CSMAC Co-Chairs:

Dr. Brian Fontes currently serves as the Chief Executive Officer for the National Emergency Number Association, a position he has held since June 2008. As CEO, he is responsible for all aspects of the Association. His primary objectives are to ensure that Americans have access to reliable 9-1-1 service, 9-1-1 centers have state-of-the-art technologies and well-trained professionals, and sufficient funding is available so that the 9-1-1 system can best serve those who call upon it as their first voice of hope. Previously, Fontes was Vice President, Federal Relations for Cingular Wireless and served in that capacity after its acquisition by AT&T. Prior to that, Dr. Fontes was Senior Vice President for Policy and Administration at the Cellular Telecommunications Industry Association (CTIA). Before joining CTIA, Dr. Fontes served as the Senior Advisor to Commissioner James H. Quello, Federal Communications Commission (FCC), and as the FCC's Chief of Staff. Dr. Fontes started his professional career as a Professor of Communications at the University of Massachusetts, Amherst.

In the fall of 1995, President Clinton appointed Dr. Fontes as head of the United States Delegation to the International Telecommunication Union's World Radio Conference held in Geneva, Switzerland, and gave him the rank of Ambassador. Fontes also served as Chairman of the Council of the Communication Regulatory Agency in Bosnia-Herzegovina. Fontes has served on numerous U.S. delegations.

He is currently on the Board of Directors of the 9-1-1 Institute and the Quello Center for Telecommunication Management, Policy and Law. Dr. Fontes received a Ph.D. in Mass Media/Telecommunications from Michigan State University's Department of Telecommunications.

Dr. Gregory L. Rosston is Deputy Director of the Stanford Institute for Economic Policy Research and Deputy Director of the Public Policy program at Stanford University. He is also a Lecturer in Economics and Public Policy at Stanford University where he teaches courses on competition policy and strategy, intellectual property, and writing and rhetoric. Dr. Rosston served as Deputy Chief Economist at the Federal Communications Commission working on the implementation of the Telecommunications Act of 1996 and he helped to design and implement the first ever spectrum auctions in the United States.

Dr. Rosston co-chaired the Economy, Globalization and Trade committee for the Obama campaign and was a member of the Obama transition team focusing on economic agency review and energy policy.

Dr. Rosston received his Ph.D. in Economics from Stanford University specializing in the fields of Industrial Organization and Public Finance and his A.B. with Honors in Economics from University of California at Berkeley. Dr. Rosston has written extensively on the application of economics to telecommunications issues and is the co-editor of two books relating to telecommunications. He has served as a consultant to various organizations including the World Bank and the Federal Communications Commission, and as a board member and advisor to high technology, financial, and startup companies in the areas of auctions, business strategy, antitrust and regulation. He also serves as an advisory board member for Sustainable Conservation and the Nepal Youth Opportunity Fund.

Members:

Dr. Larry Alder joined Google in 2005 and is currently Leader of Google's Business Operations and Strategy Access Group. The group is responsible for a number of product, policy and strategic investment activities promoting Internet access. Dr, Adler is a core team member for Google's Municipal Wifi Network and Google's fiber to the home initiative. He has focused on a number of spectrum policy initiatives, including openness provisions in the 700MHz band and the opening up of TV white spaces for wireless Internet uses. Additionally, he is involved with several of Google's strategic investments in the access area including WiFi, satellite, and 4G networking companies. He sits on the board of Joint Venture Silicon Valley and O3b Networks and serves as a member of the NTIA's Commerce Spectrum Management Advisory Committee.

Prior to joining Google, he spent 10 years at ArrayComm, including the role of vice president of Technology Development. Dr. Adler has a Ph.D. in Engineering from Stanford University in the specialty of Control Theory and bachelors degree in Engineering from UCLA.

