: Invalidity consulting

L168. 2016 **EIP US LLP**
Case: GENBAND US, LLC et al. v. Metaswitch Networks Ltd
IPR2015-01456, IPR2015-01457
Matter: *Inter Partes* Review, media gateways, switches and routers
Project: Two declarations to support Patent Owner responses, two depositions

L169. 2016 **Haynes and Boone, LLP**
Case: Cox Communications, Inc. v. AT&T Intellectual Property I, II, LP
IPR2015-01187, IPR2015-01227, IPR2015-01273, IPR2015-01536
Matter: *Inter Partes* Review, cable networks
Project: Four declarations to support Patent Owner responses, four depositions

L170. 2016 **Mayer Brown LLP**
Case: Odyssey Wireless v. Motorola Mobility LLC
Eastern district of North Carolina, Western division, Case No. 5:14-cv-491-D
Southern district of California, Case No. 3:15-cv-01741-H-RBB
Matter: Patent infringement, LTE
Project: Source code review, non-infringement consulting

L171. 2016 **Cooley LLP; Finnegan LLP**
Case: Saint Lawrence Comm. LLC v. Motorola Mobility LLC, ZTE (USA) Inc., et al.
Eastern district of Texas, Marshall division, Case No. 2:15-cv-000351-JRG, Case No. 2:15-cv-000349-JRG
Matter: Patent infringement, speech compression, coding and decoding
Project: Invalidity expert report, expert report regarding AMR-WB standard, expert report regarding Opus and Silk, supplemental expert report regarding invalidity, two-day depositions, jury trial testimony for Motorola

L172. 2015 **Sidley Austin LLP**
Case: Evolved Wireless, LLC v. Microsoft Corp, et al.
District of Delaware, Case No. 15-cv-546
Matter: Patent infringement, LTE
Project: Prior art and invalidity consulting

L173. 2015 **McKool Smith**
Case: Optis Wireless Technology, LLC and PanOptis Patent Management, LLC. v. ZTE Corporation and ZTE (USA) Inc.
Eastern district of Texas, Marshall division, Case No. 2:15-cv-300-JRG-RSP
Matter: Patent infringement, cellular messages and multimedia attachments
Project: Source code review, claim construction, declaration

L174. 2015 **Fish & Richardson, P.C.**
Case: Saint Lawrence Comm. LLC v. LG Elec., Inc. et al.
Eastern district of Texas, Marshall division, Case No. 2:14-cv-1055-JRG
Matter: Patent infringement, speech compression, coding and decoding
Project: Invalidity expert report

L175. 2015 **Finnegan Henderson Farabow Garrett & Dunner LLP**
Case: LG Electronics, Inc. v. Cellular Communications Equipment LLC
IPR2016-00178
Matter: *Inter Partes* Review, LTE
Project: Declaration to support IPR petition

L176. 2015 **McKool Smith**
Case: AT&T, et al. v. Cox Communication, Inc., et al.
District of Delaware, Case No. 14-1106-GMS
Matter: Patent infringement, cable networks
Project: Claim construction, declaration

L177. 2015 **McKool Smith**
Case: Ericsson Inc., et al. v. TCL Communication, et al.
Eastern district of Texas, Marshall division, Case No. 2:15-cv-00011-RSP
Matter: Patent infringement, wireless devices and systems
Project: Source code review, claim construction, declaration, infringement expert report, validity expert report, two-day depositions

L178. 2015 **Foley & Lardner LLP**
Case: Kyocera Communications, Inc. v. Cellular Communications Equipment LLC
IPR2015-01559, IPR2015-01564
Matter: *Inter Partes* Review, LTE, power control, emergency notification

Project: Two declarations to support two IPR petitions

L179. 2015 **Fish & Richardson, P.C.**
Case: Fairfield Industries Inc. v. Wireless Seismic, Inc.
Southern district of Texas, Case No. 4:14-cv-02972-KPE
Matter: Patent infringement, wireless sensor networks
Project: Non-infringement expert report

L180. 2015 **Quinn Emanuel Urquhart & Sullivan, LLP**
Case: GENBAND US, LLC v. Metaswitch Networks Ltd, et al.
Eastern district of Texas, Marshall division, Case No. 2:14-cv-33-JRG-RSP
Matter: Patent infringement, Internet protocols and VoIP, switches and routers
Project: Expert report regarding essentiality, non-infringement expert report, rebuttal expert report regarding non-practice, supplemental rebuttal expert report, three-day depositions, jury trial testimony

L181. 2015 **Duane Morris LLP; Foley & Lardner LLP**
Case: Mobile Telecommunications Technologies, LLC v. Leap Wireless International, Cricket Communications, Inc.
Eastern district of Texas, Marshall division, Case No. 2:13-cv-00885-RSP
Matter: Patent infringement, OFDM and MIMO
Project: Non-infringement expert report, deposition

L182. 2015 **Hogan Lovells US LLP; Kenyon & Kenyon LLP**
Case: One-E-Way v. Beats Electronics, LLC, Sony Corporation, et al.
In the Matter of Certain Wireless Headsets, ITC Investigation No. 337-TA-943
Matter: Patent infringement, wireless communication
Project: Claim construction, declaration

