CURRICULUM VITAE

Dennis A. Roberson

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Career Summary:

Visionary educator, researcher, business executive and board member with a proven record in research, teaching, product development, and management. Strong, proven business and people management skills operating on a global basis. Significant relationships with the key leaders in high technology companies, universities, and in governments and their national labs across the globe.

Experience:

Illinois Institute of Technology, Chicago, IL

2003 to Present

Research Professor and former Vice Provost for Research – Professor Roberson has been an active researcher and instructor in the wireless networking arena and was a co-founder of IIT's Wireless Network and Communications Research Center (WiNCom). He has Co-Directed the Intellectual Property Management and Markets Program administered through the Chicago- Ken College of Law. He has enjoyed teaching at both the undergraduate and graduate level, especially in the Wireless Networking area and in the area of Intellectual Property Management and Markets.

In his former capacity, he was responsibility for overseeing IIT's research efforts, relationships with its various corporate and organizational partners including responsibility for the Technology Commercialization Office and for the Jules F Knapp Entrepreneurship Center. He assisted with the development of new research initiatives and centers, and technology and community-based business ventures. Before this he was also responsible for providing the vision and leadership for a new undergraduate business school and related programs concentrating on entrepreneurship, leadership, teamwork, and technology. He also revitalized and led the Career Management Center at the University.

Key Accomplishments:

Undergraduate Business (2003-2007): Lead the establishment of the program as a unique "Techno Business" program with two degrees – B.S. Business Administration, and B.S. Business Administration and Applied Science, and a unique curriculum including a variety of specialized technical concentrations. Also lead the hiring of its core faculty and staff, established its physical location, secured external donations to fund the program for the first three+ years (\$6M+), established the promotional materials and web presence for the program, grew the student population to well over 100 students (in three years), saw the first five students graduate, had approximately a dozen students per semester who achieve Dean's List status, and re-started the flow of alumni donations for the program.

Entrepreneurship (2003-2007): Enhanced the focus on Entrepreneurship at IIT through the establishment of the Jules F. Knapp Entrepreneurship Center (focused on supporting IIT related technology-based start-up companies), and the dramatic enhancement of our academic efforts in

entrepreneurship at IIT (two courses to seven). This included obtaining initial support from various individuals and Foundations (~\$2.5M.), the hiring of key faculty and staff personnel.

IPRO Program (2003-2007): The Inter-Professional Projects program was dramatically enhanced through this period in both the content, delivery metrics, financial support, research focus (more than a dozen conference presentations / publications on team-based education), and the impact and professionalism of IPRO Day.

Leadership Academy (2003-2007): The number of Leadership Academy Scholars was increased from 18 to 25 with external funding (\$500k) secured to support these additional scholarships over a three-year period. The annual Sophomore Leadership Retreat grew from roughly 100 attendees in 2003 to over 200 in 2007. The Retreat has consistently been rated one of the top IIT experiences by the student attendees.

Camras Scholars (2004-2007): Provided sponsorship for the Camras program for the three years. This included arranging the freshman orientation week welcome lunch with the University President, Lew Collens, and the fall dinner at the home of former Board of Trustees Chair, Bob Pritzker. It also included working with the students to organize a Spring Banquet, the finals week pizza breaks service project, and an annual Six Flags outing. Innovations included the inaugural Camras Bowl (Alumni and Student Teams), and the introduction of the Camras Pathways program.

Illinois Tech Robotics Club (2004-present): Founding Sponsor for the University's Robotics Club which has steadily grown from 2004 to the present. The students who founded the Club have graduated and are now completing their Ph.D programs at IIT. The Club has been a stronger supporter for local Junior High and High School robotics teams and they have been involved in State, Regional, National and Global Robotics Competitions. The Club has also very successfully competed in various Robotics Competitions on their own right fielding three separate robots for the 2010, 2011 and 2012 Jerry Sanders Competition at UIUC where IIT robots have regularly won one or both of the top prizes in the event.

Wireless Research (2003-present): Lead the establishment of the interdisciplinary Wireless Network and Communications Research Center (WiNCom). To date over twenty faculty members and over one hundred graduate and undergraduate students have been involved in the effort. Numerous grants have been secured from NSF to providing (>\$3M) in direct funding for the effort. In addition, over 200 pieces of equipment have been contributed by Motorola, a large Faraday Cage was provided by GE, and Alion and various other firms have added contributions to support the research effort. The research has resulted in more than forty publications, the creation of two new Computer Science classes, and a growing recognition for the university in this important space in academia, in various government circles, with industry and with the general public. Importantly this recognition included the hosting of the NSF Networking PI meeting at IIT in the summer of 2007, and the hosting of the international IEEE DySPAN conference in Chicago in October, 2008. Currently, numerous government organizations (FCC, Dept of Commerce and especially the NTIA, the DoD and especially DARPA and DISA) are calling on the group (and a related spin out company) to support their wireless research needs.

Career Management Center (2007-2013): Oversaw the revitalization of this important aspect of the Universities life increasing programs, enhancing the Career Fairs to the extent that they were the largest affairs of their kind in the mid-West, and importantly enhanced the placement of our students. In this latter category, student placement was increased from roughly 80 percent of our graduates to 90 percent in the six months following graduation.

IIT Strategic Plan (2009-2016): Leading the deployment effort for the Strategic Plan approved by our Trustees in May 2009 and again in 2014. This has been an ambitious undertaking that directly or indirectly involves all members of the IIT Community with a focus on our Financial Strength, Distinctive Education, Research, Innovation and Excellence, and our Engineering Reputation. This has also involved the establishment and oversight for the Strategic Plan Assessment Advisory Board and regular reports and encouragement for the University Leadership and its Board of Trustees. At this point the deployment effort has largely been successfully completed and my involvement has shifted to the development of an even more aggressive and "more strategic", Strategic Plan to cover the next five year period which is now in the process of receiving final Trustee approval.

Information Property (IP) Management and Markets (2010-present): Worked with Hal Krent, Chicago-Kent Law School Dean to develop a first of a kind degree program focused on the Management of IP. This included the establishment of the curriculum, the focus on the program, interviews with key Chicagoland partners, the packaging and presentation of the proposal to the University Faculty Council and the Board of Trustees. Participated in the development and implementation of a senior level legal and business community based Advisory Board for the new degree program. Served as a co-instructor for the capstone course for the program from its inception to the present time, and as the Co-Director of the program since 2017.

Office of Research (2013 - 2016): Through this period the Office of Research was reinvigorated and focused on growing the research revenue for the university. A highlight of this period was the awarding of National Science Foundation Career Awards to five of our young faculty members. This is a level of recognition only achieved by a few universities in the country in any given year and for a university our size this is a significant distinction. Other notable contributions included the establishment of the IIT Research Academy composed on the top senior researchers at the university as identified by Sigma Xi, the Research Honorary Society. A new research management system was also installed through this period to modernize our research proposal and award processing. Reviews of all Research Centers were completed and appropriate actions taken and several new Research Centers were initiated.

Entigenlogic®, Schaumburg, IL

2017 to present

Chairman of the Board – Responsible for providing oversight for this exciting Artificial Intelligence based Natural Language Understanding focused software product development and associated commercial deployment business.

Roberson and Associates, LLC, Schaumburg, IL

2008 to present

President, CEO, Founder, and Member – Responsible for the success of this technology and technology management consulting business with significant capabilities in the areas of wireless network and communications systems, spectrum management, spectrum occupancy studies, spectrum policy issues, RF encroachment issues, and emerging technologies such as dynamic spectrum access network-based systems, cognitive radio systems, and related technologies. The company is currently composed of over 40 people, many with a significant Motorola, Bell Labs, and University Research based background. The group is focused on delighting our various government and commercial customers through the completion of challenging technology focused assignments.

Executive Vice President and Chief Technology Officer - Responsible to the Office of the CEO for identifying, articulating, and leading the strategic and visionary business-based technology advancements that served as the company's foundation for future growth. Provided functional guidance to Motorola's 32,000+ technical associates and had direct responsibility for its research arm - Motorola Labs (personally created organization with a population of ~1000 in 7 countries), its Global Software Group (~3500 population in 14 countries), its Standards organization, and the Advanced Technology Businesses organization focused on early business incubation and intellectual property monetization.

NCR Corporation, Columbia, SC / Dayton, OH

1996 - 1998

Senior Vice President and Chief Technology Officer - Responsible for NCR's technical strategy and its 2600-person technical community. The range of technology efforts included ATMs and various unique banking products, a full range of computer offerings, system and application software products with particular focus on the high-end data warehousing area (Teradata), data networking, and retail Point of Sale and Barcode Scanner equipment.

AT&T, Columbia, SC

1994 - 1996

Corporate Vice President and GM of Computer Product Group - Responsible for \$2 B Computer Business covering the low / mid-range servers, the high-end data warehousing (Teradata), the system and application software, and the networking (including the first wireless LAN equipment). Operations located in six US and one European site.

Digital Equipment Corporation (DEC -> HP), Maynard MA / Nashua NH

1988 - 1994

Vice President, Software - Responsible for the software development efforts for the company and at the peak, the 6000+ person software development community operating in a variety of global sites. Products covered the gamut from operating systems (VMS and UNIX), to database (RDB), to office (All-in-One), to commercial transaction processing, to system management, to applications software used in manufacturing and development environments.

IBM

Lab Director, Endicott, NY

1986-1988

Managed a site composed of roughly 3000 hardware and software engineers and support personnel responsible for the entry/mid-range (9370/4300) mainframe computer line and the VM operating system. Also had functional responsibility for a sister lab in Boeblingen, Germany.

Lab Director, Burlington, VT

1984-1986

Managed a group of roughly 1500 engineers, scientists, and support personnel with responsible for nearly half the semiconductor development at IBM. Key contributions included the introduction of CMOS technology at IBM, an array of semiconductor products, the development of IBM's first RISC microprocessor, and the world's first production of 1 million bit memory chips.

Division Director, Technology and Development Staff, White Plains, NY 1983 –1984 Staff responsibility for the technology direction of the Systems Product Division (mid-range computer systems) and functional responsibility for the Technology teams in six international laboratories. Established the need for CMOS technology in IBM and sold this need to Corporate Management.

Development / Senior Engineer, Boca Raton, FL

1977 - 1983

Provided management leadership for the ongoing development of the desktop line of computers ultimately leading to the PC. Also managed the Series/1 Processor Development and Architecture Group and provided staff leadership for the site technology strategy.

Senior Associate / Staff Engineer, Rochester, MN

1974 - 1977

Lead engineer for the team who transformed the California desktop prototype into a real product, the IBM 5100. This product ultimately evolved through several generations to become the IBM PC. Also moved into management leading a computer architecture and advanced development group exploring future personal computer products.

Junior / Associate Engineer, Los Gatos, CA

1971-1974

Worked on a very early multimedia system (non-coded system) developing the various elements (graphic displays and related systems elements, scanners, printers, graphical storage system, etc.). Later developed the first prototype desktop computer system at IBM.

AT&T (Bell Labs), Holmdel, NJ - Summer Intern

1970

Designed and built the first digital display telephones and wrote a key Technical Report outlining the uses of such a device. Report covered most of the capabilities in use today.