Dr. David E. Borth is currently the manager of Borth Consulting, LLC serving as an independent consultant in the areas of wireless technology, advanced signal processing and spectrum engineering. Up until recently, he was with Motorola Inc. in Schaumburg, IL where he held a number of positions ranging from Member of the Technical Staff to Corporate Vice President of all wireless research within the company to Chief Technology Officer of the Government and Public Safety business unit. For the past 30 years, he has made significant contributions to numerous wireless technologies including Motorola's implementations of GSM, TDMA and CDMA digital cellular systems as well as leading the wireless research work focusing on the development of key technologies for broadband wireless systems including 802.16e/WiMAX, LTE, and 4G systems. He has also worked on a variety of emerging wireless technologies including software-defined radio and cognitive radio. He served as a member of the FCC's Technological Advisory Council (TAC) as well as the U.S. Department of Commerce Spectrum Management Advisory Committee. He has been issued 31 patents and has authored or co-authored chapters of five books in addition to 25 publications. He is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a member of the National Academy of Engineering, and a Registered Professional Engineer in the State of Illinois. Dr. Borth received his B.S., M.S., and Ph.D. degrees in electrical engineering from the University of Illinois at Urbana-Champaign

Michael C. Calabrese is a Senior Research Fellow and Director of the Wireless Future Program at the New America Foundation, a non-profit think tank based in Washington, D.C. As part of the Foundation's Open Technology Initiative, he develops and advocates policies to improve our nation's management of the public airwaves and more broadly to promote pervasive connectivity, particularly through more ubiquitous and affordable high-speed wireless broadband access. New America develops and advocates policies to promote more efficient spectrum use as well as the reallocation of more prime spectrum for open, shared, unlicensed access.

Previously, Mr. Calabrese served as General Counsel of the Congressional Joint Economic Committee and as a counsel at the national AFL-CIO. He is the co-author of three previous books on policy and politics and has published opinion articles in the nation's leading outlets, including *The Atlantic Monthly*, *The Washington Post*, *The Wall Street Journal* and *The New York Times*. Calabrese is a graduate of Stanford Business and Law Schools, where he earned a J.D./M.B.A. degree; and a graduate of Harvard College, where he earned a B.A. in Economics and Government.

Martin Cooper has contributed to the technology and wireless communications industry for 55 years as an inventor, entrepreneur and executive. His teams introduced the first nationwide automatic mobile phones and radio frequency pagers. He conceived and demonstrated the first portable cellular phone in 1973. He has been referred to as the father of portable cellular telephony and is recognized as an innovator in spectrum management.

Mr. Cooper was a submarine officer in the U.S. Navy, a division manager and head of R&D for Motorola during 29 year tenure. As an entrepreneur he has started a number of businesses including co-founding GreatCall, Inc., maker of the Jitterbug phone and service, and ArrayComm, the world leader in smart antenna technology, which has deployed spectrally efficient technology serving millions of people worldwide.

Mr. Cooper is a member of the National Academy of Engineering and a recipient of the IEEE Centennial Medal. He is an inaugural member of the WHF Wireless Hall of Fame; the Wharton School of the University of Pennsylvania Business named him a Transformation Technology Change Leader. He is a Prince of Asturias Laureate for Science and Technology. Most recently, Cooper was nominated for the "Mikhail Gorbachev: The Man Who Changed the World" Award.

Mr. Cooper holds a B.S. and an M.S. in Electrical Engineering and an honorary doctorate from the Illinois Institute of Technology on whose board of Trustees he serves.

Thomas S. Dombrowsky, Jr. is an Engineering Consultant with the law firm Wiley Rein LLP where he provides technical advice and guidance to clients concerning wireless spectrum matters. In particular, Mr. Dombrowsky specializes in spectrum policy matters, especially with respect to issues that affect commercial mobile service providers. Specifically, he has worked extensively with clients on government allocation and licensing of electromagnetic spectrum and advised a variety of wireless provider and manufacturer clients on technical issues associated with spectrum-related matters.

Over the past few years, Mr. Dombrowsky has been involved heavily in the National Broadband Plan spectrum reallocation discussions, including the Mobile Satellite Service ("MSS") proceedings and the recent proceedings concerning the reallocation of additional TV broadcast spectrum for mobile broadband services. Mr. Dombrowsky has spoken at a number of technical conferences concerning each of these matters through the years, and is recognized as a technical expert with respect to wireless/spectrum issues. Through these activities, Mr. Dombrowsky has also participated in several field testing processes and procedures that have gathered technical data to help guide FCC rules development. As an example, Mr. Dombrowsky was an active participant in testing between Federal Government users and Advanced Wireless Services ("AWS") licensees to determine the interference effects between potential AWS spectrum use and incumbent Federal licensees. Additionally, Mr. Dombrowsky participated in field tests concerning AWS interference from proposed adjacent band time division duplex ("TDD") operations and FCC monitored testing of Wireless Communications Service interference to satellite radio.