L183. 2015 **McKool Smith**
Case: Solocron Media, LLC v. AT&T Inc., et al.
Eastern district of Texas, Marshall division, Case No. 2:13-cv-1059-JRG
Matter: Patent infringement, ringtone download
Project: Claim construction, invalidity expert report

L184. 2015 **EIP US LLP**
Case: Good Technology Software, Inc. v. Mobile Iron, Inc.
IPR2015-00833, IPR2015-00836, IPR2015-01090
Matter: *Inter Partes* Review, software management in wireless devices
Project: Three declarations to support three IPR petitions

L185. 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

L186. 2015 **Simpson Thacher & Bartlett LLP**
Case: IXI Mobile (R&D) Ltd. et al. v. Apple Inc.
Southern district of New York, Case No. 14-cv-7594-RJS
Matter: Patent infringement, PDA and Bluetooth
Project: Invalidity consulting

L187. 2014 **Bragalone Conroy PC**
Case: Global Tel*Link Corporation v. Securus Technologies, Inc.
IPR2014-00785, IPR2014-00810, IPR2014-00824, IPR2014-00825, IPR2014-01278, IPR2014-01282, IPR2014-01283
Matter: *Inter Partes* Review, VoIP call monitoring and recording, allocating telecommunication resources and information systems
Project: Seven declarations to support seven Patent Owner responses, five depositions

L188. 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 two IPR petitions

L189. 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

L190. 2014 **Baker Botts LLP**
Case: Orlando Communications LLC v. AT&T, et al.
M.D. Florida, Case No. 6:14-cv-01021
Matter: Patent infringement, 3G/4G cellular communication
Project: Non-infringement and claim construction consulting

L191. 2014 **EIP US LLP**
Case: Good Technology Software, Inc. v. AirWatch, LLC
IPR2015-00248, IPR2015-00875
Matter: *Inter Partes* Review, software management in wireless devices
Project: Two declarations to support two IPR petitions

L192. 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 three IPR petitions, two depositions

L193. 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 two IPR petitions, deposition

L194. 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, deposition, reply declaration, deposition

L195. 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

L196. 2014 **McKool Smith**
Case: Good Technology Corp. v. MobileIron, Inc.
Northern district of California, Case No. 5:12-cv-05826-PSG
Matter: Patent infringement, software management in wireless devices
Project: Claim construction, three declarations, claim invalidity expert report, non-infringement expert report, deposition, jury trial testimony

L197. 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 responses, two declarations to support Patent Owner's Motion to Amend, deposition, two reply declarations

L198. 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: Source code review, non-infringement consulting

L199. 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

L200. 2014 **Feinberg Day Alberti & Thompson LLP**
Case: DSS Technology Management, Inc. v. Apple Inc.
Eastern district of Texas, Tyler division, Case No. 6:13-cv-00919-JDL
Matter: Patent infringement, PDA and Bluetooth
Project: Claim construction and invalidity consulting

L201. 2014 **Sheppard Mullin Richter & Hampton LLP**
Case: Digcom Inc. v. ZTE (USA), Inc.
District of Nevada, Case No. 3:13-cv-00178-RCJ-WGC
Matter: Patent infringement, cellular communication
Project: Claim construction consulting

L202. 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

L203. 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

L204. 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

L205. 2013 **Kilpatrick Townsend & Stockton LLP; Cooley LLP**
Case: Monec Holding AG v. Motorola Mobility LLC, HTC, 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

L206. 2013 **Gartman Law Group**
Case: Lone Star WiFi LLC v. Legacy Stonebriar Hotel, Ltd; et al.
Eastern district Of Texas, Tyler, Case No. 6:12-cv-957
Matter: Patent infringement, levels of access in Wi-Fi networks
Project: Claim validity consulting

L207. 2013 **White & Case, LLP**
Case: Nokia Corp and Nokia, Inc. v. HTC Corp and HTC America, Inc. and Google, 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

L208. 2013 **Heim, Payne & Chorush, LLP**
Case: Rembrandt Wireless v. Samsung Electronics Co., et al.
Eastern district of Texas, Marshall, Case No. 2:13-cv-213-JRG-RSP
Matter: Patent infringement, Bluetooth
Project: Expert report regarding validity, deposition, jury trial testimony

L209. 2013 **Baker Hostetler; Davis Polk & Wardwell LLP**
Case: Comcast v. Sprint; and Nextel Inc.
Eastern district of Pennsylvania, Case No. 2:12-cv-00859-JD
Matter: Patent infringement, SMS/MMS in Cellular Networks
Project: Infringement expert report, validity expert report, reply expert report, declaration, two-day depositions, jury trial testimony

L210. 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: Source code review, prior art research, claim construction, claim invalidity expert report, non-infringement expert report, ITC hearing testimony

L211. 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

L212. 2012 **Fish & Richardson P.C.**
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

L213. 2012 **Polsinelli Shughart PC**
Case: Single Touch Interactive, Inc. v. Zoove Corporation
Northern district of California, Case No. 3:12-cv-00831-JSC
Matter: Patent infringement, abbreviated dialing, information delivery
Project: Claim construction, Markman hearing and tech tutorial testimony, two declarations

