

Curriculum Vitae of Rob Frieden

Contact Information

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Education Background

B.A., University of Pennsylvania, 1977 (cum laude with distinction in the major)

J.D. University of Virginia, 1980

Professional Background

1992-Present: **PIONEERS CHAIR AND PROFESSOR OF
TELECOMMUNICATIONS AND LAW**, Pennsylvania State University,
University Park, Pennsylvania

Teach courses and research issues in the law, regulation and business of telecommunications, information technologies, cybersecurity, intellectual property, electronic commerce and privacy. Actively engaged in grant seeking, consulting, outreach, public policy advocacy and in administrative duties which have included serving as Department Head and Chair, Promotion and Tenure. Published four books and over one hundred articles in law reviews and other academic journals.

1991-1992: **DEPUTY DIRECTOR-INTERNATIONAL RELATIONS**, Motorola
Satellite Communications, Inc. Washington, D.C. and Chandler, Arizona

Primary manager for spectrum allocation, business development, strategic planning and international regulatory liaison efforts of the IRIDIUM™ mobile satellite venture.

1989-1991: **CONSULTANT**

Sole practitioner providing legal, regulatory and strategic counsel on telecommunications and information management issues including network interconnection, national regulatory policy, carrier disputes and next generation network development.

1988-1989: **ASSISTANT GENERAL COUNSEL**, Private Trans-Atlantic Telecommunications System, Inc. McLean, Virginia

Primary in-house counsel for resolving corporate, legal, transactional and regulatory problems affecting construction and operation of the nation's first private international fiber optic cable; Principal negotiator for sale or lease of transmission capacity and for terrestrial backhaul facility contracts to link the cable with urban centers.

1986-1988: **PROGRAM MANAGER FOR INTERNATIONAL FACILITY AND SERVICE POLICY**, National Telecommunications and Information Administration, Washington, D.C.

Chief liaison with other federal government agencies for executing international telecommunications treaties and for multilateral coordination on satellite and spectrum policies. Managed Executive Branch filings at the Federal Communications Commission.

1982-1986: **ATTORNEY**

Associate in the communications departments of three prominent Washington, D.C. law firms. Performed transactional and regulatory services for satellite, fiber optic and wireless carriers, cable television systems and broadcasters. Prepared pleadings in FCC and judicial cases; briefed clients and Congressional staff on communications policy issues.

1980-1982: **ATTORNEY ADVISOR**, Federal Communications Commission, Washington, D.C.

Drafted international telecommunications policies and regulations for public vote by FCC Commissioners. Presided over carrier facility interconnection negotiations.

Books or Parts of Books

Rob Frieden, *Achieving a Level Competitive Playing Field in a Convergent and Concentrating Telecommunications Marketplace*, in Jorge Pérez Martínez and Zoraida Frías Barroso, eds. *A LEVEL PLAYING FIELD FOR THE DIGITAL ECOSYSTEM*, 165- 196 (Madrid: Fundación Telefónica, 2016).

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Rob Frieden, *Network Neutrality and Its Potential Impact on Digital Content Platforms*, in *THE ECONOMICS OF DIGITAL MARKETS*, Gary Madden and Russel Cooper, eds. 265-281(Cheltenham, U.K.: Edward Elgar Publishing 2009).

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James Goodale & Rob Frieden, ALL ABOUT CABLE AND BROADBAND, (New York: Law Journal Press 2004-present)(bi-annual updates).

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Rob Frieden, *Regulation of Internet-mediated communication and commerce*, in Gary Madden, ed., EMERGING TELECOMMUNICATIONS NETWORKS, Vol. II, 107-128 (Cheltenham, U.K.: Edward Elgar 2003) (web promotion of this two volume work available at <http://www.e-elgar.co.uk/>).

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Harvey Zuckman, Robert Corn-Revere, Robert M. Frieden & Charles Kennedy, MODERN COMMUNICATIONS LAW, (St. Paul, Minn.: West Publishing Co. 1999).(chapters on international telecommunications, spectrum management and common and private carriage, plus pocket part updates 2000-2006).