Prior to joining Wiley Rein, Mr. Dombrowsky held several positions within the Federal Communications Commission's Wireless Telecommunications and Private Radio Bureaus. During this time, Mr. Dombrowsky focused on commercial mobile spectrum policy and licensing matters. Mr. Dombrowsky has a Bachelor of Science in Electrical Engineering from Lehigh University and is a current co-chair of the FCBA Wireless Telecommunications Practice committee.

David L. Donovan will become president and executive director of the New York State Broadcasters Association, Inc. on June 1, 2011. The New York State Broadcasters Association, Inc. represents radio and television stations throughout the Empire state.

Since July 1, 2001, Mr. Donovan served as president of the Association for Maximum Service Television, Inc. (MSTV). MSTV is a 52-year old national association of local television stations dedicated to promoting technical quality of free, local over-the-air television service and has taken a leading role in the transition to digital television service.

Mr. Donovan has nearly twenty years of broadcast regulatory and policy experience. Prior to accepting the position of MSTV president, he served for over a decade as the vice president for Legal and Legislative Affairs for the Association of Local Television Stations, Inc. (ALTV). From 1987 to 1990, he was the mass media legal advisor for the Honorable James H. Quello, FCC Commissioner. Mr. Donovan also held a number of key positions at the FCC, including legal advisor to the Mass Media Bureau Chief and interim mass media advisor to Commissioner Patricia Diaz Dennis.

Mr. Donovan came to the Commission from Boston, Massachusetts, where he was in the private practice of law. He also served as law clerk to the Judicial Council of Massachusetts. He earned his J.D. from the Suffolk University Law School in Boston, Massachusetts. Donovan received both a Bachelors of Arts and a Masters Degree in communications from the University of Massachusetts at Amherst.

Margaret (Molly) Feldman has been involved with the wireless industry for more than twenty years. Ms. Feldman has significant knowledge and expertise about spectrum bands and the capabilities necessary to deploy broadband wireless networks on a wide-area basis. For the past decade she has served as the Vice President – Business Development for Verizon Wireless, leading the department responsible for analyzing spectrum opportunities and obtaining spectrum licenses, through auctions and secondary market transactions. Her group is responsible for mergers and acquisitions of wireless properties. Through participation in several FCC spectrum auctions (58, 66, and 73) and wireless company acquisitions (Alltel, RCC, Price Communications, and numerous other transactions), she and her team have acquired the necessary spectrum for Verizon Wireless to deploy its nationwide network. Recently her team launched Verizon Wireless' LTE in Rural America program, where Verizon Wireless partners with rural companies to build 4G LTE in rural areas using the 700 MHz "upper C block" spectrum, which Verizon Wireless purchased in auction 73.

Prior to joining Verizon Wireless at its inception (in 2000), Ms. Feldman had various roles in the tax department of predecessor companies GTE Corporation and Contel. Her tax experience included research, planning, tax policy, and compliance in all areas of federal and state taxes. Prior to joining Contel in 1987, she worked for Arthur Andersen & Co. in its tax department for five years.

Ms. Feldman holds a B.S. in accounting and a J.D. from Florida State University.

Dr. Harold Furchtgott-Roth founded Furchtgott-Roth Economic Enterprises, an economic consulting firm, in 2003. From 2001-2003, Dr. Furchtgott-Roth was a visiting fellow at the American Enterprise Institute. From 1997 through 2001, Dr. Furchtgott-Roth served as a commissioner of the Federal Communications Commission. Before his appointment to the FCC, he was chief economist for the House Committee on Commerce and a principal staff member on the Telecommunications Act of 1996
Dr. Furchtgott-Roth has served on corporate and advisory boards. He is the author of dozens of publications and has authored or coauthored four books.

Dr. Furchtgott-Roth received a Ph.D. in economics from Stanford University and an S.B. in economics from the Massachusetts Institute of Technology.