L214. 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

L215. 2012 **Simpson Thacher & Bartlett LLP**
Case: CSR Technology, Inc. v. Bandspeed, Inc.
Western district 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 and tech tutorial testimony, infringement expert report

L216. 2012 **Sheppard Mullin Richter & Hampton LLP**
Case: Wi-LAN v. HTC America, Inc., et al.
Eastern district of Texas, Case No. 6:10-cv-521-LED
Matter: Patent infringement, CDMA, Orthogonal Codes
Project: Source code review, non-infringement expert report, deposition, jury trial testimony

L217. 2012 **Dechert LLP**
Case: Hitachi v. TPV and Vizio, Inc.; and Vizio v. Hitachi, LTD.
Eastern district of Texas, Case No. 2:10-cv-260
Matter: Patent infringement, HD television transmission and reception
Project: Prior art research, claim invalidity consulting

L218. 2012 **Fish & Richardson P.C.; Covington & Burling; Alston & Bird; Brinks Hofer Gilson & Lione**
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

L219. 2012 **Fish & Richardson P.C.; Covington & Burling; Alston & Bird; Brinks Hofer Gilson & Lione**
Case: InterDigital Commc'n, LLC v. Huawei Tech. Co. LTD; LG Electronics, Inc.; Nokia, Inc.; and ZTE (USA) Inc.
District of Delaware, Case No. 1:11-cv-00654-UNA
Matter: Patent infringement, channel coding in UMTS, HSDPA
Project: Non-infringement consulting

L220. 2011 **O'Melveny & Myers LLP**
Case: MobileMedia Ideas, LLC v. Apple, Inc.
District 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, jury trial testimony

L221. 2011 **Wilmer Cutler Pickering Hale and Dorr**
Case: Apple, Inc. v. Samsung Electronics Co.
Northern district 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

L222. 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

L223. 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

L224. 2010 **Fish & Richardson P.C.**
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

L225. 2010 **Fish & Richardson P.C.**
Case: Vizio, Inc., v. LG Electronics, Inc.
District 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

L226. 2008 **Kaye Scholer LLP**
Case: eBay Inc. v. IDT.
Western district of Arkansas, Case No. 4:08-cv-4015-HFB
Matter: Patent infringement, long distance communication using Internet
Project: Prior art research, claim construction consulting

L227. 2008 **Simpson Thacher & Bartlett LLP**
Case: Commil USA, LLC v. Cisco Systems, Inc.
Eastern district of Texas, Case No. 2:07-cv-00341-DF-CE
Matter: Patent infringement, two-level wireless protocol
Project: Prior art research

L228. 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, jury trial testimony

Consulting History

From: 11/2022 **Abe, Ikubo & Katayama (Client: ASUS Japan K.K.)**
To: 12/2022 Japan
Duties: Analyze 3GPP standards contribution.

From: 8/2022 **JLP Enterprise Holdings LLC**
To: 8/2022 Dallas, TX
Duties: Analyze patents for essentiality to 5G standards.

From: 5/2022 **Washington Utilities and Transportation Commission DOCKET UT-181051**
To: 12/2022 Olympia, WA
Duties: Analyze cause(s) of network failure, provide testimony on behalf of Staff, deposition, hearing testimony

From: 8/2021 **Carter Arnett (Client: G+ Communications)**
To: 5/2022 Dallas, TX
Duties: Analyze patents for essentiality to 4G and 5G standards.

From: 2/2021 **ExpertsDirect Pty Ltd**
To: 3/2021 Australia
Duties: Analyze antenna arrays.

From:	11/2020	**Licks Attorneys**
To:	1/2021	Brazil
	Duties:	Analyze patents for essentiality to 4G standards.

From:	6/2019	**Fish & Richardson, P.C. (Client: Huawei)**
To:	5/2022	Dallas, TX
	Duties:	Analyze patents for essentiality to 3G, 4G, and 5G standards.

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:	5/2023	**University of North Texas**
To:	Present	Denton, TX
	Position:	*Tenured Professor Department of Computer Science and Engineering* Conducting research on MIMO and 5G cellular networks. Teaching telecommunication courses. Advising graduate and undergraduate students.

From:	1/2015	**University of North Texas**
To:	8/2021	Denton, TX

Position: *Associate Chair of Graduate Studies Department of Computer Science and Engineering*
In charge of all administrative duties related to the Master's and Ph.D. programs in the department.

From: 5/2008 **University of North Texas**
To: 5/2023 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: 8/1997 **MinMax Corporation**
To: 5/1999 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. Analyzed and simulated different audio compression schemes. 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

Conference Proceedings

C1. Y. Usman, C. A. Muriuki-Mureithi, D. Vitashkevich, **R. Akl**, R. Chataut, "Deep Reinforcement Learning for Adaptive Beamforming in 6G Massive MIMO Systems Using DeepMIMO," *2025 IEEE World AI IoT Congress (AIIoT)*, Seattle, WA, 2025, pp. 0699-0706.