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Patrick R. Parsons & Robert M. Frieden, THE CABLE AND SATELLITE TELEVISION INDUSTRIES, (Needham Heights, Ma.: Allyn & Bacon, 1998) (1999 Cable Book Award-National Cable Television Center and Museum, University of Denver).

Robert M. Frieden, *Satisfying the Radio Spectrum and Capital Requirements of Satellite Power Systems*, in P.E. Glaser, F.P. Davidson and K.I. Csigi, eds., SOLAR POWER SATELLITES, (New York: John Wiley & Sons, 1998).

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Robert M Frieden, INTERNATIONAL TELECOMMUNICATIONS HANDBOOK, (Norwood, MA: Artech House, 1996) (an extensive overview of international telecommunications from a number of perspectives including law, policy, economics and technology).

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http://btlj.org/data/articles2015/vol30/30_2/1561-1612_Frieden.pdf.

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Rob Frieden, *Killing With Kindness: Fatal Flaws in the \$6.5 Billion Universal Service Funding Mission and What Should be Done to Narrow the Digital Divide*, 24 CARDOZO ARTS AND ENTERTAINMENT LAW JOURNAL, No. 2, 447-490 (2006).

Rob Frieden, *Analog and Digital Must-Carry Obligations of Cable and Satellite Television Operators in the United States*, in European Audiovisual Observatory, IRIS SPECIAL, TO HAVE OR NOT TO HAVE—MUST CARRY RULES, 21-28 (2005); 15 MEDIA LAW & POLICY, No. 2, 230-246 (2005-06).

Rob Frieden, *Unbundling the Local Loop: A Cost/Benefit Analysis for Developing Nations*, 7 INFO, No. 4, 3-15 (2005).

Rob Frieden, *Lessons From Broadband Development in Canada, Japan, Korea and the United States*, 29 TELECOMMUNICATIONS POLICY, No. 8, 595-613 (Sept. 2005).

Rob Frieden, *The FCC's Name Game: How Shifting Regulatory Classifications Affect Competition*, 19 BERKELEY TECHNOLOGY LAW JOURNAL, No. 4, 1275-1314 (Fall, 2004).

Rob Frieden, *Regulatory Arbitrage Strategies and Tactics in Telecommunications*, 5 NORTH CAROLINA JOURNAL OF LAW & TECHNOLOGY, No. 2, 227-275 (2004); available at: http://www.jolt.unc.edu/Vol5_I2/pdf/Frieden%20v5i2.pdf.

Rob Frieden, *Balancing Equity and Efficiency Issues in the Management of Shared Global Radiocommunication Resources*, 24 UNIVERSITY OF PENNSYLVANIA JOURNAL OF INTERNATIONAL ECONOMIC LAW, No. 2, 289-327 (Summer, 2003).

Rob Frieden, *Fear and Loathing in Information and Telecommunications Industries: Reasons for and Solutions to the Current Financial Meltdown and Regulatory Quagmire*, 5 THE INTERNATIONAL JOURNAL ON MEDIA MANAGEMENT, No. 1, 25-38 (Spring, 2003).

Rob Frieden, *Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach*, 55 FEDERAL COMMUNICATIONS LAW JOURNAL, No. 2, 207-250 (March, 2003).

Rob Frieden, *Revenge of the Bellheads: How the Netheads Lost Control of the Internet*, 26 TELECOMMUNICATIONS POLICY, No. 6, 125-144 (Sep./Oct. 2002).

Rob Frieden, *Wither Convergence: Legal, Regulatory, and Trade Opportunism in Telecommunications*, 18 SANTA CLARA COMPUTER AND HIGH TECHNOLOGY LAW JOURNAL, No. 2, 171-205 (May, 2002).