With over 27 years of spectrum management experience, H. **Mark Gibson** is responsible for developing domestic and international spectrum management opportunities for Comsearch. In addition to leading business and product development efforts for AWS, 700 MHz and TV Whitespace products and services, he led efforts to address spectrum sharing between Federal Government and commercial users in the 1.7 GHz band. He also led Comsearch's 1.9 GHz PCS spectrum management efforts including the development of spectrum sharing analysis protocols and sharing criteria, as well as development of Comsearch's engineering services and software products. He was a member of the Telecommunications Industry Association TR-14.11 committee that developed the TSB10-F bulletin, which established interference criteria and analysis procedures for sharing between fixed microwave and mobile systems. He has led Comsearch's efforts in working with the American Society for Healthcare Engineering as their technical partner for WMTS frequency coordination. He has authored several papers on spectrum sharing and relocation and has advised numerous wireless participants in their system design. Early in his career he engineered and prepared some of the first FCC applications in the Cellular Radiotelephone Service, LPTV Service, DEM Service, and MMDS Service, and had a paper accepted by the ITU on developing interference criteria for MMDS systems. Mr. Gibson has spoken worldwide on Spectrum Management and related issues, and is currently responsible for identifying and developing opportunities for Comsearch in several areas including government, wireless telecom, and healthcare. A 20-year member of IEEE, he holds a BSEE from the University of Maryland. He is also an amateur radio operator and an avid pilot.

Dale N. Hatfield is currently the Executive Director of the Silicon Flatirons Center for Law, Technology, and Entrepreneurship and an Adjunct Professor in the Interdisciplinary Telecommunications Program – both at the University of Colorado at Boulder. Prior to joining the University of Colorado, Mr. Hatfield was the Chief of the Office of Engineering and Technology at the Federal Communications Commission (FCC) and, immediately before that, he was Chief Technologist at the Agency. He retired from the FCC and government service in December 2000. Before joining the FCC in December 1997, he was Chief Executive Officer of Hatfield Associates, Inc., a Boulder, Colorado based multidisciplinary telecommunications consulting firm. Before founding the consulting firm in 1982, Mr. Hatfield was Acting Assistant Secretary of Commerce for Communications and Information and Acting Administrator of the National Telecommunications and Information Administration (NTIA). Before moving to NTIA, Mr. Hatfield was Chief of the Office of Plans and Policy at the FCC. Mr. Hatfield has over four decades of experience in telecommunications policy and regulation, spectrum management and related areas.

Mr. Hatfield holds a BS in electrical engineering from Case Institute of Technology and an MS in Industrial Management from Purdue University. In May, 2008, Mr. Hatfield was awarded an Honorary Doctor of Science degree by the University of Colorado for, *inter alia*, his commitment to the development of interdisciplinary telecommunications studies. Mr. Hatfield is also the Executive Director of the Broadband Internet Technical Advisory Group (BITAG) and is currently serving on the FCC's Technology Advisory Council (TAC). Until recently, he served as co-chairman of the Commerce Spectrum Management Advisory Committee (CSMAC).

Dr. Kevin C. Kahn retired from full time status with Intel as a Senior Fellow, the corporation's highest technical position. He continues to serve as a technology policy consultant for the company. His previous role was as Director, Communications Architecture for Intel Labs, in which he oversaw a variety of future communications technology programs. Before that he served as the Director of the Communications Technology Lab, a corporate advanced development and research lab in Intel's Corporate

Technology Group responsible for radio, optical, and copper physical layer technologies, as well as higher level protocol work. He also helped drive communications strategies and policy for the corporation. Some of his primary focuses were broadband access to the home and mobile devices, wireless WANs, LANs, and PANs, spectrum policy, and related Internet issues. He chaired the Intel Communications Research Council, which oversaw research activities between Intel and academic programs. He currently serves on the Commerce Department Spectrum Management Advisory Committee, the FCC Technology Advisory Council, and the Broadband Internet Technical Advisory Group. He has previously been a member of the Computer Science and Telecommunications Board of the National Research Council, various academic advisory committees, and a regular participant in Telecommunications Workshops of the Aspen Institute. Throughout his 34-year career with Intel, he worked in system software development, operating systems, processor architecture, and various strategic planning roles. He held both management and senior individual contributor roles. He holds a B.Sc. in Mathematics from Manhattan College, and M.S. and Ph.D. in Computer Science from Purdue University.