C2. Y. Usman, B. Girardi, **R. Akl**, P. K. Gyawali, R. Chataut, "PhishProof: AI-Driven Phishing Detection with Optimized Feature Selection for Scalable Security," *2025 IEEE World AI IoT Congress (AIIoT)*, Seattle, WA, 2025, pp. 0839-0845.

C3. Y. Usman, D. Vitashkevich, C. A. Muriuki-Mureithi, **R. Akl**, R. Chataut, "AI-Enhanced Deep Neural Network Architecture for Accurate Channel Estimation in 6G Networks," *2025 IEEE World AI IoT Congress (AIIoT)*, Seattle, WA, 2025, pp. 0732-0736.

C4. R. Chataut, **R. Akl**, "An Adaptive User Scheduling Algorithm for 6G Massive MIMO Systems," *26th IEEE International Conference on Advanced Communications Technology (IEEE ICACT 2024)*, February 2024, pp. 1475-1482.

C5. R. Chataut, **R. Akl**, U.K. Dey, "An Adaptive User Scheduling Algorithm for 6G Massive MIMO Systems," *25th IEEE International Conference on Advanced Communications Technology (IEEE ICACT 2023)*, February 2023, pp. 158-163.

C6. U.K. Dey, **R. Akl**, R. Chataut, "Performance Improvement in Cellular V2X (CV2X) by Using Massive MIMO Jacobi Detector," *2022 IEEE 19th International Conference on Smart Communities: Improving Quality of Life Using ICT, IoT and AI (HONET)*, December 2022, pp. 122-127.

C7. U.K. Dey, **R. Akl**, R. Chataut, "Performance Improvement in Cellular V2X (CV2X) by Using Low Density Parity Check (LDPC) Code," *2022 IEEE 13th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON)*, October 2022, pp. 296-302.

C8. M. Robaei, **R. Akl**, "Distributed Compressed Sensing Karhunen-Loéve Expansion - Application to Millimeter-Wave Resource Allocation Through Group

Beamforming," *2022 IEEE International Workshop Technical Committee on Communications Quality and Reliability (CQR)*, September 2022, pp. 7-12.

C9. R. Chataut, **R. Akl**, U.K. Dey, "Massive MIMO Uplink Signal Detector for 5G and Beyond Networks," *2022 IEEE Texas Symposium on Wireless and Microwave Circuits and Systems (WMCS)*, April 2022, 7 pgs.

C10. M. Robaei, **R. Akl**, R. Chataut, U.K. Dey, "Adaptive Millimeter-Wave Channel Estimation and Tracking," *2022 24th International Conference on Advanced Communication Technology (ICACT)*, February 2022, pp. 23-28.

C11. U.K. Dey, **R. Akl**, R. Chataut, "Throughput Improvement in Vehicular Communication by Using Low Density Parity Check (LDPC) Code," *IEEE CCWC 2022 The 12th Annual Computing and Communication Workshop and Conference*, January 2022, pp. 836-843.

C12. U.K. Dey, **R. Akl**, R. Chataut, M. Robaei, "Selective MIMO in Vehicular Communication for Reliable Safety Services and High Speed Non-Safety Services," *2021 IEEE 12th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON)*, 2021, pp. 785-790, 6 pgs.

C13. R. Chataut, **R. Akl**, U.K. Dey, "An Efficient and Fast-convergent Detector for 5G and Beyond Massive MIMO Systems," *2021 IEEE 12th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON)*, 2021, pp. 866-872, 7 pgs.

C14. M. Robaei, **R. Akl**, "Millimeter-Wave Blockage Modeling And Mitigation," *2021 IEEE International Workshop Technical Committee on Communications Quality and Reliability (CQR 2021)*, 2021, 6 pgs.

C15. M. Robaei, **R. Akl**, "Characterizing Non-Stationary Millimeter-Wave Communication Using Fuzzy Entropy," *2021 55th Annual Conference on Information Sciences and Systems (CISS)*, 2021, 6 pgs.

C16. M. Robaei, **R. Akl**, R. Chataut, U.K. Dey, "Adaptive Millimeter-Wave Channel Estimation and Tracking," *2021 23rd International Conference on Advanced Communication Technology (ICACT)*, February 2021, pp. 23-28, 6 pgs.

C17. U.K. Dey, **R. Akl**, R. Chataut, M. Robaei, "Modified PHY Layer for High Performance V2X Communication using 5G NR," *IEEE UEMCON 11th IEEE Annual Ubiquitous Computing, Electronics & Mobile Communication Conference*, October 2020, pp. 137-142, 6 pgs.

C18. R. Chataut, **R. Akl**, "An Efficient and Fair Scheduling for Downlink 5G Massive MIMO Systems," *IEEE Texas Symposium on Wireless and Microwave Circuits and Systems*, June 2020, paper no.TSWMCS2020-39, 8 pgs.

C19. R. Chataut, **R. Akl**, "Efficient and Low-Complexity Iterative Detectors for 5G Massive MIMO Systems," *IEEE DCOSS 2020 International Conference on Distributed Computing in Sensor Systems*, May 2020, pp. 442-449, 8 pgs.