Education: Master of Science in Electrical Engineering - <u>Stanford University</u>, Stanford, CA 1974

Bachelor of Science Degrees in Physics and in Electrical Engineering - Washington State University, Pullman, WA

1971

Research Interests:

Wireless networking (with a focus on the identification and mitigation of interference)

Spectrum management and occupancy (with a focus on Dynamic Heterogeneous Sharing techniques)

Software development methodologies (with particular interests in the Open Source Movement and Capability Maturity Model based approaches)

Cloud / GRID / Utility based computing architectures and approaches, especially in the area of "Cloud-based" storage systems

Technology-based entrepreneurial business models

Technology trends and their impact on business, government and society

Artificial Intelligence software systems (with a focus on AI applied to Natural Language Understanding and to Communications Network and Spectrum Management)

Research Grants:

NSF: NeTS-ProWIN: Wireless Interference: Wireless Spectral Interference and its Impact on Dynamic Network Connectivity (Proposal ID: CNS-0435389), PI (Co-PIs CS Hood, PJ Kolodzy (SIT), JL LoCicero, UM Tureli (SIT)) 10/04 – 10/05. \$150,000

NSF: NeTS-ProWIN: Wireless Interference: Characterization and Impact on Wireless Network Performance (Proposal ID: CNS-0520232) PI (Co-PIs CS Hood, JL LoCicero, UM Tureli (SIT)) 10/05 – 10/10. \$750,000+\$12,000+\$16,000

Alion Science and Technology Corporation: Non-linear Quadrature Amplitude Modulation Project. (Co-PI JL LoCicero) 4/06 – 12/06. \$46,000

NSF: SGRE – Chicago Spectrum Observatory Proposal (Proposal ID: CNS-711094) PI (Co-PIs CS Hood, JL LoCicero) 4/07 – 3/08 \$99,970

NSF: NeTS: Wireless Network PI Meeting, (Proposal ID: 0738372) PI 7/07 \$60,000

NSF: NeTS- WN: Spectrum Observatory System (Proposal ID: CNS-0722003) PI (Co-PIs CS Hood, JL LoCicero, DR Ucci) 9/07 – 8/10 \$300,000+\$16,000

NSF: NeTS: Small: Dynamic Spectrum Access for Mission Critical Wireless Networks (Proposal ID: CNS-1018786) PI (Co-PI K Zdunek) 7/10 – 6/13 \$450,000

NSF: EARS: Spectrum Utilization Analysis using Multisite RF Spectrum Observatory Network (Proposal ID: AST-1248000) 8/12 – 7/15 \$484,767

NSF: EAGER: Global RF Spectrum Opportuntiy Assessment (Proposal ID: CNS 11265351) 1/13 – 12/14 \$174,998 (Collaborative Research Proposal)

NSF: EARS: Modeling and Analysis of Radar / Communications Spectrum Sharing Opportunities (Proposal ID: AST-1343306) 9/13 – 9/16 \$512,169

NSF - Wireless Spectrum Research and Development (WSRD) Workshop. Understanding the Spectrum Environment (Proposal ID: ECCS-1439967) 3/14 - 3/15 \$48,000

PCTEL – Spectrum Monitoring Pod Research (6/15-12-15 - \$100,000)

NSF - Workshop on Spectrum Measurements & Spectrum Management (Proposal IE: 8/15 - 7/16 - \$48,000)

Issued Patents:

SYSTEM AND METHOD FOR DETERMING AND SHARING SPECTURM AVAILABILITY Filed Sep 22, 2014 / Issued June 13 2017 - Patent number 9681307

SYSTEM AND METHOD FOR DETERMINING AND SHARING SPECTRUM AVAILABILITY Issued Dec 25, 2018 Patent issuer and number us 10,165,450 B2

Academic Experience:

Courses Taught

Introduction to Business (ITP) – IIT BUS 100 (3 years)

Introduction to Wireless Network and Performance IIT CS 456 (8 years)

Advanced Topics in Wireless Network and Performance – IIT CS 595 (4 years)

Special Projects in CS – IIT CS 497 / 597 (5 years – 15 Sections)

Global Intellectual Property – IPMM 505 (3 years)

Capstone Project – Intellectual Property Management and Markets – IPMM 507 (8 years)

Interdisciplinary Projects - IPROs (2 years - 3 Sections)

Guest Lecturer:

Stanford U. – Personal Computing Directions (1977)

U. C. Berkeley – The Future of Personal Computing (1978)

IBM Systems Research Institute (NYC) – The Future of Personal Computing (1977 - 80)

Florida Atlantic University – Essentials of Computer Architecture (1980 - 81)

Temasek Polytechnic (Singapore) – technology trends (1996)

Motorola University – various technology trends / management sessions (1999 – 2002)

Shanghai Jiaotung University – cellular technology directions (2000)

Wheaton College – ethics in international business (2001)

MIT – various lectures on technology directions and technical career development (2001-3)

Beijing University of Post and Telecommunications (BUPT) – wireless technology futures (2002) and Cognitive Radio Technology (2007)

U. of Michigan – MBA lecture (3 hours) – Doing business in China (2003)

Beijing University of Technology (BJUT) – Cognitive Radio Technology (2007)

Tianjin University – Cognitive Radio Technology (2007)

U.S. Naval Academy - Wireless Evolution - 2009 Snapshot (Feb 2009)

Temple University – Spectrum Observatory Research Review (April 2011)

University of South Carolina – Spectrum Observatory Overview (October 2011)

Panelist and Conference Leadership:

NSF Panelist – NeTS PRO-WiN Wireless Technology Proposal Review, NSF Headquarters, Arlington, VA, 16 - 17 June 2003

Technical Committee, Global Mobile Congress, Shanghai, China, 11 – 13 October 2004

NSF Career Awards Panel, NSF Headquarters, Arlington, VA, 8 - 9 November 2004

NSF Panelist – NeTS PRO-WiN Wireless Technology Proposal Review, NSF Headquarters, Arlington, VA, 9 -10 May 2005

Technical Program Committee, <u>First IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks</u>, (DySPAN), Baltimore, Maryland, Nov. 2005

Technical Program Committee, <u>First International Workshop on Technology and Policy for Accessing Spectrum (TAPAS)</u>, August 2006

Technical Committee, Global Mobile Congress, Beijing, China, 9 – 11 October 2006

Technical Program Committee, <u>Second IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks</u>, (DySPAN II), Dublin, Ireland, April 2007

Hosted annual NSF Wireless PI Meeting at IIT with roughly 100 of the nation's top wireless researchers in attendance, Chicago, IL, July 2007

National Academy of Science – Spectrum Panel – Trends in the Wireless Industry, Irvine, CA, Oct 2007

National Academies Workshop: Disrupting IED Terror Campaigns: Predicting IED Activities, Washington DC, March 2008,

Co-General Chair (and Technical Program Committee), <u>Third IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks, (DySPAN 2008)</u>, Chicago, IL, October 2008

NSF Panelist - NeTS Small Panel - Abouzeid review panel NSF Headquarters, Arlington, VA, 04/02/2009 - 04/03/2009.

Technical Paper Review, IEEE Transactions on Vehicular Technology, June 2009

Technical Program Committee, <u>Fourth IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks</u>, (DySPAN 2010), Singapore, April 2010

Program Co-Chair, <u>National Academy of Engineering Grand Challenges Summit – Chicago</u> <u>2010</u>, Chicago, IL, April 2010

Technical Program Committee, <u>IEEE Vehicular Technology Conference (IEEE VTC – Fall 2010)</u>, Ottawa, Canada, September 2010

Panel Chair, Business Panel, <u>13th International Symposium on Advanced Radio Technology</u> (ISART), Boulder, CO, July 2010

Technical Program Committee and Session Chair, <u>Fifth IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks</u>, (DySPAN 2011), Aachan, Germany, May 2011

NSF Panelist – Major Research Instrumentation – Review Panel – NSF HQ, Arlington, VA, 17 March 2011

Technical Program Committee and Session Chair, <u>Sixth IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks</u>, (DySPAN 2012), Seattle, Washington, October 2012

Panelist, Aspen Institute Roundtable on Spectrum Policy, Spectrum as a Resource for Enabling Innovation Policy, Queenstown, MD, 14-16, Nov 2012

Chair, Wireless Spectrum Research and Development (WSRD) 5th Workshop, Understanding the Spectrum Environment: Using data and monitoring to improve spectrum utilization, National science Foundation, Arlington, VA, 31 March 2014

Technical Program Committee, <u>Seventh IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks</u>, (DySPAN 2014), Tyson's Corners, VA, April 2014

Panelist, Aspen Institute Roundtable on Spectrum Policy, *Moving Towards General Purpose Spectrum*, Queenstown, MD, 22-24, Oct 2014

Panelist, Aspen Institute Roundtable on Spectrum Policy, *Preparing for a 5G World*, Queenstown, MD, 26-28, Oct 2015

Chair, NSF Workshop on Spectrum Measurements Infrastructure, Chicago, IL, 6-7 April 2016

Panelist, General Accountability Office (GAO) Internet of Things Panel hosted by the National Academy of Sciences, Washington, D.C., 12 April 2016 (report to Congress 2017)

Focus Group Moderator, <u>Wireless Spectrum Research and Development (WSRD)</u> 8th <u>Workshop, Wireless Spectrum Sharing: Enforcement Frameworks Technology and R&D,</u> Washington, D.C., 5 May 2016

Panelist, Aspen Institute Roundtable on Spectrum Policy, *Revisiting Spectrum Policy of the National Broadband Plan*, Queenstown, MD, 23-25, Oct 2016

Panelist, Aspen Institute Roundtable on Spectrum Policy, *Rethinking Institutions of Spectrum Management*, Queenstown, MD, 6-8, Nov 2017

Panelist, Office of Justice Programs, Department of Justice, Washington, D.C., 22-23 May 2018

General Chair, <u>IEEE Vehicular Technology Conference – Fall 2018,</u> Chicago, IL, 27-30 August, 2018

Panelist, The 7th Annual American Spectrum Management Conference, National Press Club, Washington, DC, 2-3 Oct 2018

Panelist, Aspen Institute Roundtable on Spectrum Policy, *Spectrum Policy and the Future of Satellites*, Queenstown, MD, 29-31, Oct 2018

Technical Program Committee, <u>IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks</u>, (DySPAN 2018), Seoul, South Korea, October, 2018

National Academies of Science, Engineering and Medicine (NASEM) Expert Meeting on 5G Deployment in the U.S. sponsored by the General Accountability Office (GAO), National Academy of Science Building, Washington, D.C., 1-2 October 2019

Technical Review Committees

Joint Tactical Radio System (JTRS) Independent Technical Review Panel, Boeing, Huntington Beach, CA, 24-25 September 2008

Wireless Research Review Committee, Idaho National Labs, Idaho Falls, ID, 23-24 September 2009

Rapid Capability Fielding Technology "Toolbox" Study, Department of Defense – Defense Research and Engineering, Washington, DC, September 2009 – January 2010

Corporate Liaison to Universities:

IBM to Florida Atlantic University / U of Florida – 1978 - 83

IBM to Clarkson University / Dartmouth – 1984 - 86

IBM to Cornell / SUNY Binghamton – 1986 - 88

AT&T / NCR to U of South Carolina / Georgia Tech – 1994 - 98

Motorola to Georgia Tech (endowed two Chairs – Hilltop Society Member) – 2000 – 03

For Profit Board Experience:

Governing Boards

Advanced Diamond Technology (2007 – 2018) – Audit Committee (2008- 2018)

Always in Touch, LLC - dba OnKol (2015 – present)

Caerus Institute (2009 – present) - Chairman

Cleversafe (2006 – 2015) – Audit (Chair) and Compensation Committees (2008 – 2015)

Entigenlogic (2017 - present) – Executive Chairman

Sequoia Communications (2005 – 2009)

Sun Phocus (2005 – 2015)

Zarlink (2004 – 2011) – Compensation Committee (2004 – 2011)

Advisory Boards

Air2Access (2006 – 2009)

Broadview Communications (2015 – 2017)

Energrades (2012 – 2014)

Geneva Capital (2006 – 2009)

IMI Innovations (2007 – 2015)

JioBit (2015 - 2021)

Mesh++ (2020-2021)

MyCityTag (2013 – 2015)

Strategic Solutions International (2014 – present)

Not for Profit or Internal Company or Industry or University Board / Committee Experience:

Boy Scouts of America

- National Advisory Board (2002 2013)
- BSA Computer Task Force -> Information Delivery Committee (2002 2013)
- Council Board / Advisory Board (1996 1998)
- District Unit Commissioner (2006 2008)
- Troop Committee Chair (2004 2006)

Computer Systems Policy Project (CSPP) (1996 – 1998 and 2001 – 2003)

- Chair of the CTO Committee (1997 - 1998)

Cultural Council for Lexington – Richmond Counties, SC (1996 – 1998)

FIRST

- Board of Directors (1999 2012)
- Illinois FIRST Board (2004 2013, Chair 2004–06, 2007-08 & 2009 2013)
- National Board Audit Committee (2007 to 2012)

Georgia Tech - WWW Industrial Consortium (1997 – 1998)

Greater Columbia Chamber of Commerce (1996 – 1997)

International Engineering Consortium Advisory Board (2000 to 2010)

Information Technology Industry Council (ITI) (1996 – 1998 and 2002 – 2003)

Chairman (2002 – 2003)

Motorola China Research and Development Institute Board – Chair (2000 – 2002)

Motorola Foundation Board (2000 – 2002)

Motorola University Board (1999 – 2002)

Motorola Science Advisory Board – Chair (1998 – 2002)

Motorola Technology Action Council – Chair (1998 – 2002)

Open Software Foundation (OSF) (Board -1991 – 1996, Chair 1994 – 1996)

The Open Group – Board Chair (1996 – 1998)

Stuart School of Business Dean Search Committee (IIT) (2005 – 2006)

Reach Beyond (was HCJB Global) (2009 – 2015)

SonSet Solutions – Board Chair (2015 – 2019) Advisor (2020 – present)

University of South Carolina – Electrical Engineering Advisory Board (2018 – present)

Government Advisory Boards:

South Carolina Technology Council (appointed by Governor), Columbia, SC (1995 – 1998)

Agency for Science and Technology Policy (A*STAR), Singapore (2003 – 2005)

Communications Research Laboratory (CRL) / National Institute of Information and Communications Technology (NiCT), Japan (1999 – 2002)

Federal Communications Commission - Technological Advisory Council (FCC-TAC), U.S. (1999 to present – Chair 2013 to present)

International Advisory Panel - Malaysia (IAP - chaired by Prime Minister), Malaysia (2002 – 2011)

Commerce Spectrum Management Advisory Committee (CSMAC) – U.S. Government (2011 to present)

Federal Communications Commission – Open Internet Advisory Committee (OIAC), U.S. (2012 to 2013)

Illinois Innovation Council (appointed by Governor), Illinois (2013 – 2015)

Testimony before U.S. House Communications and Technology Subcommittee on Spectrum – 2015-10-7

President's Council of Advisors on Science and Technology (PCAST) Task Force Member - Spectrum Policy – 2011-2012 – Report Issued to the President on 20 July 2012

Awards and Recognition:

IBM Outstanding Contribution Award, 5100 System Architecture and Design (the "first PC") (December 1975)

IBM Hundred Percent Club (1987)

IDEAL (Individuals with Disabilities Enabling Advocacy Link) Champion's Award (1997)

Motorola Science Advisory Board Associate (1998 – 2004)

Sawyer Society, IIT (November 2005)

STAR Professor – IIT Student Government Association (SGA) (February 2006)

Illinois FIRST Outstanding Volunteer Award (April 2011) and Outstanding Contribution Award (2013)

Crain's Chicago - Tech 50 (September 2013)

Professional and Honorary Affiliations:

ACM (1970 – 2017)

IEEE (1967 to present) – Life Senior Member IEEE Computer Society IEEE Communications Society IEEE Vehicular Technology Society

Phi Eta Sigma Phi Kappa Phi Sigma Tau Sigma Xi Tau Beta Pi

Publications and Presentations:

External – Publications and Conference Proceedings

"A Microprocessor-Based Portable Computer: The IBM 5100", <u>Proceedings of the IEEE</u>, Volume 64, Number 6, pp 994-999, June 1976 (precursor to IBM PC - sole author)

"An Architecture for a Small Interactive Computer – The IBM 5100", <u>Proceedings of the 14th IEEE Computer Society International Conference, Compcon Spring 1977</u>, pp 136-139, March 1977 (sole author)

"The Design of A Small Interactive Computer – The IBM 5100", <u>Proceedings of the Delaware Bay Microcomputer Conference, Micro-Delcon 1978</u>, pp 52-57, March 1978 (sole author)

"Spectrum Occupancy Measurements, Chicago, Illinois, November 16-18, 2005", Internet Published Report, M A McHenry, D. McCloskey, D A Roberson, J.T. MacDonald, December 2005.

"Chicago Spectrum Occupancy Measurements & Analysis and a Long-term Studies Proposal," M.A. McHenry, D McCloskey, D A Roberson, and C S Hood, <u>Proceedings of the First International</u> <u>Workshop on Technology and Policy for Accessing Spectrum (TAPAS)</u>, August 2006.

"Spectrum Occupancy and Interference Studies in support of Cognitive Radio Technology Deployment", (with C. S. Hood, J. L. LoCicero, and J. T. MacDonald), in <u>Proceedings of First IEEE Workshop on Networking Technologies for Software Defined Radio (SDR) Network, Reston, VA, September 2006</u>

"Location Estimation of Isotropic Transmitters in Wireless Sensor Networks", J T MacDonald, D R Ucci, D A Roberson, IEEE Military Communications Conference, 2006, MILCOM 2006

- "Client Channel Selection for Optimal Capacity in IEEE 802.11 Wireless Networks", J T MacDonald, U Das, D A Roberson, <u>Proceedings of IEEE Conference on Dynamic Spectrum</u> Access Networks, Dublin, Ireland, April 2007
- "Spectrum Occupancy Estimation in Wireless Channels with Asymmetric Transmitter Powers", J T MacDonald, D A Roberson, <u>Proceedings of Second International Conference on Cognitive Radio Oriented Wireless Networks and Communications</u>, Orlando, Florida, August 2007
- "Structural Support for Cognitive Radio System Deployment", Dennis A. Roberson, Invited Paper in <u>Proceedings of Second International Conference on Cognitive Radio Oriented Wireless Networks and Communications</u>, Orlando, Florida, August 2007
- "Wireless In Motion: Ad Hoc Network Performance of Wi-Fi and Bluetooth in Mobile Environments", A. Carfang, M. Zaturenskiy, J. Lloyd, D. Roberson, <u>Proceedings of IEEE 2nd International Workshop on Mobile Vehicular Networks (MoVeNet 2008)</u>, Atlanta, GA, September 2008
- "Long-term, wide-band spectral monitoring in support of Dynamic Spectrum Access Networks at the IIT Spectrum Observatory", R. Bacchus, A. Fertner, C. Hood, D. Roberson, Proceedings of IEEE Conference on Dynamic Spectrum Access Networks (DySPAN 2008), Chicago, IL, October 2008
- "A Two-Tiered Cognitive Radio System for Interference Identification in 2.4 GHz ISM band", K Rele, D Roberson, B Zhang, Li Li, Y B Yap, T Taher, K Zdunek, <u>Proceedings of 7th Annual Consumer Communications and Networking Conference (CCNC 2010)</u>, Las Vegas, NV, January 2010
- "Spectrum Utilization Study in Support of Dynamic Spectrum Access for Public Safety", R. Bacchus, T. Taher, K. Zdunek, D. Roberson, <u>Proceedings of IEEE Conference on Dynamic Spectrum Access Networks (DySPAN 2010)</u>, Singapore, April 2010
- "Long Term Spectrum Occupancy Finding in Chicago", R. Bacchus, T. Taher, K. Zdunek, D. Roberson, <u>Proceedings of IEEE Conference on Dynamic Spectrum Access Networks</u> (DySPAN 2011), Aachan, Germany, May 2011
- "Dynamic Spectrum Access Opportunities for Public Safety in Land Mobile Radio Bands", R. Bacchus, T. Taher, K. Zdunek, D. Roberson, <u>Proceedings of the 6th International ICST Conference on Cognitive Radio Oriented Wireless Networks (CrownCom 2011)</u>, Osaka, Japan, June 2011
- "Priority Access for public safety on shared commercial LTE networks", S Borkar, K Zdunek, D Roberson, <u>Technical Symposium at ITU Telecom World (ITU WT)</u>, 2011 pp 105-110, Geneva, SW, October 2011
- "Empirical modeling of Public Safety Voice Traffic in the Land Mobile Radio band", R. Bacchus, T. Taher, K. Zdunek, D. Roberson, <u>Proceedings of the 7th International ICST Conference on Cognitive Radio Oriented Wireless Networks (CrownCom 2012)</u>, Stockholm, Sweden, 18-19 June 2012