Doug McGinnis is the communications architect that developed an end-to-end multiservice 4 tier communications strategy for Exelon and its two subsidiary Utilities PECO & ComEd. Mr. McGinnis is now leading the technology integration of the Smart Grid Communication projects resulting from that strategy in both Utility companies. Mr. McGinnis also supported the development of the Smart Grid Investment Grant application for both Utilities in the communications and cyber security domains. PECO was awarded a $200M grant to implement those communications projects including the construction of multiple fiber & microwave communication rings. Mr. McGinnis is the past Chairman of the Smart Networks Council of the UTC and has been employed by Exelon for 28 years, 15 years as a Nuclear Engineer and Reactor Engineering Manager. Subsequently, Mr. McGinnis has held various roles supporting enterprise communications infrastructure, managing the Network Engineering Organization and serving as the enterprise Network Architect. He has extensive RF and associated technology experience, including the development and deployment of a WiMax backhaul, point-to-point microwave and 900MHz unlicensed solutions. He has been an active participant on the NIST Smart Grid Interoperability Panel as well as the Cyber Security Working Group.

Mr. McGinnis has obtained numerous technical certifications in the field of IT infrastructure including CISSP and owns 2 U.S. Patents. Currently, he holds a B.S. in Physics from Grove City College and an M.S. Computer Engineering from Penn State University.

Dr. Mark A. McHenry has extensive experience in military and commercial communication systems design, including research on the next generation of advanced wireless networks. He founded two high-tech wireless research and development companies. In 2000, he founded Shared Spectrum Company (SSC), which is developing automated spectrum sharing technology. Shared Spectrum Company develops advanced technologies for Government and industry customers with challenging radio frequency and networking needs. It specializes in dynamic spectrum management applications. Dr. McHenry was also a co-founder of San Diego Research Center, Incorporated (SDRC) that focused on DoD test and training systems. SDRC

was acquired by Argon ST in 2006. Dr. McHenry was a Program Manager at DARPA, where he managed multiple tactical wireless related programs. Dr. McHenry

received the Office of Secretary of Defense Award for Outstanding Achievement in 1997 and the Office of Secretary of Defense Award for Exceptional Public Service Award in 2000. Dr. McHenry was an engineer at SRI International, Northrop Advanced Systems, McDonnell Douglas Astronautics, Hughes Aircraft and Ford Aerospace. McHenry was named Engineer of the Year by the District of Columbia Council of Engineering and Architectural Societies in February, 2006. Dr. McHenry was appointed by Secretary of Commerce, Carlos Gutierrez, to serve as a member of the Commerce Spectrum Advisory Committee, in Dec 2006.

Education
B.S. in Engineering and Applied Science from the California Institute of Technology
M.S. in Electrical Engineering from the University of Colorado
Ph.D. in Electrical Engineering from Stanford University

The Honorable Janice Obuchowski, President of Freedom Technologies, has held several leadership positions, both in the United States government and in the private sector. Mrs. Obuchowski served as the United States Ambassador to the World Radiocommunications Conference 2003 in Geneva, Switzerland and as Assistant Secretary for Communications and Information at the Department of Commerce, (NTIA) under President George H.W. Bush. Mrs. Obuchowski also held several positions at the Federal Communications Commission (FCC), including Senior Advisor to the Chairman.

Mrs. Obuchowski's private sector career includes Board service, corporate experience and entrepreneurship. She serves or has served on several public company Boards of Directors and on privately-owned company Boards as well. Earlier in her career, Mrs. Obuchowski was at NYNEX (now Verizon) and in private antitrust law. She currently serves as an Executive Committee member of the Federal Communications Bar Association.

Mrs. Obuchowski earned a J.D. from the Georgetown University Law Center where she was an Editor of the Law Journal and was honored as Alumna of the Year, 2005. She graduated with Honors from Wellesley College.