Rob Frieden, *Does a Hierarchical Internet Necessitate Multilateral Intervention?*, 26 NORTH CAROLINA JOURNAL OF INTERNATIONAL LAW AND COMMERCIAL REGULATION, No. 2, 361-405 (Spring, 2001).

Rob Frieden, *Regulatory Opportunism in Telecommunications: The Unlevel Competitive Playing Field*, 10 COMMLAW CONSPECTUS, No. 1, 81-102 (2001).

Robert M. Frieden, *Universal Service: When Technologies Converge and Regulatory Models Diverge*, 13 HARVARD JOURNAL OF LAW & TECHNOLOGY, No. 3, 395-433 (Summer, 2000).

Robert M. Frieden, M., *Last Days of the Free Ride? The Consequences of Settlement-Based Interconnection for the Internet*, 1 INFO, No. 3, 225-238 (June, 1999).

Robert M. Frieden, *Falling Through the Cracks: International Accounting Rate Reform at the ITU and WTO*, 22 TELECOMMUNICATIONS POLICY, No. 11, 963-975 (December 1998).

Robert M. Frieden, *Without Public Peer: The Potential Regulatory and Universal Service Consequences of Internet Balkanization*, 3 VIRGINIA JOURNAL OF LAW & TECHNOLOGY, 8 (Fall, 1998) available at <http://vjolt.student.virginia.edu/graphics/vol3/homeart8.html>.

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Rapporteur, The Museum of Television and Radio, Media Center Dialogue, *Digital Rights Management*, Briefing Summary, Issue 1/2004 (2004).

Rapporteur, *Innovations In Customer Loyalty, Retention, And Advocacy: Powered By Technology*, Philadelphia, Pennsylvania (May 14-15, 2003), White Paper available at: http://www.smeal.psu.edu/ebrc/publications/w_papers.html.

Rapporteur, *Accelerating Global Commerce Through Technology and Policy* National Press Club, Washington, D.C. (September 20th, 2002), White Paper available at: <http://www.ebrc.psu.edu/publications/index.html#conf>.

Robert M. Frieden, *New World, New Realities--The Remaining Roles Of Government In International Telecommunications, A Report of the Fifth Annual Aspen Institute Roundtable on International Telecommunications*, Aspen, Colorado, ISBN 0-89843-277-4 (Feb., 2000); available at:
http://www.aspeninst.org/whatsnew/new_world.pdf.

Revised materials on several telecommunications topics for the Microsoft ENCARTA compact disk encyclopedia (2000-present).

Robert M. Frieden, Conference Report, *Real Convergence and Real Uncertainty*, 1 *INFO*, No. 6 (December 1999).

Rapporteur for Corporation for Public Broadcasting, *The Role of Public Service Media in the Digital Telecommunications Age*, Bethesda, Maryland (June, 1999). Report available at: <http://nc.psu.edu/progress.html>.

Robert M. Frieden, Conference Report, *Telecom Inter@ctive 97*, 22 *TELECOMMUNICATIONS POLICY*, No. 2 (March 1998).

Robert M. Frieden, Book Review of William Melody, ed., *Telecom Reform Policies, Policies and Regulatory Practices*, 21 TELECOMMUNICATIONS POLICY, No. 8 (Oct. 1997).

Senior Consultant on World Bank InfoDev and International Telecommunication Union ICT Regulation Toolkit project; see <http://www.ictregulationtoolkit.org/> (extensive coverage of Voice over the Internet Protocol telephony and Internet network interconnection).

Representative Research Projects, Grants, and Contracts

Sole preparer of a 200 page primer on broadband technologies primer included in *Broadband Strategies Toolkit* created by InfoDev, a global partnership program of the World Bank (2012-13); available at: <http://broadbandtoolkit.org/en/home>.

Prepared sections on best practices in information and communications technology regulation and broadband development in *ICT Regulation Toolkit* and *Broadband Strategies Handbook* created by InfoDev, a global partnership program of the World Bank (2011); <http://www.ictregulationtoolkit.org/en/Sections.html#1560>; <http://www.infodev.org/en/Publication.1118.html>.