C20. U.K. Dey, **R. Akl**, R. Chataut, "High Throughput Vehicular Communication Using Spatial Multiplexing MIMO," *IEEE CCWC 2020 The 10th Annual Computing and Communication Workshop and Conference*, January 2020, paper no. 1570613408, 6 pgs.

C21. R. Chataut, **R. Akl**, M. Robaei, "Accelerated and Preconditioned Refinement of Gauss-Seidel Method for Uplink Signal Detection in 5G Massive MIMO Systems," *IEEE CCWC 2020 The 10th Annual Computing and Communication Workshop and Conference*, January 2020, paper no. 1570605343, 7 pgs.

C22. M. Robaei, **R. Akl**, "Examining Spatial Consistency for Millimeter-Wave Massive MIMO Channel Estimation in 5G-NR," *IEEE ICCE 2020 The 38th International Conference on Consumer Electronics*, January 2020, paper no. 1570596880, 6 pages.

C23. R. Chataut, **R. Akl**, "Channel Gain Based User Scheduling for 5G Massive MIMO Systems," *IEEE HONET-ICT 2019 The 16th International Conference on Smart Cities: Improving Quality of Life Using ICT & IoT and AI*, October 2019, paper no. 1570565594, 5 pgs.

C24. M. Robaei, **R. Akl**, "Time-Variant Broadband mmWave Channel Estimation Based on Compressed Sensing," *IEEE UEMCON 2019 The 10th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference*, October 2019, paper no. 1570577430, 7 pages.

C25. R. Chataut, **R. Akl**, U. Dey, "Least Square Regressor Selection Based Detection for Uplink 5G Massive MIMO Systems," *IEEE WAMICON 2019 The 20th Annual IEEE Wireless and Microwave Technology Conference*, April 2019, paper no. 1570524727, 6 pgs.

C26. R. Chataut, **R. Akl**, "Huber Fitting Based ADMM Detection for Uplink 5G Massive MIMO Systems," *IEEE UEMCON 2018 The 9th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference*, November 2018, paper no. 1570492416, 5 pgs.

C27. R. Chataut, **R. Akl**, "Efficient and Low Complex Uplink Detection for 5G Massive MIMO Systems," *IEEE WAMICON 2018 The 19th Annual Wireless and Microwave Technology Conference*, April 2018, paper no. 1570431593, 6 pgs.

C28. R. Chataut, **R. Akl**, "Optimal Pilot Reuse Factor Based on User Environments in 5G Massive MIMO," *IEEE CCWC 2018 The 8th Annual Computing and*

Communication Workshop Conference, January 2018, paper no. 1570413394, 6 pgs.

C29. S. Alotaibi, **R. Akl**, "Radio Resource Management in LTE Femtocell Networks," *IEEE NCA '17 International Symposium on Network Computing and Applications*, November 2017, paper no. 117, 5 pgs.

C30. U. Sawant, **R. Akl**, "Subcarrier Allocation in LTE Network Deployment with Mobility," *IEEE UEMCON 2017 8th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference*, October 2017, paper no. 1570349184, 8 pgs.

C31. S. Alotaibi, **R. Akl**, "Packet Scheduling Bandwidth Type-Based Mechanism for LTE," *IEEE UEMCON 2017 8th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference*, October 2017, paper no. 1570394639, 6 pgs.

C32. S. Alotaibi, **R. Akl**, "Dynamic Fractional Frequency Reuse (FFR) Scheme for Two-Tier Network in LTE," *IEEE UEMCON 2017 8th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference*, October 2017, paper no. 1570394969, 6 pgs.

C33. U. Sawant, **R. Akl**, "Evaluation of Adaptive and Non Adaptive LTE Fractional Frequency Reuse Mechanisms," *IEEE WOCC 2017 The 26th Annual Wireless and Optical Communications Conference*, April 2017, paper no. 1570341174, 6 pgs.

C34. S. Alotaibi, **R. Akl**, "Range-Based Scheme for Adjusting Transmission Power for Femtocells in Co-Channel Deployment," *IEEE WTS 2017 The 16th Annual Wireless Telecommunications Symposium*, April 2017, paper no. 1570334744, 5 pgs.

C35. U. Sawant, **R. Akl**, "A Novel Metric to Study the Performance of Sectorized Fractional Frequency Reuse Techniques in LTE," *IEEE WTS 2017 The 16th Annual Wireless Telecommunications Symposium*, April 2017, paper no. 1570338498, 7 pgs.

C36. S. Alotaibi, **R. Akl**, "Dynamic Frequency Partitioning Scheme for LTE HetNet Networks Using Fractional Frequency Reuse," *IEEE WCNC '17 Wireless Communications and Networking Conference*, March 2017, paper no. 1570332420, 5 pgs., demo and poster.

C37. U. Sawant, **R. Akl**, "Performance Evaluation of Network Productivity for LTE Heterogenous Networks with Reward-Penalty Weights Assessment," *IEEE CCWC 2017 The 7th Annual Computing and Communication Workshop Conference*, January 2017, paper no. 1570328396, 6 pgs.