Dr. Robert Pepper leads a team working with governments across the world in areas such as broadband, IP enabled services, wireless, security and privacy as well as developing national digital and broadband strategies. He joined Cisco in July 2005 from the FCC where he served as Chief of the Office of Plans and Policy and Chief of Policy Development beginning in 1989 where he focused on issues cutting across traditional boundaries and led teams implementing telecommunications legislation, planning for the transition to digital television, designing and implementing the first U.S. spectrum auctions, and developing policies promoting the development of the Internet. Before joining the FCC, he was Director of the Annenberg Washington Program in Communications Policy. His government service also included Acting Associate Administrator at the National Telecommunications and Information Administration (NTIA) and initiating a program on Computers, Communications and Information Policy at the National Science Foundation. His academic appointments included faculty positions at the Universities of Iowa, Indiana, and Pennsylvania, and as a research affiliate at Harvard University. He serves on the board of directors of the U.S. Telecommunications Training Institute (USTTI) and advisory boards for Columbia University and Michigan State University, and is a Communications Program Fellow at the

Aspen Institute. He is a member of the U.S. Department of Commerce's Spectrum Management Advisory Committee, the UK's Ofcom Spectrum Advisory Board and the U.S. Department of State's Advisory Committee on International Communications and Information Policy. Dr. Pepper received his BA. and Ph.D. from the University of Wisconsin-Madison.

Carl Povelites is currently the Assistant Vice President Public Policy, Mobility, for AT&T. He leads a group of professionals responsible for the development of public policy initiatives for AT&T's wireless business to advance and facilitate AT&T Mobility's business initiatives on a wide-range of issues, from spectrum policy to emerging devices and technologies to safe driving. With over 20 years of experience in the wireless industry, Mr. Povelites has had the opportunity to participate in and actively shape its extraordinary growth.

Mr. Povelites joined AT&T Mobility (f/k/a Cingular) as Executive Director of External Affairs in December 2000. Prior to joining Cingular, Carl was Vice President - Regulatory Affairs for Evolution Networks, a start-up fiber-optic networking company. He began his telecommunications career as a pricing analyst for Contel Telephone Operations in 1986, joining GTE Wireless in 1990 responsible for state regulatory and legislative activities. While at GTE Wireless, his responsibilities expanded to include state and federal regulatory and legislative activities as the Assistant Vice President – Government Relations. Mr. Povelites has also held marketing positions in the home health care industry with Everest & Jennings and Inspiron as well as service engineer positions in the oil service industry with Dowell Schlumberger. He earned his Bachelors degree, a double major in economics and management, and MBA from New Mexico State University.

Richard (Rick) L. Reaser, Jr. is head of the Spectrum Management and Electromagnetic Environmental Effects (E3) Department for Raytheon Company's Space and Airborne Systems (SAS). Mr. Reaser has over 30 years of expertise in spectrum matters, engineering and program management.

Mr. Reaser joined Raytheon in August 2006. Prior to joining Raytheon, he was deputy system program director and chief engineer for the $32 billion Navstar Global Positioning System. He served as deputy director of spectrum management in the Office of the Secretary of Defense and held spectrum positions in the White House and State Department. He was technical advisor to the US Ambassador to the World Radio Communications Conference (WRC) 2000 and was a US Spokesperson at WRC-2003. He negotiated landmark navigation and communication signal and spectrum agreements between the United States, Russian Federation, France, Japan and European Union. He has held a variety of engineering and management assignments in military space communication, navigation, imagery dissemination and infrared detection programs.

Mr. Reaser earned his bachelor's degree in engineering mechanics from the U.S Air Force Academy. He holds master's degrees in systems technology (command, control, and communications) and national resource strategy from the Naval Postgraduate School and National Defense University, respectively. He has Level III Defense Acquisition Workforce Improvement Act certifications in program management, system engineering and test. He retired from the Air Force after 28 years of service at the rank of Colonel.

Dennis A. Roberson is Vice Provost for Corporate Relations and Strategic Initiatives, and a Research Professor in Computer Science at Illinois Institute of Technology. In this capacity, he has responsibility for IIT's relationships with its various corporate partners and serves as the focus for the implementation of IIT's Strategic Plan. He also supports the development of new research centers, and the successful initiation and growth of IIT related technology-based

business ventures. Professor Roberson is a co-founder of IIT's Wireless Network and Communications Research Center (WiNCom) and an educator in the wireless networking arena.