Developed a template identifying best practices in broadband development and generated studies on national efforts for six nations, prepared for The World Bank (2009). See *Building broadband: Strategies and policies for the developing world*; available at: <http://www.infodev.org/en/Document.756.pdf>.

Contributor on wireless telecommunications regulatory reform for a book entitled . . . *And Communications for All: A Policy Agenda for the New Administration* (2008); supported by the Social Science Research Council.

Strategies for Repairing the Universal Service Fund (2007), funded by the Benton Foundation; available at: <http://www.benton.org/node/6060>.

Senior Consultant on Ford Foundation grant to the East-West Center for research on technology parks and technology incubation in China and Singapore; available at <http://www2.eastwestcenter.org/research/itparks/> (2003).

Robert M. Frieden, *The Wired Village: Building Communities and Improving Government Services Through Advanced Telecommunications and Information Networks*, White Paper prepared for Nortel Networks, Inc. (February, 2001).

Timothy Denton, Rob Frieden and James Savage, *International Charging Arrangements for Internet Services*, Issues Paper prepared for the Asia Pacific Economic Cooperation organization. (March, 1999); Phase Two Data Collection and Analysis (January, 2000) available at <http://www.apii.or.kr/telwg/ICAIS/ICAIS-frame.html>.

Representative Consulting Work

Briefed the California-based staff of a major U.S. telecommunications carrier on developments in next generation network law and regulation.

Provided background and perspective on U.S. antitrust policy for a report entitled *Challenges of competition policy in a digitalised economy*, prepared for the European Parliament, Directorate General for Internal Policies Policy.

Sole developer for a module on broadband technologies contained in a toolkit on broadband strategies commissioned by The World Bank.

Provided infoDev an analysis of broadband universal service policies in six representative nations.

Advised the ministry responsible for telecommunications policy in Trinidad and Tobago on a wide range of legislative, regulatory and organizational matters, including revising the existing telecommunications law, universal service policy, broadband development, the regulator's proposed costing methodology, a regulatory framework for "convergence," and ICT development incentives.

Co-directed regulatory toolkit on competition, interconnection and pricing for World Bank (infoDev) and ITU; lead author of VoIP sections of the toolkit as well as those dealing with international telephone charge settlements.

Advised regulators in Bermuda, Dominican Republic, Israel, Jamaica, Mexico, Northern Mariana Islands, Qatar, South Africa, Tanzania, Asia Pacific Economic Cooperation Group nations and the Caribbean Telecommunications Union on competition policy, interconnection and Internet peering, regulatory and legislative reform, international traffic settlements, telephone number portability, VoIP, etc.

Advised a Bermuda and Cayman Islands telecommunications service provider on VoIP service and interconnection strategies.

Predicted the impact of network neutrality policies on a major fabricator of deep packet inspection chips.

Participation in Conferences, Seminars and Workshops (last four years)

The Internet of Platforms and Two-Sided Markets: Implications for Competition and Consumers, a presentation at the 40th annual conference of the Pacific Telecommunications Council, Honolulu, HI (Jan. 22, 2018); State of Telecom 2017, Columbia Institute for Tele-Information, web-based event (Nov. 17, 2017); 45th annual Telecommunications Policy Research Conference Antonin Scalia Law School George Mason University, Arlington, VA (September 8, 2017).

Zero Rating and the Potential for Enhanced Digital Literacy and Stimulated Broadband Demand, a presentation at Broadband Research in a Changing World: New Technologies, Ideologies and Priorities American University Washington College of Law, Washington, D.C. (September 10, 2017).

Freedom to Discriminate: Assessing the Lawfulness and Utility of Biased Broadband Networks, a presentation at the 28th European Regional Conference of the International Telecommunications Society, Passau, GERMANY (Aug. 1, 2017).