C38. S. Alotaibi, **R. Akl**, "Self-Adjustment Downlink Transmission Power for Femtocells in Co-Channel Deployment in Heterogeneous Networks," *IEEE CCWC 2017 The 7th Annual Computing and Communication Workshop Conference*, January 2017, paper no. 1570326815, 6 pgs.

C39. U. Sawant, **R. Akl**, "Performance Evaluation of Sectorized Fractional Frequency Reuse Techniques Using Novel Metric," *IEEE ISCC 2016 The Twenty-First IEEE Symposium on Computers and Communications*, June 2016, paper no. 1570275270, 7 pgs.

C40. 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.

C41. **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.

C42. **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.

C43. 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.

C44. **R. Akl** and D. Keathly, "Robocamp: Encouraging Young Women to Embrace STEM," 4th Annual TETC Best Practices Conference, February 2009, 13 pgs.

C45. 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.

C46. 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.

C47. **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.

C48. 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.

C49. 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.

C50. 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.

C51. 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.

C52. **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.

C53. **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.

C54. **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.

C55. 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.

C56. **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.

C57. 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.

C58. **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.

C59. 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.

C60. **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.

C61. 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.

C62. 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.

C63. **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.

C64. **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.

C65. **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.

C66. **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.

C67. **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.

C68. **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.

C69. **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.

C70. **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.

C71. **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.

Journal Publications

J1. Y. Usman, H. Oladipupo, A. D. During, **R. Akl**, R. Chataut, "AI, ML, and LLM Integration in 5G/6G Networks: A Comprehensive Survey of Architectures, Challenges, and Future Directions," *IEEE Access*, 2025, vol. 13, pp. 168914-168950.

J2. Y. Usman, C. J. Ihejirika, S. N. Offor, **R. Akl**, R. Chataut, "Green Cybersecurity: Leveraging AI, ML, and LLMs to Optimize Energy, Threat Detection, and Sustainability Frameworks," *IEEE Access*, 2025, vol. 13, pp. 159345-159379.

J3. R. Chataut, M. Nankya, **R. Akl**, "6G Networks and the AI Revolution – Exploring Technologies, Applications, and Emerging Challenges," *Sensors 2024*, March 2024, 29 pgs.

J4. R. Chataut, **R. Akl**, "An Adaptive User Scheduling Algorithm for 6G Massive MIMO Systems," *IEEE Transactions on Advanced Communications Technology*, November 2023, 8 pgs.

J5. M. Nankya, R. Chataut, **R. Akl**, "Securing Industrial Control Systems: Components, Cyber Threats, and Machine Learning-Driven Defense Strategies," *Sensors 2023*, October 2023, 41 pgs.

J6. R. Chataut, A. Phoummalayvane, **R. Akl**, "Unleashing the Power of IoT: A Comprehensive Review of IoT Applications and Future Prospects in Healthcare, Agriculture, Smart Homes, Smart Cities, and Industry 4.0," *Sensors 2023*, August 2023, 19 pgs.

J7. M. Robaei, **R. Akl**, "Quadratic Displacement Operators—Theory and Application to Millimeter-Wave Channel Tracking," *IEEE Transactions on Wireless Communications*, January 2023, Vol. 22, No. 1, pp. 596-610.

J8. M. Robaei, **R. Akl**, "Continuous Compressed Sensing Hilbert-Schmidt Integral Operator," *IEEE Access*, August 2022, pp. 80264-80276.

J9. R. Chataut, **R. Akl**, U.K. Dey, M. Robaei, "SSOR Preconditioned Gauss-Seidel Detection and Its Hardware Architecture for 5G and beyond Massive MIMO Networks," *Electronics 2021 ISSN 2079-9292*, 10(5), 578, *Special Issue MIMO for Next Generation Wireless Systems*, March 2021, 17 pgs.

J10. R. Chataut, **R. Akl**, "Massive MIMO Systems for 5G and Beyond Networks – Overview, Recent Trends, Challenges, and Future Research Direction," *Sensors 2020*, 20(10), 2753, May 2020.

J11. R. Chataut, **R. Akl,** "Massive MIMO Systems for 5G," *Encyclopedia 2020*, doi:10.32545, 2020, (ISSN 2309-3366).

J12. S. Alotaibi, **R. Akl**, "Range-Based Scheme for Adjusting Transmission Power of Femtocell in Co-Channel Deployment," *International Journal of Interdisciplinary Telecommunications and Networking*, IJITN Vol. 10, No. 4, pgs. 14-24, 2018.

J13. U. Sawant, **R. Akl**, "Adaptive and Non Adaptive LTE Fractional Frequency Reuse Mechanisms Mobility Performance," *Advances in Science, Technology and Engineering Systems Journal*, ASTES Vol. 3, No. 3, 02-11, 11 pgs., 2018.

J14. 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.

J15. **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.

J16. 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.

J17. **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.

J18. 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.

J19. **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

J20. 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

J21. **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

J22. **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.

J23. **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.

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. "Wi-Fi and WCDMA Network Design," *University of Arkansas*, Little Rock, AR, April 2005, (invited).