He is also the President of Roberson and Associates, LLC, a consulting firm primarily focused on wireless technology and technology management. He serves on the governing and / or advisory boards of several technology-based companies and on the FCC's Technology Advisory Council. Prior to IIT, he was EVP and CTO at Motorola. Professor Roberson has an extensive corporate career including major business and technology responsibilities at IBM, DEC (now part of HP), AT&T, and NCR. He is involved with a wide variety of Technology, Educational and Youth organizations and serves as a frequent speaker at universities, companies, technical workshops, and conferences around the globe. Professor Roberson has BS degrees in Electrical Engineering and in Physics from Washington State University and a MSEE degree from Stanford.

Dr. Charles M. Rush has forty-five years experience in the telecommunications industry, specializing in international telecommunications, spectrum management and wireless systems. He is currently a consultant to TMG Incorporated, and to the Aerospace Corporation. He is a former Government executive with the United States Department of Commerce's National Telecommunications and Information Administration where he held positions as Chief Scientist and Associate Administrator for International Affairs. Dr. Rush also served as a consultant to the Federal Communications Commission's Wireless Bureau. Throughout his career he has been responsible for assessing and coordinating spectrum requirements for both the private and public sectors.

Dr. Rush has participated in numerous International Telecommunication Union (ITU) Radiocommunication Sector meetings and conferences for the past 35 years, focusing on technical and regulatory issues related to a wide range of fixed, mobile and broadcasting services. He served as Vice Chair of the U.S. delegations to both WARC/HFBC-87 and WARC-92, and was a member of the U.S. delegations to WARC/HFBC-84, and WRC-03, and a sector member representative to WRC-07.

Dr. Rush has an A.B. (Physics), from Temple University (1964), Ph.D. from the University of California at Los Angeles (1967), and a Master of Public Administration from the University of Colorado (1981). He is a Fellow of the IEEE.

Dr. Daniel D. Stancil is the Alcoa Distinguished Professor and Head of the Electrical and Computer Engineering Department at North Carolina State University. He received a B.S. in Electrical Engineering from Tennessee Technological University in 1976, and the S.M., E.E. and Ph.D. degrees from the Massachusetts Institute of Technology in 1978, 1979, and 1981,

respectively. From 1981 to 1986 he was Assistant Professor of Electrical and Computer Engineering at North Carolina State University. From 1986 to 2009 he was Associate Professor, then Professor of Electrical and Computer Engineering at Carnegie Mellon University. While at Carnegie Mellon, he also served as Associate Head of the Electrical and Computer Engineering Department, Associate Dean for Academic Affairs in the college of engineering, and founded the Center for Wireless and Broadband Networking, an organization that for several years sought to promote and encourage wireless-related research across the university. He returned to NC State as Head of the Electrical and Computer Engineering Department in 2009. His research interests include vehicle-to-vehicle wireless channels, the distribution of wireless signals in buildings using heating and ventilation ducts, the efficient modeling of wireless channels in real-time wireless emulators, novel radar systems, and cognitive radios and networks.

Dr. Stancil is a Fellow of the Institute of Electrical and Electronics Engineers, a past-president of the IEEE Magnetics Society, and an amateur radio operator (WY3O).

Thomas J. Sugrue is Senior Vice President of Government Affairs at T-Mobile U.S.A. In this capacity he manages T-Mobile's regulatory and legislative activities at both the federal and state levels.

Prior to joining T-Mobile U.S.A., Mr. Sugrue was Chief of the Federal Communications Commission's Wireless Telecommunications Bureau for four years. The Wireless Bureau handles all FCC domestic wireless telecommunications programs and policies including the licensing, enforcement, and regulatory functions.

Prior to becoming Wireless Bureau Chief in January 1999, Mr. Sugrue was a partner in the Washington D. C. law firm of Halprin, Temple, Goodman & Sugrue, where he specialized in communications law, regulation, and policy.

From 1989 to 1995, Mr. Sugrue was the Deputy Assistant Secretary of Commerce and Deputy Administrator of the National Telecommunications and Information Administration (NTIA). At NTIA, Mr. Sugrue advised the Assistant Secretary, the Secretary of Commerce, and the White House on communications and information issues, developed Executive Branch policy positions, and implemented regulatory and political strategies to advance those positions.