- "Long Term RF Measurements 700 MHz Band Chicago, IL", J Engel, D Roberson, YouTube Video for IEEE Conference on Dynamic Spectrum access Networks (DySPAN 2013), Belleview, WA, October 2012
- "An RF Spectrum Observatory Database based on a Hybrid Storage System", G. Noorts, J. Engel, J. Taylor, D. Roberson, R. Bacchus, T. Taher, K. Zdunek, <u>Proceedings of IEEE Conference on Dynamic Spectrum Access Networks (DySPAN 2012)</u>, Belleview, WA, October 2012
- "Statistical Modeling Framework of Live Spectrum Observation data for Opportunistic Spectrum Sharing", T. Taher, K. Zdunek, D. Roberson, <u>Proceedings of the 8th International ICST Conference on Cognitive Radio Oriented Wireless Networks (CrownCom 2013)</u>, Washington, DC, July 2013
- "Overview and comparison of recent spectrum sharing approaches in regulation and research From opportunistic unlicensed access towards licensed shared access", Marja Matinmikko, Miia Mustonen, Dennis Roberson, Jarkko Paavola, Marko Höyhtyä, Seppo Yrjölä, and Juha Röning, Proceedings of IEEE Conference on Dynamic Spectrum Access Networks (DySPAN 2014), McLean, VA, April 2014
- "Measurements and Analysis of Spectrum Occupancy in the 2.3-2.4 GHz band in Finalnd and Chicago", M. Hohyta, M. Matinmikko, T. Taher, A. Riaz, D. Roberson, <u>Proceedings of the 9th International ICST Conference on Cognitive Radio Oriented Wireless Networks</u> (CrownCom 2014), Oulu, Finland, June 2, 2014
- "Global Spectrum Observatory Network Setup and Initial Findings", R. Attard, J. Taylor, T. Taher, M. Matinmikko, J. Roning, J. Paavola, R. Ekman, J. Suutala, A. MacKenzie, K. Zdunek, D. Roberson, <u>Proceedings of the 9th International ICST Conference on Cognitive Radio Oriented Wireless Networks (CrownCom 2014)</u>, Oulu, Finland, June 2, 2014
- "A High-performance Tiered Storage System for a Global Spectrum Observatory Network", R. Attard, J. Taylor, T. Taher, J. Kalliovaara, J Paavola, R. Ekman, D. Roberson, <u>Proceedings of the 9th International ICST Conference on Cognitive Radio Oriented Wireless Networks (CrownCom 2014)</u>, Oulu, Finland, June 4, 2014
- "Introduction to Interference Resolution, Enforcement and Radio Noise", Pierre de Vries, Dale Hatfield, Dennis Roberson, primary authors, plus several other contributors, FCC Technological Advisory Committee (web publication), Washington, D.C., June 10, 2014
- "Evaluation of recent spectrum sharing models from the regulatory point of view", M. Matinmikko, M. Mustonen, S Yrjola, D. Roberson, <u>1st International Conference on 5G for Ubiquitous Connectivity</u>, Levi, Finland, November 22, 2014
- "Spectrum Occupancy Measurements in the 2.3-2.4 GHz band: Guidelines for Licensed Shared Access in Finland", M.Höyhtyä, M. Matinmikko, X. Chen, J. Hallio, J. Auranen, R. Ekman, J. Röning, J. Engelberg, J. Kalliovaara, T. Taher, A. Riaz, and D. Roberson, EAI Transactions on Cognitive Communication, Volume 1, Issue 2, ICST, ISSN 2313-4534, 28 May 2015
- "Electronic Noise is Drowning Out the Internet of Things", M McHenry, D Roberson, R Matheson, IEEE Spectrum, September 2015
- "Spectrum occupancy measurements: A survey and use of interference maps", Marko Höyhtyä, Aarne Mammela, Marina Eskola, Marja Matinmikko, Juha Kalliovaara, Jaakko

Ojaniemi, Jaakko Suutala, Reijo Ekman, Roger Bacchus, Dennis Roberson, IEEE Communications Surveys & Tutorials, April 2016

"Process model for recent spectrum sharing concepts in policy making", Miia Mustonen, Marja Matinmikko, Oliver Holland, Dennis Roberson, Telecommunications Policy (JTPO1639)/ Elsevier, 1 Feb 2017

"A method for evaluating coexistence of LTE and radar altimeters in the 4.2–4.4 GHz band", Rohit Singh, Roger Peterson, Ali Riaz, Cindy Hood, Roger Bacchus, Dennis Roberson, Wireless Telecommunications Symposium (WTS) - 2017 Proceedings, April 2017

External Journals edited

Special Issue: Management of Interference in Wireless Networks, <u>International Journal of Network Management</u>, Volume 16, Number 2, C.S. Hood and D.A. Roberson, Guest Editors, March-April 2006.

Major Studies

Public Safety Priority Access to Shared Commercial Networks, FCC Filing, S. R. Borkar, K. J. Zdunek, D. A, Roberson, March 2011

"Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth", President's Council of Advisors on Science and Technology, Report to the President, Washington, DC, July 2012

Books (unpublished)

The Pyramid Theory – A Guide to Career Success, March 2003 (sole author)

Book Chapters

"Interference and our Wireless Future", Chapter 11 in <u>Wireless Communications: The Future</u>, W Webb, John Wiley & Sons, 2007

"Radio Frequency Spectrum and Regulation", Chapter 2 in <u>Cognitive Radio Communications</u> and <u>Networks: Principle and Practice</u>, edited by A Wyglinski, M Nekovee, T Hou, Elsevier's, 2010

Book contributions

<u>Distributed Multimedia, Technologies, Applications, and Opportunities in the Digital Information Industry – A Guide for Users and Providers, pp 798-800, P.W. Agnew, A.S. Kellerman, Atomic Dog Publishers, 2002</u>

<u>Transaction Processing – Concepts and Techniques</u>, Section 16.5 "DECtp", pp 947-959, J. Gray, A. Reuter, Morgan and Kaufman, 1993

<u>Virtual Teams – Reaching Across Space, Time, and Organization with Technology,</u> Chapter 4 "Through the Worm Hole" pp 77-85, J. Lipnack, J. Stamps, John Wiley & Sons, Inc., 1997

<u>Virtual Teams – People Working Across Boundaries with Technology, 2nd edition, Chapter 9</u> "Links" pp 189- 196, Jessica Lipnack and Jeffrey Stamps – John Wiley & Sons, Inc., 2000

Noteworthy internally published documents

"A Numeric Display for the Telephone Set", <u>Bell Laboratories Technical Report</u>, 70-3231-2, Holmdel, NJ, 28 October 1970 (basis for digital displays in cell phones / desktop telephones – sole author)

"Proposal for Noise Environment Assessment", Submitted to and approved by FCC Technology Advisory Council, Washington, D.C., 24 November 1999

Major Technical Presentations (sole presenter unless otherwise noted)

"Internet Related Technology Trends", Opening Plenary Address, <u>42nd Meeting of the Internet</u> Engineering Task Force (IETF), Chicago, IL, 24 August 1998

"Creating the Future", Dinner Speaker, <u>Montreal Business Leader's Forum</u>, Montreal, Canada, 5 May 1999

"Innovation", Dinner Speaker, <u>Association for Independent Technological University Annual</u> President's Annual Meeting, The Breakers, West Palm Beach, FL, 14 January 1999

"The Wireless Internet", Keynote Address, <u>Internet World China 2000</u>, Beijing, China, 10 April 2000

"Mobile Communications: 2G to 4G", Keynote Address, <u>China Association for Science and Technology (CAST) Annual Meeting</u> (4000 attendees), Xian, China, 18 September 2000

"Wireless Communications – Then and Now", Invited Lecture, <u>MIT Media Lab Colloquium Series</u>, Cambridge, MA, 16 May 2001

"Wireless Communications – Macro and Micro", Keynote address, <u>IEEE Microwave Theory</u> and Techniques Society – International Microwave Symposium, Phoenix, AZ, 19 May 2001

"21st Century Communications – What's New?" <u>Internet Technology Council Workshop</u> – Invited Lecture, Schaumburg, IL, 14 June 2001

"Why 3G Now (or at least soon)", Motorola Symposium - Presentation to White House, Agency and Congressional staff, Washington, D.C., 3 December 2001

"3G and Hot Spot Networking", FCC Technology Advisory Council, Washington, D.C., 5 December 2001

"Welcome to the Future!" Keynote Address, <u>World Wireless Research Forum (WWRF)</u>, Phoenix, AZ, 7 March 2002

"The Software Challenges of the 21st Century", Keynote address (with Steve Balmer, CEO of Microsoft), 2002 China Software Symposium, Beijing, China, 26 June 2002

- "The Future is not what it used to be!" Invited Address, <u>Symposium Series at the MIT Lab for Computer Science</u>, Cambridge, MA, 1 August 2002
- "Wireless Technology Future Directions", <u>Technical Symposium</u>, Beijing University of Post and Telecommunications, Beijing, China, 19 November 2002
- "Beyond 3G R&D", Invited address, <u>International Forum on Future Mobile Telecommunications</u>, Beijing, China, 21 November 2002
- "The Innovation System", <u>Harnessing Innovation Conference</u>, TTI/Vanguard, Berlin, Germany, 14 July 2004
- "Wireless Interference", <u>Future Networks Conference</u>, (w/ Dr C S Hood), <u>TTI/Vanguard</u>, Chicago, IL, 12 April 2005 (also hosted IIT Day visit for executive visitors 13 April)
- "Understanding Dynamic Spectrum Sharing through Spectrum Observatories, Test Cities, Cows and Service Provider Testing", 13th Annual International Symposium on Advanced Radio Technologies (ISART), Boulder, CO, 25-26 July 2012
- "Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth a Status Report", Keynote Address, <u>Wireless Innovation Forum</u>, Schaumburg, IL, March 2014
- "Why Spectrum Management is important to you!", Keynote Address, Symposium on Technology for Design & Construction Northwestern University, Chicago, IL, 13 August 2014
- "Spectrum Sharing", Testimony before the U.S. Congressional Subcommittee on Telecommunications and Technology, Washington, D.C., 6 October 2015

Technical Presentations - Smaller Forums (sole presenter unless otherwise noted)

- "Software Development Opportunities and Challenges", Kick-off Speaker, Inaugural Meeting of the South Carolina Software Developer's Association, Columbia, SC, 29 April 1997
- "Technology Trends in the Retail & Banking Industries", Microsoft Bag Lunch Forum (televised), Redmond, WA, 16 June 1997
- "Electronic Commerce Directions", Information Technology Industry Annual Board Meeting, Biltmore, Scottsdale, AZ, 22 October 1997
- "Current Research Status and Follow-up Proposal on Electromagnetic Noise", FCC Technology Advisory Committee, Washington, DC, 13 December 1999
- "Electromagnetic Noise Study Proposal", FCC Technology Advisory Committee Meeting, Washington, DC, 28 June 2000
- "The Value of NCSA Capabilities to Motorola", (videotaped presentation for the) NCSA Annual Meeting and Awards Banquet, Urbana Champagne, IL, 7 May 2001

- "What ever happened to 3G", CTO Forum of the Computer Systems Policy Project, San Diego, CA, 23 July 2001
- "Motorola's Grand Challenges", Groupe Ecole Telecommunique, Paris, France, 7 October 2002
- "Interference, Spectrum Occupancy and the Future of Cognitive Radios", Department of Defense Joint Spectrum Center, Bowie, MD, 17 December 2008
- "Trends in the Wireless Industry", Chicago Police Department, Chicago, IL, 18 Feb 2009
- "Interference, Spectrum Occupancy and the Future of Cognitive Radios", Navy Surface Weapons Center, Chicago, IL, 5 February 2009
- "Interference, Spectrum Occupancy and the Future of Cognitive Radios", Chicago IEEE Communications Society Chapter Meeting, Wheaton, IL, 10 March 2009
- "Interference, Spectrum Occupancy and Dynamic Spectrum Access", DoD EME Working Group, Pt. Mugu Naval Base, CA, 17 June 2009
- "Interference, Spectrum Occupancy and Dynamic Spectrum Access", Crane Naval Surface Warfare Center, IN, 24 June 2009
- "IIT's Spectrum Observatory, Interference, and the Future of Cognitive Radios", University of Illinois Chicago ECE Symposium, Chicago, IL, 6 November 2009
- "Research Management Challenges and Opportunities", Battelle Malaysia Research Management Workshop, Bangee, Malaysia, 11 November 2009
- "Interference, Spectrum Occupancy and Dynamic Spectrum Access", Air Force Research Labs and Air Force Institute of Technology, Chicago, IL, 15 December 2009
- "Federal Wireless Advisory Boards, Committees and Councils", Federal Communications Bar Association (FCBA), Washington, DC, 21 February 2012
- "Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth Report Card", Northwestern University, 22 May 2014
- "The Case for Fixed Location Spectrum Observatory Networks", IEEE Chicago Chapter Meeting, University of Illinois Chicago, 10 April 2015