P11. "Wi-Fi 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 5933: LTE Physical Layer Using MATLAB.
  Research issues in the design of LTE physical layer and simulate using MATLAB. Topics include modulation and coding, OFDM, channel modeling, MIMO, and link adaption.

- CSCE 6590: Advanced Topics in Wireless Communications & Networks: 4G/LTE.
  Research issues in the design of next generation wireless networks: cellular systems, medium access techniques, signaling, mobility management, control and management for mobile networks, wireless data networks, Internet mobility, quality-of-service for multimedia applications, caching for wireless web access, and ad hoc networks.

- CSCE 5933: 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

Spring 2025
- CSCE 3020.1: Communication Systems (4.3 / 5.0)

Spring 2024
- CSCE 3020.1: Communication Systems (4.0 / 5.0)

Fall 2023
- CSCE 3010.1: Signals and Systems (3.6 / 5.0)

Spring 2023
- CSCE 3020.1: Communication Systems (4.5 / 5.0)

Fall 2022
- CSCE 3010.1: Signals and Systems (4.4 / 5.0)
- CSCE 6950.743: Dissertation (no evaluation done)

Spring 2022
- CSCE 3020.1: Communication Systems (4.2 / 5.0)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2021
- CSCE 3010.1: Signals and Systems (4.2 / 5.0)
- CSCE 5933.1: LTE Physical Layer Using MATLAB (5.0 / 5.0)
- CSCE 6950.743: Dissertation (no evaluation done)

Spring 2021
- CSCE 2610.2: Computer Organization (4.0 / 5.0)
- CSCE 3020.1: Communication Systems (4.2 / 5.0)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2020
- CSCE 3010.1: Signals and Systems (4.1 / 5.0)
- CSCE 6940.743: 5G MIMO Systems (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Spring 2020
- CSCE 6940.743: 5G MIMO Systems (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2019
- CSCE 5933.3: LTE Physical Layer Using MATLAB (4.3 / 5.0)
- CSCE 6940.743: 5G MIMO Systems (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Spring 2019
- CSCE 6940.743: 5G MIMO Systems (no evaluation done)
- CSCE 6940.743: Software Defined Radios (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2018
- CSCE 5933.3: LTE Physical Layer Using MATLAB (4.8 / 5.0)
- CSCE 6940.743: 5G MIMO Systems (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Spring 2018
- CSCE 6940.743: 5G MIMO Systems (no evaluation done)
- CSCE 6940.743: Jitter-buffer Management and Interference in VoIP (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2017
- CSCE 5933.3: LTE Physical Layer Using MATLAB (4.9 / 5.0)
- CSCE 6940.743: 5G MIMO Systems (no evaluation done)

- CSCE 6940.743: VoLTE and VoWiFi (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Spring 2017

- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2016

- CSCE 5933.3: LTE Physical Layer Using MATLAB (4.7 / 5.0)
- CSCE 6950.743: Dissertation (no evaluation done)

Spring 2016

- CSCE 5950.743: Thesis (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2015

- CSCE 3010.1: Signals and Systems (5.7 / 7.0)
- CSCE 5950.743: Thesis (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Spring 2015

- CSCE 5934.743: Directed Study (no evaluation done)
- CSCE 5950.743: Thesis (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2014

- CSCE 3010.1: Signals and Systems (3.32 / 4.00)
- CSCE 5950.743: Thesis (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)
- CSCE 6590.1: Advanced Topics in Wireless Communications & Networks: 4G/LTE (3.79 / 4.00)

Spring 2014

- CSCE 3510.1: Intro to Wireless Communication (808 – Highly Effective)
- CSCE 5510.1: Wireless Communications (808 – Highly Effective)
- CSCE 5950.743: Thesis (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2013

- CSCE 5950.743: Thesis (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)
- 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 5950.743: Thesis (no evaluation done)
- CSCE 6940.743: Individual Research (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2012

- CSCE 3010.1: Signals and Systems (793 – Highly Effective)
- CSCE 5540.1: Intro to Sensor Networks (814 – Highly Effective)
- CSCE 5950.743: Thesis (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

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: 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. "I/UCRC Industrial Membership - Ashum Corp," 2020. Krishna Kavi (PI), Robert Akl (co-PI), **$52,000.**

R2. "I/UCRC Industrial Membership - Ashum Corp," 2019. Krishna Kavi (PI), Robert Akl (co-PI), **$60,900.**

R3. "I/UCRC Industrial Membership - Ashum Corp," 2018. Krishna Kavi (PI), Robert Akl (co-PI), **$57,700.**

R4. "Robotics and App Design Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is $11,727. Submitted 5/5/17. Robert Akl (PI), **$11,727.**

R5. "I/UCRC Industrial Membership - Ashum Corp," 2017. Krishna Kavi (PI), Robert Akl (co-PI), **$50,000.**

R6. "UNT GenCyber Summer Program: Inspiring the Next Generation of Cyber Stars in North Texas," National Security Agency (NSA). Requested amount is $85,000. Submitted 11/4/2016. Robert Akl (co-PI), **$85,000**.