Prior to joining NTIA, Mr. Sugrue worked at the FCC as Chief of the Policy Division in the Common Carrier Bureau. While at the FCC, he was responsible for developing and implementing FCC a number of key policy initiatives, including the FCC's open network, interconnection, and unbundling rules; the Commission's "access charge" policies; the promotion of universal service; and the transition to competition in various telecommunications markets

Before joining the FCC, Mr. Sugrue was an attorney with the law firm of Wilmer, Cutler & Pickering and a law clerk with the Supreme Court of Massachusetts.

Mr. Sugrue holds a J.D. degree, *magna cum laude*, from Harvard Law School, a Master's degree in Public Policy from the John F. Kennedy School of Government of Harvard

University, and a Bachelor of Science degree in physics, *magna cum laude*, from Boston College.

Bryan Tramont, Esq. is the managing partner at Wilkinson Barker Knauer, LLP, specializing in communications law and policy matters. He has served as Managing Partner (since 2008) to design and execute the firm's growth strategy and manage client development. He also regularly provides advice to clients on spectrum policies matters.

For the last four years he has served on CSMAC, most recently as Co-Chair (since 2008) and before that as Chair of the Technical and Efficiency Subcommittee. For over six years, Mr. Tramont served as a key spectrum advisor to the FCC Chairman and two FCC Commissioners. As the Chief of Staff to Chairman Michael K. Powell, he led efforts to reform spectrum policy, improve IRAC and informal coordination with NTIA, and streamline the WRC process. Since leaving the public sector in 2005, Mr. Tramont has spoken extensively at spectrum policy conferences and continues to teach a spectrum management course at the University of Colorado as a Visiting Professor and Silicon Flatirons Senior Adjunct Fellow.

He also teaches at The Catholic University of America as part of the Communications Law Institute as an Adjunct Law Professor.

Mr. Tramont graduated *summa cum laude* from The George Washington University with a degree in political science and earned his law degree from Yale Law School, where he served as editor of the Yale Law & Policy Review. Mr. Tramont is honored to be named by *The Washingtonian* as one of the Top Communications Lawyers in the city and selected by his peers for inclusion in *The Best Lawyers in America® 2011*. Most recently he was selected to Washington, D.C. Super Lawyers 2011 in the communications practice area.

Jennifer Warren currently serves as Vice President, Technology Policy & Regulation, in LM Washington Operations' Government and Regulatory Affairs. In this position, she is responsible for managing the development and implementation of corporate domestic and international regulatory, licensing and associated policy strategies, including spectrum operations, cyber security, energy, environment, and emerging technologies.

In 1996, Ms. Warren joined Lockheed Martin as a Director in Space & Strategic Missiles Sector, and has held several positions, including Director in Lockheed Martin Global Telecommunications. Prior to joining Lockheed Martin, Ms. Warren served in various capacities at the U.S. Federal Communications Commission, including Senior Legal Advisor, International Bureau and Assistant Chief, Wireless Telecommunications Bureau. Since 1995, she has served on all U.S. Delegations to the International Telecommunications Union's World Radio Conferences, as well as numerous ITU Working Party and Study Group Meetings, focused on radar, satellite, and regulatory issues. She also manages LM participation in WRC preparatory meetings of several regional groups, including the Americas, Europe, and Asia.

Prior to joining the US Government, Ms. Warren worked for the Commission of the European Union in Brussels, with particular focus on EU-Japan and EU-US issues, and in Washington, DC with a focus on EU-US trade.
Ms. Warren is a graduate of Georgetown University (B.S. in Languages) and Georgetown University Law Center (J.D.), and is a member of the Women's Bar Association of DC, and the Illinois State and D.C. Bars. She is an Adjunct Professor at Georgetown University Law Center where she teaches annually a course on Global Communications Policy & Regulation.

Ms. Warren holds leadership positions in several professional and civic organizations. She sits on the Board of Tech America's Commercial Policy Sector and the US ITU Association, and serves as Vice-Chair of the Satellite Industry Association; she also represents Lockheed Martin in several trade associations. She is also the Chair-Elect of the Foundation of the Federal Communications Bar Association.