Significant Presentations – Mixed Technical / Business and / or Government Policy (sole presenter unless otherwise noted)

- "My Path to Career and Personal Success", Keynote Address, <u>Re-Union Forum of the Alliance of Black Employees for AT&T, Lucent and NCR</u>, Orlando, FL, 9 August 1997
- "Advances in Technology for the Less Able", <u>IDEAL (Individual's with Disabilities Enabling Advocacy Link) Conference</u>, Atlanta, GA, 25 October 1997

- Closing Challenge and Awards Presentation, <u>FIRST Robotics Midwest Regional</u> <u>Championships</u>, Harper College, Schaumburg, IL, 27 February 1999
- "Challenges Confronting Multinationals in the Era of American Preeminence", Keynote Address, <u>1999 Strategic Assessment Group Conference</u>, Wilmington, DE, 9 November 1999
- Closing Remarks, <u>FIRST Robotics Midwest Regional Competition</u>, Northwestern University, Evanston, IL, 25 March 2000, 30 March 2002, 29 March 2003, 27 March 2004
- "21st Century Engineering", Invited Presentation, Duke University Engineering Students, Durham, NC, 28 October 2000
- "The Future of Wireless Communications", <u>National Electrical Manufacturer Association</u> (NEMA) Annual Meeting, Fairmont Hotel, Chicago, IL, 13 November 2000
- "21st Century Communications The First Decade", <u>Chicago Executive Club</u>, Chicago, IL, 15 December 2000
- "The Value of Partnerships" (video recording for) <u>JVC's Annual All Employee Kick-off</u> Meeting, Yokohama, Japan, 4 January 2001
- "Challenges Confronting Motorola and other US Multinational Executives in the Era of American Preeminence", Invited Lecture, <u>Wheaton College Ethics Symposium</u>, Wheaton, IL, 16 March 2001
- "The Value of Nanotechnology, Life Science, and Modeling" Keynote Address, Grand Opening, Los Alamos Research Center, Los Alamos, NM, 24 March 2001
- Presentation of Motorola Quality Award, <u>FIRST Robotics National Championship</u>, EPCOT Center, Orlando, FL, 7 April 2001, 27 April 2002
- "Being a US Company in the Third World Century", Keynote, <u>2001 Strategic Assessment Group Conference</u>, Wilmington, DE, 14 November 2001
- "Advances in Wireless Technology", Reuters' Technology Seminar, N Y, NY, 1 March 2002
- <u>"Spectrum Summit</u> (Member of Lead Panel moderated by Michael Powell, FCC Chairman and Nancy Victory, Director of the NTIA), <u>US Department of Commerce</u>, Washington, D.C., 4 April 2002
- "The Critical Relationship between Universities and Corporations in the 21st Century", Dinner Speaker, <u>American Society of Engineering Education (ASEE)</u>, Chicago, IL, 11 April 2002
- "The US IT Industry and China Trends, Opportunities and Risks", <u>Information Technology</u> Industry Trends Conference, San Jose, CA, 25 July 2002
- "Communications in the 21st Century Panel", <u>Congressional Black Caucus Annual Forum</u>, Washington, DC, 13 September 2002

Closing Presentation, <u>Illinois State FIRST Lego League Robotics Championship</u>, Arlington Heights, IL, 14 December 2002

"The Pyramid Theory – A Guide to Career Success", <u>MIT Retreat for International Study Program</u>, Endicott House, Dedham, MA, 8 February 2003

"Motorola in China – Past, Present & Future", University of Michigan MBA Class (3 hour lecture), Ann Arbor, MI, 6 March 2003

"2010 Technology Plan", <u>Science and Technology 2010 Technology Symposium</u>, Science and Engineering Research Council, Singapore, 4-5 August, 2005

"A Responsible Way Forward", FCC Public Safety Bureau Interoperability Forum, Washington, DC, 4 March 2011

"Trends in Wireless Broadband Networks", Temple University ACM Award Banquet After Dinner Speaker, Philadelphia, PA, 21 April 2011

"Trends in Wireless Broadband Networks", OCA Ventures Annual Meeting, Invited Speaker, Chicago, IL, 20 July 2011

"Trends in Wireless Broadband Networks", Social Media Retreat, HCJB Global Tech Center, Elkhart, IN, 12 July 2011

Opening Speaker, DAS, Small Cell Workshop, sponsored by FCC, Washington, DC, 7 February 2012

"Receivers and Interference Basics", keynote, also, Chaired "Experiences and Lessons Learned" Panel, and participated on two additional Panels "Policy Alternatives" and the Summary Panel, <u>Spectrum Efficiency and Receiver Performance Workshop</u>, FCC Building, Washington, DC, 12-13 March 2012

"A Personal Perspective on Innovation", Illinois Innovation Forum, Northwestern University, Evanston, IL, 28 June 2012

Receiver Regulation Workshop, sponsored by Silicon Flatirons, Washington, DC, 13 November 2012

Aspen Institute Roundtable on Spectrum Policy, Queenstown, MD,

14-16 November 2012

22-23 October 2014

26-28 October 2015 "Defining 5G – The Technology Dimension", Keynote Speech

23-25 October 2016

6-8 November 2017

29-31 October 2018

8-10 December 2019

"Washington's Spectrum directions and potential impacts on NEBSA members", Keynote Address for Annual Meeting of National Educational Broadband Service Association, New Orleans, LA, 3 April 2013

"Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth – Report Card", Presenter and Panelist, Globecom, Atlanta, GA, December 2013

FCC Workshop on Prevention of Mobile Device Theft, Session Organizer, Panel Chair and Wrap-Up Presenter, Washington, DC, June 2014

"Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth – Report Card", Session Organizer, Presenter, Panelist, Huawei University, Rolling Meadows, Il, August 2014

"Electronic Noise and Its Impacts On Communications Systems", Invited Speaker, Association of Federal Communications Consulting Engineers (AFCCE) Meeting, Washington, D.C., 20 May 2016

National Radio Dynamic Zone Workshop, Invited Panelist, NSF Sponsored Workshop (Virtual), 17 March 2021

Technology based boards and panels

The Open Group Board Meetings, Chair, Key issues in Open Software, Tokyo, Japan, 9 – 11 December 1996, San Francisco, CA, 11 March 1997, Cambridge, MA, 10 September 1997, Columbia, SC, 9-11 December 1997

Technology Strategy Development for the State of South Carolina, <u>South Carolina</u> <u>Technology Council</u> (appointed by Governor), Columbia, SC, 27 May 1997, 19 August 1997, 29 October 1997

"The benefit of Open Standards in the Customer Environment", Customer Panel, <u>The Open Group Annual Conference</u>, London, UK, 25 June 1997

Electronic Commerce Whitepaper Issuance with President Bill Clinton / Vice President Al Gore, The White House, Washington, D.C., 1 July 1997

Georgia Tech WWW Industrial Consortium, Inaugural Meeting, Atlanta, GA, 10 July 1997

Chaired CTO Forum of Computer Systems Policy Project – Focus on Security Technologies and Critical Infrastructures, Palo Alto, CA, 1-2 December 1997

FCC - Technology Advisory Council I – Inaugural Meeting, FCC Building, Washington, DC, 30 April 1999

FCC - Technology Advisory Council I, FCC Building, Washington, DC, 30 May 1999, 13 December 1999, 24 March 2000, 28 June 2000, 27 September 2000, 6 December 2000

FCC – TAC I – Spectrum Working Group Meeting, National Geographic Building, Washington, DC, 15 November 1999

Communications Research Laboratory (CRL) Advisory Board, Tashikawa, Japan, 16-17 December 1999, 16-17 December 2000, 13 March 2003

Congressional (8 Congressmen present) / Industry Panel, COMDEX Trade Show, Chicago, IL, 20 April 2000

Imperatives for Innovation (panelist), <u>The Second National Innovation Summit 2001 - US Council on Competitiveness</u>, UC San Diego, San Diego, CA, 5 - 6 April 2001

FIRST Robotics Annual Board Meeting: Orlando, FL - 7 April 2001; Orlando, FL - 13 April 2002; (Manchester, NH - 3 January 2003); Houston, TX - 12 April 2003; Atlanta, GA – April 2004, April 2005, April 2006, April 2007, April 2008, 18 April 2009, 17 April 2010; St Louis, MO - 30 April 2011, 28 April 2012.

FCC - TAC II, FCC Building, Washington, DC, 13 June 2001, 5 December 2001, 26 April 2002, 12 June 2002, 18 September 2002, 4 December 2002

"The Wireless World: Everyone Talking to Everything" (panelist), <u>ESI Global Forum 2001</u> <u>Technology Summit: Empowering Innovation for Growth</u>, Economic Strategy Institute Forum, Washington, DC, 5 October 2001

<u>US Department of Commerce - Innovation in America Corporate R&D Roundtable</u> (panelist), formal input on the state of innovation to the President's Council of Advisors on Science and Technology (PCAST), Washington, DC, 24 January 2002

Information Technology Industry Council (ITI)

- Elected Chairman and led meeting, instituted strategy review process, Washington, DC, 20 March 2002
- Chaired Annual Meeting new strategic direction established, Washington, DC, 22 October 2002
- Chair, Washington, DC, 19 March 2003

White House Technology Summit, President George W. Bush - keynote speaker, White House, Washington, DC, 13 June 2002

Multimedia Super Corridor International Advisory Panelist (IAP) lead by Prime Minister:

Mahathir, Cyberjaya, Malaysia, 5-7 September 2002

Mahathir, Cyberjaya, Malaysia, 4-6 September 2003

Abdullah, Cyberjaya, Malaysia, 2-4 September 2004

Abdullah, Penang, Malaysia, 8-10 September 2005

Abdullah, Putrajaya, Malaysia, 16-18 May 2007

Najib, Putrajaya, Malaysia, 8-10 November 2009

"The Future of Communications" (panelist), <u>Congressional Black Caucus</u>, Washington, D.C., 13 September 2002

"China in 2020 - Science and Technology Forum" (panelist), <u>Strategic Assessment Group Conference</u>, Crystal City, VA, 10-11 February 2003

FCC - TAC III FCC Building, Washington, DC,

- 17 April 2003 (Broadband Technologies),
- 7 July 2003 (Spectrum Interference Measurement and Management)
- 20 October 2003 (Voice over IP (VoIP))
- 28 July 2004 (Cost of Interference and Advances in Cable based Telephony)
- 27 October 2004 (Consumer Wireless and Ultrawideband (UWB))