R7. "App Design Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is $12,900. Submitted 5/6/16. Robert Akl (PI), **$12,900.**

R8. "I/UCRC Industrial Membership - Ashum Corp," 2016. Krishna Kavi (PI), Robert Akl (co-PI), **$65,000.**

R9. "Robotics, Game and App Programming Summer Camps" under Texas Workforce Commission: Summer Merit Program. Requested amount is $63,000. Submitted 11/16/15. Robert Akl (PI), **$63,000**.

R10. "App Design Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is $13,998. Submitted 5/1/15. Robert Akl (PI), **$13,988**.

R11. "I/UCRC Industrial Membership - Ashum Corp," 2015. Krishna Kavi (PI), Robert Akl (co-PI), **$40,000.**

R12. "App Design Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is $12,500. Submitted 5/2/14. Robert Akl (PI), **$12,500**.

R13. "I/UCRC Industrial Membership - Ashum Corp," 2014. Krishna Kavi (PI), Robert Akl (co-PI), **$46,000.**

R14. "I/UCRC Industrial Membership - Ashum Corp," 2013. Krishna Kavi (PI), Robert Akl (co-PI), **$38,500.**

R15. "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), **$63,000**.

R16. "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), **$30,000.**

R17. "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), **$30,000.**

R18. "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), **$20,000**.

R19. "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), **$63,000**.

R20. "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), **$18,000.**

R21. "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), **$63,000**.

R22. "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), **$8,000**.

R23. "Summer Merit Program" under Texas Workforce Commission. Requested amount is $42,000. Submitted 3/20/09. Robert Akl (PI), **$42,000**.

R24. "Robocamp at Stewpot" under Dallas Women's Foundation. Requested amount is $20,000. Submitted 2/23/09. Robert Akl (PI), **$18,600**.

R25. "Robocamp Jump Start" under Motorola Foundation Innovation Generation

Grant. Requested amount is $29,852. Submitted 2/12/09. Robert Akl (PI), **$30,700**.

R26. "Engineering Summer Program" under Texas Higher Education Coordinating Board. Requested amount is $7,944. Submitted 2/13/09. Robert Akl (PI), **$11,111**.

R27. "Texas Youth in Technology" under Texas Workforce Commission. Requested amount is $152,393. Submitted 11/10/08. Robert Akl (PI), **$152,393**.

R28. "I/UCRC 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), **$60,000 per year for 5 years**.

R29. "Robocamp and Beyond" under Motorola Foundation Innovation Generation Grant. Requested amount is $30,000. Submitted 6/20/08. Robert Akl (PI), **$30,000**.

R30. Texas Youth in Technology" under Texas Workforce Commission. Requested amount is $30,000. Submitted 2/27/08. Robert Akl (PI), **$31,500**.

R31. "Robocamp Program for Young Women" under RGK foundation. Requested amount is $30,000. Submitted 11/5/07. Robert Akl (PI), **$15,000**.

R32. "Texas Youth in Technology" under Texas Workforce Commission. Requested amount is $102,514. Submitted 10/22/07. Robert Akl (PI), **$102,514**.

R33. "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), **$12,785**.

R34. "Robocamp Mobile Unit" under Motorola Foundation Innovation Generation Grant. Requested amount is $35,000. Submitted 6/20/07. Robert Akl (PI), **$30,000**.

R35. "ICER: UNT Engineering Challenge Camps" under NSF 0547299. Requested amount is $35,000. Submitted 4/27/07. Oscar Garcia (PI), Robert Akl (senior personnel), **$32,792**.

R36. "I/UCRC-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), **$10,000**.

R37. "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), **$20,000**.

R38. "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), **$125,322**.

R39. UNT Faculty Research Grant for Fall 2003, Robert Akl (PI), $5,000, **$4,000**.

R40. UNT Junior Faculty Summer Research Fellowship for Summer 2003, Robert Akl (PI), $5,000, **$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
- Technical Program Committee Member, *International Wireless Symposium*, IWS
- Technical Program Committee Member, *IEEE International Conference on Computational Science*, *IEEE* ICCS
- Technical Program Committee Member, *IASTED International Conference on Wireless Communications*, WC
- Technical Program Committee Member, *WTS Wireless Telecommunications Symposium*
- Technical Program Committee Member, *Mosharaka International Conference on Computer Science and Engineering*, Amman
- Invitation to serve as an NSF reviewer/panelist for Engineering Research Centers (ERC) proposals
- Technical Program Committee Member, *18th IEEE International Symposium on Personal, Indoor and Mobile Radio Communication*, Greece
- International Program Committee, *IASTED International Conference on Wireless and Optical Communication*, Canada
- Program Committee Member, *Fifth Annual Wireless Telecommunications Symposium*, CA
- Technical Publications Chair, *IEEE Vehicular Technology Conference*, Dallas TX
- Session Chair, *International Conference on Computing, Commun. and Control Tech.*, Austin TX

- Session Chair, *International Conference on Cybernetics and Information Technologies*, Orlando FL
- Session Chair, *8th World Multi Conference on Systemics, Cybernetic, and Informatics*, Orlando FL

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