NSF/ FCC Workshop on the Future of Spectrum (Invited Participant), Alexandria, VA, 28-29 May 2003

<u>IT Leadership in a Security Focused World - Technology Trends Forum</u> (served as Emcee and Closing Speaker – Bill Gates keynote speaker), sponsored by ITI and CSIS, Washington, DC, 25 June 2003

FCC - TAC IV, FCC Building, Washington, DC

- 15 April 2005 (Security in Telecommunication Systems)
- 28 July 2005 (Regulatory Models for Tiered Spectrum Access Rights, and 4G Cellular Progress)
- 27 October 2005 (Resilient Communications and Emerging Public Alerting Systems)
- 20 July 2006 (Technological Developments for Broadband Access)

12th MSC - Malaysia International Advisory Panel Learning Symposium - Education and Human Capital Track – Panelist, Putrajaya, Malaysia, 10 November 2009

FCC - TAC V, FCC Building, Washington, DC

- 4 November 2010 (Opening Session identified top four FCC issues nominated to serve as Working Group Chair Sharing Spectrum and Infrastructure)
- 30 March 2011 (Working Group Reports for FCC issues)
- 29 June 2011 (Working Group Reports for FCC issues)
- 27 September 2011 (Working Group Reports on FCC issues)
- 20 December 2011 (Annual Reports on Working Group Reports)
- 28 March 2012 (Identification and Initiation of new Working Group efforts Chair for Receivers and Spectrum Working Group)
- 27 June 2012 (Working Group Reports on FCC Issues)
- 24 September 2012 (Working Group Reports on FCC Issues)
- 10 December 2012 (Annual Reports on Working Group Reports)

White House Forum on Spectrum Sharing and Experimentation, White House Conference Center, Washington, D.C., 10 January 2011

U.S – Finland Workshop on Wireless Research (WiFUS),

16-17 May 2011 - Finnish Embassy, Washington, DC

- 20 June 2012 Stockholm, Sweden
- 12 August 2013 Troy, NY (RPI)
- 5 June 2014 Oulu, Finland (U of Oulu)
- 10 December 2015 San Diego, CA

President's Council of Advisors on Science and Technology (PCAST) Planning Meeting - "Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth" 13 September 2011, Washington, DC

16-17 January, Berkley, CA

Commerce Spectrum Management Advisory Committee

- 10 November 2011 Washington, DC
- 24 July 2012 Boulder, CO
- 4 October 2012 Washington, DC
- 17 January 2013 Washington, DC
- 24 July 2013 Washington, DC
- 28 March 2014 Washington, DC
- 10 July 2014 Washington, DC
- 9 October 2014 Washington, DC
- 18 February 2015 Washington, DC
- 12 May 2015 Washington, DC
- 2 December 2015 Washington, DC (Chairing Working Group)
- 18 March 2016 Washington, DC (Chairing Working Group)
- 8 June 2016 Washington, DC (Chairing Working Group)
- 1 August 2016 Boulder, CO
- 25 January 2017 Washington, DC
- 4 May 2017 Washington, DC
- 15 August 2017 Boulder, CO
- 17 November 2017 Washington, DC
- 25 April 2018 Washington, DC
- 24 July 2018 Boulder, CO
- 1 October 2019 Washington, DC
- 28 January 2020 Washington, DC
- 22 April 2020 Virtual Meeting
- 30 July 2020 Virtual Meeting
- 14 January 2021 Virtual Meeting

Wireless Spectrum Research and Development (WSRD) Workshop

- 18 January 2012 Berkley, CA
- 24 July 2012 Boulder, CO
- 31 March 2014 Arlington, VA (Chair)
- 5 May 2015 Washington, D.C. (Focus Group Chair)
- 23 July 2018 Boulder, CO

FCC – Open Internet Advisory Committee

- 20 July 2012, FCC Building, Washington, DC, Inaugural Meeting
- 9 October 2012, Harvard University, Cambridge, MA
- 7 May 2013, Northwestern University, Chicago, IL
- 9 July 2013, FCC Building, Washington, DC

FCC – TAC FCC Building, Washington, DC

- 11 March 2013 (Identification and Initiation of new Working Group efforts Chair for Spectrum Efficiency and Receiver Working Group Reports on FCC Issues)
- 13 June 2013 (Chaired Meeting and presented Working Group Report)
- 23 September 2013 (Chaired Meeting)
- 9 December 2013 (became TAC Chair)
- 10 March 2014 (Chair)
- 10 June 2014 (Chair)

- 23 September 2014 (Chair)
- 4 December 2014 (Chair)
- 1 April 2015 (Chair)
- 11 June 2015 (Chair)
- 24 September 2015 (Chair)
- 9 December 2015 (Chair)
- 9 March 2016 (Chair)
- 9 June 2016 (Chair)
- 20 September 2016 (Chair)
- 7 December 2016 (Chair)
- 8 June 2017 (Chair)
- 19 September 2017 (Chair)
- 6 December 2017 (Chair)
- 12 April 2018 (Chair)
- 12 June 2018 (Chair)
- 20 September 2018 (Chair)
- 5 December 2018 (Chair)
- 12 March 2019 (Chair)
- 26 June 2019 (Chair)
- 18 September 2019 (Chair)
- 4 December 2019 (Chair)
- 24 March 2020 (Chair)
- 4 June 2020 (Chair)
- 22 September 2020 (Chair)
- 1 December 2020 (Chair)
- 14 January 2021 (Chair)

Press Interviews:

- "Transactions on the Desktop", Elizabeth Lindholm, Datamation, Littleton, MA, 1 Aug 1991
- "Just for the Fun of it", Digital World, Volume 17, #1, pp 20 21, Nashua, NH, April 1993
- "NCR's Dennis Roberson A Manager for All Seasons", Richard Cole, UniNews Volume X, Number 9, page 4, 24 July 1996
- "Split focuses NCR's mind", The Australian, Sydney, Australia, 10 March 1997
- "Redefining the Mainframe", (article based on panel discussions) InformationWeek, Plaza Hotel, New York, NY, 11 August 1997
- "Technology Directions", Capital Magazine, Paris, France, 1 April 1999
- "Wireless Technology Directions", BusinessWeek, 23 April 1999
- "Motorola's Research Direction and the formation of Motorola Labs", Technology Columnist, Quentin Hardy, Wall St Journal, Schaumburg, IL, 24 May 1999
- "Motorola's Technology Directions", Technology Columnist, NY Times, 18 June 1999

- "The Next Big Things" from a Technology Standpoint", Senior Staff Editor, Chuck Lenatti, Upside Magazine, Schaumburg, IL, 10 September 1999
- "Technology Advances at Motorola", European Technology Editor, BusinessWeek, Geneva, Switzerland, 11 October 1999
- "Roberson: Breakaway technologies create future", Gill Zhou, China Daily, Beijing, China, 8 November 1999
- "Motorola's Technology Directions", Yauso Tomakura (Technology Writer), Nikkei Electronics, Tokyo, Japan, 12 November 1999
- "Motorola's Technology Directions", US News and World Reports, 1 December 1999
- "Industry Technology Trends and Motorola's Directions", Kevin Maney (Technology Columnist), USAToday, Schaumburg, IL, 19 January 2000
- "Motorola Labs and Research Directions", Roger Crokett (Correspondent), BusinessWeek, 21 February 2000
- "Technology Future Directions at Motorola", Ed Lammers, EE Times, 28 February 2000
- "Future closer than you think", I-Street (internet publication), Chicago, IL, 1 January 2001
- "Motorola's strategic moves leave manufacturing in dust; Focus on software, wireless Web content", Sandra Jones, Crain's Chicago Business Schaumburg, IL, 22 January 2001
- "Status of Research Activity in the US", Wall St Journal, 8 March 2001
- "Seeking Stardust, Motorola's gadget guru aims to restore struggling giant's magic touch in R&D", Sandra Jones, Crain's Chicago Business, Schaumburg, IL, 12 March 2001
- "Motorola Claims GaAs Breakthrough", Electronic News, 4 September 2001
- "Motorola Makes Chip Breakthrough", Barnaby Feder, The NY Times, 4 September 2001
- "Profitability, labs improve IBM's status", Barnaby Feder, NY Times, p24, 10 September 2001
- "Tell me where you are right now", Wall Street Journal C/Net, 1 October 2001
- "Motorola The Software Company", Nikkei Electronics, Tokyo, Japan, 15 July 2002
- "Motorola Skunk Works, High-tech start up flourishes inside big-company grind", Howard Wolinsky, Chicago Sin Times, 19 August 2002
- "Magnificent Motorola: 15 Years of Technology Roadmapping Standards", Roadmapping and Innovation Management, Issue 6, 23 August 2002

- "Dennis Roberson, directeur R & D monde de Motorola", Telecom Business Life, Paris, France, 11 October 2002
- "Bright Spots in Technology", Barnaby Feeder, Wall Street Journal, 25 April 2002
- "Motorola Researchers Work to Improve 3G Services", Electronic News, 23 May 2002
- "Motorola Researchers Demonstrate Technology Supporting Future Wireless Broadband", allNetDevices, 29 May 2002
- "The Future CTO Technology Series", Nikkei Electronics, Tokyo, Japan, 15 July 2002
- "The Future of mobile telecommunications", ZDF/TV (German television), Motorola Museum, Schaumburg, IL, 11 November 2002
- "Dead Air", Scott Woolley, Forbes Magazine (cover story), 25 November 2002
- "IIT to launch new major merging tech, business", Michael Krauss, Chicago Sun-Times, 23 February 2004
- "Tech jobs have room to grow", Susan Chandler, Chicago Tribune (Business) 21 March 2004
- "The Wireless Web Risk", ABC/7 TV (Chicago), Cheryl Burton news story, 2 June 2005
- "Static Cling", Jeff Lyon, Chicago Tribune Magazine, 12 June 2005
- "The Crowded Sky", Marlis Manley Broadhead, IIT Magazine, Fall 2005
- "Phone Overload", FOX/9 News (TV Chicago), Byron Harlan, 9 December 2009
- "Observatory Focuses on Our Earth", Marcy Faye, IIT Magazine, March 2010
- "Apple tries to avoid Motorola's mistakes in China", Lou Kilzer, Pittsburg Tribune-Review, 3 April 2011
- "Smartphone thefts are dropping here's why", Crain's Chicago Business, 30 June 2014
- "Smart Device Theft" Live Interview, WGN Radio Station, Chicago, 26 September 2014

Selected Private Presentations – conferences, forums, broadcasts, panels...

- "Electronic Commerce Strategies and Opportunities", NCR EMEA Leadership Meeting, Breakout on Ecommerce, Orlando, FL, 23 January 1997
- "Technology Trends", NCR EMEA Leadership Meeting, Dinner Speaker, Orlando, FL, 23 January 1997
- "Technology Trends for the Retail", Keynote Address, NCR Indirect Channels Meeting, Ft Lauderdale, FL, 13 March 1997

"Technology Trends", Keynote Address, NCR Great Performance Event, Barcelona, Spain, 15 April 1997

"The Critical Role of Innovation to the Success of NCR", Dinner Speaker, Annual Awards Dinner and Recognition Event, Atlanta, GA, 12 May 1997

Internal Malcolm Baldrige Assessment of NCR IT Function, Executive Panelist, Dayton, OH, 11 – 13 June 1997

"The State of the Company & its Technology", NCR Canada Leadership Team, Toronto, Canada, 8 September 1997

"IT Technology Trends", NCR Customer Forum, Stockholm, Sweden, 2 October 1997

"The Future of Technology in the Retail Industry", Keynote Address, Retail Alliance Partner Meeting, Stone Mountain, Atlanta, GA, 15 October 1997

Science Advisory Board Associates Induction Meeting, Closing Dinner Speaker, Carnegie-Mellon University, Pittsburgh, PA, 30 April 1998

"The Importance of Project Management", Keynote Speaker, Motorola Project Management Symposium – Scottsdale, AZ, 2 June 1998

"The Technology Innovations that made Motorola", Keynote Address, Motorola Summer Interns Meeting, Navy Pier Ballroom, Chicago, IL, 6 August 1998

"Technology Trends in Information Technology", Keynote Address, Motorola Computer Group Technology Symposium, Scottsdale, AZ, 11 August 1998

"History of Innovation", Dinner Speaker, Physical Sciences Research Labs Patent Awards Banquet, Tempe, AZ, 11 August 1998

"The role of Innovation and the Challenges of Change", Keynote Speaker, Ceramic Product Division Patent Awards Banquet, Palatine, IL, 22 September 1998

"Technology Trends and Directions", Chicago area Science Advisory Board Associates monthly seminar, Schaumburg, IL, 7 October 1998

"The History of Patents", Keynote Address, Automotive Group Patent Awards Banquet, Chicago, IL, 7 November 1998

Recognition for New SABA and Dan Noble Fellows, Corporate Patent Awards Recognition Ceremony, Field Museum, Chicago, IL, 21 November 1998

"The Value of Innovation in the Physical Sciences", Dinner Speaker, Motorola Labs, Phoenix Patent Awards Banquet, Mesa, AZ, 9 April 1999

"The Critical Role of Technology Leadership", Dinner Speaker, Science Advisory Board Associates Initiation Meeting Closing Dinner, Arlington Heights, IL, 13 May 1999

- "Motorola Technology Directions and the Opportunities for Partnership" Sun /Motorola CTO Summit, Schaumburg, IL, 28 May 1999
- "Motorola Research and the Future of Computers", Motorola Computer Group Technology Symposium, Phoenix, AZ, 10 August 1999
- "Technology Directions in Asia", Member of Singapore Economic Development Board (EDB), Schaumburg, IL, 23 August 1999
- "Motorola Grand Challenges and Research Direction", GTE CTO and key members of his staff, Schaumburg, IL, 31 August 1999
- "Motorola Technology Strategy & Directions", Keynote Address, Hermes Symposium, Austin, TX, 21 September 1999
- "Research Partnership Status and Opportunities", SUN / Motorola CEO Summit, Palo Alto, CA, 28 September 1999
- "Motorola's Grand Challenges", Town Hall Meeting for Russian Motorola Associates, St Petersburg, Russia, 15 October 1999
- "Motorola's Innovation and Opportunities", Keynote Speaker, Motorola Internet Networking Group Patent Awards Banquet, Chicago, IL, 23 October 1999
- "Motorola's Grand Challenges", Science Advisory Board Associates Meeting, Marco Island, FL, 29 October 1999
- "The Opportunity for Technology Leadership", Dinner Speaker, Science Advisory Board Associates Closing Dinner, Marco Island, FL, 30 October 1999

Leadership Recognition for new SABAs and Dan Noble Fellows, Phoenix area Patent Awards Banquet, Scottsdale, AZ, 12 November 1999

- "Patents and Technology Assets, the key to Motorola's future", Corporate Patent Awards Banquet, Itasca, IL, 13 November 1999
- "It's a Standards-based World", Keynote, Motorola Standards Symposium, Schaumburg, IL, 30 November 1999

Industry Experts Panel Moderator, Motorola Standards Symposium, Schaumburg, IL, 1 December 1999

- "Status of Research Partnership efforts and Opportunities Review", SUN / Motorola CTO Summit, Palo Alto, CA, 6 December 1999
- "Critical Technology Trends", Motorola Science Advisory Board Associates, Chicago Chapter, Schaumburg, IL, 13 January 2000
- "Motorola Technology Strategy / Research Direction", Motorola Semiconductor Products Sector European Technical Ladder Forum, Geneva, Switzerland, 17 January 2000

- "Technology / Research Directions", European Regular Management Technology Review, Senior Leadership Team, Motorola Europe, Basingstoke, UK, 9 February 2000
- "Motorola's Technology Future", Inaugural Address, Motorola University Technology Seminar Series, Schaumburg, IL, 28 March 2000
- "The Value of Innovation", Keynote, Physical Science Research Lab Patent Awards Banquet, Tempe, AZ, 31 March 2000
- "The Importance of Technology Leadership", Dinner Speaker, Science Advisory Board Associates Initiation Meeting, University of Florida, Gainesville, FL, 4 May 2000
- "Motorola's Grand Challenges in Software and the Internet", Motorola Software Engineering Symposium, Phoenix, Arizona, 21 June 2000
- "The Future in Motorola's Automotive Technology", "Big Bang" Meeting for Ford Leadership Team, Dearborn, MI, 4 August 2000
- "The Value of Technology", Cellular Infrastructure Patent Awards Banquet, Ft Worth, TX, 2 October 2000
- "Success through Technology Innovation", Keynote, South Florida Patent Awards Banquet, Fort Lauderdale, FL, 3 October 2000
- "Success through Inventive Excellence", Keynote, Cable and Internet Group Patent Awards Banquet, Museum of Science and Industry, Chicago, IL, 7 October 2000
- "The Value of Intellectual Assets", Motorola Schaumburg Patent Awards Banquet, Field Museum, Chicago, IL, 18 November 2000
- "Motorola Technology / Research Direction", Keynote, Hermes Symposium, Ft. Lauderdale, FL, 11 October 2000
- "Technology Leadership in Challenging Times", Dinner Speaker, Science Advisory Board Associates Annual Meeting, Atlanta, Georgia, 21 October 2000
- "The Value of the Individual Researcher and the Contributions of Teams", Dinner Speaker, Ft Worth Area Patent Awards Banquet, Ft Worth, TX, 2 November 2000
- "The critical position of Patents in History and in Motorola", Keynote, Plantation site Patent Awards Banquet, Ft Lauderdale, FL, 3 November 2000
- "The importance of recognizing excellence in Intellectual Property Development", Keynote, Cellular Handset Patent Award Banquet, Itasca, IL, 4 November 2000
- "Motorola Technology / Research Directions in Consumer Electronics", Canon Research Head and staff, Schaumburg, IL, 11 December 2000

- "Motorola's HOT 7 / Next 10", Motorola's Office's Business Meeting, O'Hare Hyatt, Chicago, IL, 6 February 2001
- "Motorola Technology / Research Directions", Motorola Vice Presidents Institute, Evanston, IL, 26 April 2001
- "Leadership through Innovation", Dinner Speaker, Science Advisory Board Associates Initiation Meeting, Purdue University, West Lafayette, IN, 3 May 2001
- "The Value of Motorola's Intellectual Assets", Dinner Speaker, Motorola Patents Awards Banquet, Ft Worth, TX, 1 November 2001
- "The Power of Innovation", Motorola Cellular Infrastructure Patents Awards Banquet, O'Hare Hyatt, Chicago, IL, 3 November 2001
- "The Value of Technology Leadership", Motorola Cellular Handset Patents Awards Banquet, O'Hare Hyatt, Chicago, IL, 17 November 2001
- "Technology Directions" Motorola Officer's Business Meeting, O'Hare Hyatt, Chicago, IL, 30 January 2002
- "Motorola Technology Strategy & Research Agenda", Motorola Technology Seminar Series Internally broadcast to all Motorola facilities worldwide, 22 February 2002
- "Motorola Grand Challenges / Hot 7 Core Technologies Review", Motorola Town Hall, Beijing, China, 11 March 2002, Shanghai, China, 15 March 2002
- "The Challenge of Technology Leadership at Motorola", Science Advisory Board Induction Meeting, MIT, Cambridge, MA, 3 May 2002
- "The Challenges of 2002", Keynote, Motorola Software Engineering Symposium, O'Hare Hyatt, Chicago, IL, 8 May 2002
- Canopy Recognition Event, Dinner Speaker, Schaumburg, IL, 3 June 2002
- "Motorola Technology / Research Direction", Motorola Analysts Meeting, Westin Hotel, Rosemont, IL, 7 July 2002
- "Motorola Technology / Research Directions", Motorola Town Hall, Singapore, 2 September 2002 and Kuala Lumpur, Malaysia, 4 September 2002
- "The Critical Importance of Standards", Motorola Standards Awards Ceremony, Schaumburg, IL, 2 October 2002
- "The critical role of technologists for the future of Motorola", Science Advisory Board Associates Annual Meeting, Dallas, TX, 19 October 2002
- "Motorola Technology / Research Overview", Motorola's Arizona Technology Conference, Tempe, AZ, 7 November 2002

- "The Value of Collaboration in Technology development and Monetization", Dinner Speaker, Arizona Patent Awards Dinner, Scottsdale, AZ, 8 November 2002
- "Strategy & Technology", Motorola Executive Trends Series, Schaumburg, IL, 14 November 2002
- "Technology Creation, the basis for a Brighter Future", Dinner Speaker, Corporate Patent Awards Banquet, Union Station, Chicago, IL, 16 November 2002
- "The Importance of Intellectual Property", Keynote address, Inaugural Motorola China Technical Awards Banquet, Beijing, China, 19 November 2002
- "The importance of University / Corporate cooperation", Technology Cooperation agreement signing ceremony with Peking University, Beijing, China, 21 November 2002
- "The Technology Challenge", Cellular Subscriber Patent Awards Banquet, Field Museum, Chicago, IL, 23 November 2002
- "Technology Excellence", Celebration for FIRST Robotics National Championship Team, WildStang Rolling Meadows & Wheeling High Schools, Schaumburg, IL, 19 May 2003
- "Continuous Innovation The Basis for Operational Excellence", <u>Lockheed-Martin CIO</u> Technology Conference, Orlando, FL, 21 September 2004
- "Technology Trends", Resource1 Executive Forum, Oakbrook, IL, 22 March 2005

Selected Private Presentations – key customers, partners, university leaders, and government officials

"NCR Technology Directions", Bell Labs Leadership Team, Holmdel, NJ, 27 February 1997

Technology Education, various members of Congress including Strom Thurman, President of the Senate, Washington, DC, 19 March 1997

- "Technology Directions and Y2K", Minister of Health and Human Services and CIO of organization, Manila, Philippines, 24 March 1997
- "Technology Needs & Partnership Opportunities", Bell Labs Leadership Team, Murray Hill, NJ, 22 May 1997
- "Technology Trends and Strategic Directions", AT&T CTO (David Nagel) and key staff, Basking Ridge, NJ, 21 August 1997
- "Partnership Opportunities in Database Research", AT&T CTO (David Nagel) and key staff, Basking Ridge, NJ, 17 October 1997
- "IT Technology Trends", Engineering Dean and key faculty members, UIUC, Urbana-Champaign, IL, 30 October 1997

- "Motorola Technology Directions and Strategy Proposal", Motorola Board of Directors Meeting, Schaumburg, IL, 6 May 1998
- "Motorola Life Sciences Direction", Senior Leadership of DuPont Life Sciences Organization, Wilmington, DEL, 18 June 1998
- "Motorola Technology Directions for the Automotive Industry", Vice President and Director of Research at Ford and Chief of Staff, Dearborn, MI, 26 August 1998
- "Motorola Grand Challenges / Research Direction", Lab Director of Los Alamos National Labs and key staff members, Los Alamos, NM, 4 September 1998 and Schaumburg, IL, 20 January 1999
- "Motorola Research Strategy and Intellectual Property Directions", Dean of Engineering, UIUC and key staff members, Schaumburg, IL, 16 September 1998
- "Motorola Technology / Research Directions", Chief Minister of Andra Pradesh, India and key staff members, Motorola Museum, Schaumburg, IL, 24 September 1998
- "Motorola Technology / Research Directions", IBM SVP for Engineering and Manufacturing (Nick Donofrio) and key staff members Hawthorne, NY, 5 January 1999
- "Motorola Technology Strategy", Dean of Engineering at UIUC and key Faculty members, Champaign-Urbana, IL, 21 January 1999
- "Motorola Technology Strategy and University Research Partnerships", Dean of Engineering (John Henessey, now Stanford's President) and key Faculty members, Palo Alto, CA, 28 January 1999
- Panel Participant (with External Experts), Motorola Flat Panel Display Technology Review, Tempe, AZ, 18 February 1999
- "Motorola Software Technology Directions", President of WiPro and key staff members, Bangelore, India, 16 March 1999
- "Motorola Technology Strategy", Chairman and leading staff members of the Economic Development Board (EDB) of Singapore, Singapore, 18 March 1999
- "Motorola Grand Challenges and Research Directions", Chief Operating Officer of the Multimedia Super Corridor (Dr. Nun), Kuala Lumpur, Malaysia, 19 March 1999
- "Motorola Technology Strategy and Research Directions", Directors of National Science and Technology Board (NSTB), Singapore, 20 March 1999
- "Motorola Technology Strategy for Australia and the Asia Pacific Region", Premier and Aide, South Australia, Adelaide, Australia, 22 March 1999
- "Motorola Technology Strategy and Research Directions", Vice Chancellor University of Adelaide, Australia, 23 March 1999

- "Motorola Technology Strategy and Directions", CTO and key staff of Optus, Sydney, Australia, 24 March 1999
- "Motorola Software Directions", Meeting of the New South Wales Software Council, Sydney, Australia, 24 March 1999
- "Motorola's Grand Challenges and Research Directions", Acting Dean of College of Engineering and key Faculty of the University of Florida, Gainesville, FL, 30 March 1999
- "Motorola's Research Strategy and Directions", IBM Research Director (Paul Horn) and key staff members, Yorktown Heights, NY, 26 April 1999
- "Motorola Technology Strategy and European Plans", French Consul General, Schaumburg, IL, 3 May 1999
- "Motorola Technology Directions and Technology Partnership Opportunities", IBM SVP Engineering and Manufacturing (Nick Donofrio), Northbrook, IL, 1 June 1999
- "Real Options Technology Management", Merck Chief Financial Officer (Judy Lewent), Merck HQ, New Jersey, 10 June 1999
- "Motorola Research Agenda and Operation", Telstra CTO (Hugh Bradlow), Arlington Heights, IL, 14 June 1999
- "Motorola Technology Directions and Partnership Opportunities", BT Chief Scientist and key BT Labs staff members, Ipswitch, UK, 1 October 1999
- "Motorola Technology / Research Overview", 3M CTO and key staff members, Minneapolis, MN, 26 January 2000 and Schaumburg, IL, 22 June 2000
- "Motorola Technology / Research Overview", Lab Director and Key Staff from Sarov, Russian Nuclear Research Lab, Schaumburg, IL, 17 February 2000
- "Motorola Technology Directions", UIUC Visiting Faculty Delegation, Schaumburg, IL, 21 February 2000
- "Motorola's Technology Direction / Research in Consumer Electronics", CTO and key staff for JVC, Schaumburg, IL, 8 March 2000
- "Motorola Technology / Research Agenda", CTO of BT (Chris Earnshaw) and key staff Ipswitch, UK, 18 April 2000, Schaumburg, IL, 8 February 2001, Ipswitch, UK, 3 July 2001 (with key staff members of BT)
- "Technology Directions and Partnership Opportunities and Status", SUN / Motorola CEO Meeting, Schaumburg, IL, 27 April 2000
- "Beyond 3G / 4G Cellular Networks", NTT DoCoMo CTO (Dr Kota Kinoshita) and key staff members Tokyo, Japan, 17 May 2000, Atlanta, GA, 17 October 2000, Tokyo, Japan, 27 June 2001, Schaumburg, IL, 1 July 2002, Schaumburg, IL, 12 November 2002

- "Motorola's Technological Future", New Zealand Ambassador to the US and key members of his staff, Schaumburg, IL, 30 June 2000
- "Motorola Technology / Research Directions", Dean of Armour College at IIT (Allan Myerson), Schaumburg, IL, 30 June 2000
- "Motorola Technology / Research Directions", CTO and key staff members, AT&T, Menlo Park, CA, 14 July 2000
- "Motorola Technology / Research Overview", CTO of Telstra (Hugh Bradlow), Schaumburg, IL, 31 July 2000
- "Motorola Technology / Research Focus", CTO SUN (Greg Papadopoulos) and key members of his staff, Schaumburg, IL, 2 August 2000
- "Motorola Technology / Research Overview", Director Oak Ridge National Labs (Bill Madia) and his staff, Oak Ridge, TN, 8 August 2000
- "Motorola Technology / Research Direction", Chief Scientist BT (Peter Cochrane) and key staff members, Ipswitch, UK, 1 October 2000
- "Motorola Technology / Research Direction", CTO United States Post Office and his key staff members, Schaumburg, IL, 6 October 2000
- "Motorola Research Overview", Cannon Research Staff, Schaumburg, IL, 11 December 2000
- "Motorola Research Overview", AT&T Labs presentation, New Jersey, 10 January 2001
- "Motorola Labs Research Agenda", BT Key Technology leadership, Schaumburg, IL, 25 January 2001
- "Motorola Technology Direction / Research Overview", CTO and key staff members for Disney, Schaumburg, IL, 26 June 2001
- "Motorola Technology Direction / Research Overview", CEO and Staff of Bouygues, Paris, France, 4 July 2001
- "Directions on Usage of 4.9 GHz Spectrum", FCC Commissioners and key staff members in Office of Engineering and Technology (OET), Washington, DC, 1 August 2001
- "Motorola Research Directions in the area of the Human Experience", Dr Marvin Minsky, MIT Artificial Intelligence Lab, Schaumburg, IL, 11 October 2001
- "Motorola Research Directions", CEO / Staff of Bouygues, Schaumburg, IL, 15 October 2001
- "Motorola Labs Overview", USC Dean of Engineering, Schaumburg, IL, 19 October 2001
- "Motorola Labs Overview", DuPont CTO (Thomas Connelly) and key staff, Tempe, AZ, 14 December 2001

- "Motorola Technology Strategy and Research Directions", CTO of Boeing (David Swain), Schaumburg, IL, 7 February 2002
- "Motorola Technology Strategy & Direction", Deutsche Telekom CTO & Key Staff, Schaumburg, IL, 6 March 2002
- "Motorola Research Overview", Tianjin Vice Mayor (Yang Dongliang), Tianjin, China, 14 March 2002
- "Motorola's Focus on Simulation and Modeling", Director of NCSA at UIUC (Dan Reed) and key staff members, Schaumburg, IL, 12 April 2002
- "Motorola's Grand Challenges", Peter Schwartz, "the Father of Scenario Planning", Schaumburg, IL, 23 April 2002
- "The State of Technology and Technologists", President of MIT (Chuck Vest), MIT, Cambridge, MA, 2 May 2002
- "Wireless Research at Motorola", Dr. Paul Kolodzy, FCC Spectrum staff, Schaumburg, IL, 15 May 2002
- "Motorola Research and University Partnership efforts", Chair of ECE Dept at Georgia Tech (Roger Webb), Schaumburg, IL, 28 May 2002
- "Motorola Labs Overview", Dean and key Faculty and staff members from UIUC College of Engineering, Schaumburg, IL, 18 July 2002
- "Motorola Technology Directions", CTO of Bertelsmann (Thomas Curran), White Plains, NY, 18 July 2002
- "Motorola Technology / Research Overview", CTO T-Mobile (Germany HQ), Schaumburg, IL, 22 August 2002
- "Motorola Technology Directions and University Relationships", Provost, Georgia Tech (Jean-Lou Chameau), Schaumburg, IL, 24 September 2002
- "Motorola Technology / Research Directions", French Minister of Science and Technology and her staff, Paris, France, 8 October 2002
- "Motorola's Fifth and Sixth Framework Initiatives", Director of IT / Wireless Research Programs for the European Union, Brussels, Belgium, 9 October 2002
- Motorola Technology / Research Directions, Chief Regulator (Kito-san) and key staff from the Japanese Ministry of Post & Telecommunications, Schaumburg, IL, 15 October 2002
- "Motorola Technology / Research Overview", CTO & key staff from FedEX, Schaumburg, IL, 28 October 2002
- "Intellectual Property in China", Chief Counsel and Chief of Government Relations at CISCO, Schaumburg, IL, 2 December 2002

- "Technology Trends and US Academic Directions", Deputy Director Defense Research and Engineering (Dr John Hoppes), the Pentagon, Washington, DC, 12 February 2003
- "Entrepreneurship at IIT", James Lowry, Senior Partner, Boston Consulting Group, IIT, Chicago, IL, 31 January, 2005
- "Wireless Interference Research Review", Stevens Institute of Technology, Hoboken, NJ, 11 March 2005
- "Research and Project Opportunities at IIT", Hospira VP of Engineering (Jim Mitchell) and staff, IIT, Chicago, IL, 17 March 2005
- "Wireless Interference and Spectrum Occupancy Research Review", Shared Spectrum Co., Vienna, VA, 26 July 2005
- "Wireless Research Partnership Opportunities", Alion Science and Technology, Annapolis, MD, 27 July 2005
- "Institute of Business and Interprofessional Studies Overview", Stuart GSB, Board of Overseers, IIT DTC, Chicago, IL, 8 June 2006
- "Trends in Controlling Cellular Traffic in Specified Physical Spaces", Deputy Assistant Secretary of Defense (Dr. Ron Jost), the Pentagon, Washington, DC, 12 June 2006
- "Regulatory Issues in Controlling Cellular Traffic in Specified Physical Spaces", Deputy Chief, Office of Engineering and Technology, FCC (Jules Knapp) and staff, FCC HQ, Washington, DC, 13 June 2006