Can Internet Service Providers Enhance, or Degrade Third Party Content?, a presentation at: 4th TILEC Workshop on Competition Policy and Regulation in Media and Telecommunications: Bridging Law and Economics, Tilburg, THE NETHERLANDS (June 1, 2017)(via teleconference).

Standards Prospective: Big Data and Internet of Things—Promoting Interoperability via Open Standards and Semantic Technologies, ITU Workshop on Internet of Things Applications for Development Port of Spain, TRINIDAD and TOBAGO (April 25, 2017)

Northern Kentucky Law Review Symposium on Controversies and Issues in Internet Law, *The Open Internet's Future, U.S. and Worldwide*, Newport, KY (March 3, 2017).

Grey Nuances in the Black and White Debate Over Subsidized Internet Access, presented in absentia at the 39th annual conference of the Pacific Telecommunications Council (Jan. 15, 2017); see <https://www.ptc.org/ptc17/participant.html?pid=574>; also presented at the Research Conference on Communications, Information and Internet Policy, George Mason University, Antonin Scalia School of Law, Arlington, Virginia (Oct., 2016) and at a briefing of congressional staffers before the conference.

The Mixed Blessing in Subsidized Internet Access, A presentation at the 7th Annual Workshop on Internet Economics, Center for Applied Internet Data Analysis, University of California-San Diego (Dec. 9, 2016).

A Fair, Balanced and Nuanced Assessment of Network Neutrality, presented at the 12th Caribbean Internet Governance Forum, Belize City, BELIZE (August 10, 2016).

Conflict in the Networks of Networks: How Internet Service Providers Have Shifted From Partners to Adversaries, presented at: the 2016 International Telecommunications Society Biennial Conference, Taipei, TAIWAN (June 27, 2016); the 2016 Annual Scientific Seminar on the Economics, Law and Policy of Communications Media: Competition and Regulation in Infrastructure and Digital Markets, European University Institute, Florence, ITALY (March 18, 2016).

Thoughts on Best Practices Implementation of Initiatives for the Americas Created at the 2014 World Telecommunications Development Conference and in the Dubai Action Plan, panel presentation at International Telecommunication Union, 2016 Americas Regional Development Forum, Brasilia, BRAZIL (June 15, 2016).

Machine-to-Machine, Internet of Things, Big Data, Cloud Computing and New Business Opportunities, a presentation at the International Telecommunication Union, Telecommunication Development Sector, Regional Economic and Financial Forum of Telecommunications/ICTs for Latin America and the Caribbean, Brasilia, BRAZIL (June 14, 2016).

Interview with Koichi Suzuki: Founder of Internet Initiative Japan Looks into Future Opportunities of the Internet Through the Past and the Present, 38th Annual Conference of the Pacific Telecommunications Council, Honolulu, Hawaii (Jan. 20, 2016).

Network Neutrality Versus Consumer Demand for “Better Than Best Efforts” Traffic Management, paper presented at the 38th Annual Conference of the Pacific Telecommunications Council, Honolulu, Hawaii (Jan. 20, 2016).

Panelist, Legal and Regulatory Considerations in a Digital World, 38th Annual Conference of the Pacific Telecommunications Council, Honolulu, Hawaii (Jan. 18, 2016).

Teaching IP to Non-Law Students, a Presentation at the 110th Annual Meeting of the American Association of Law Schools, New York, NY (Jan. 9, 2016).

Panelist, *This Week in Law*, Episode 330, TWiT (Dec. 11, 2015) (discussion of space and telecommunications law developments); available at: <https://twit.tv/shows/this-week-in-law/episodes/330?autostart=false>.

Panelist, *Event Closing Plenary Session*, International Telecommunication Union, ITU Telecom World, Forum, Budapest, HUNGARY (October 15, 2015); see <http://www.itu.int/net4/Telecom/webs/TelecomWorld/session/description/C-00000852>.

Panelist, *Trusting the Internet of Things*, International Telecommunication Union, ITU Telecom World, Forum, Budapest, HUNGARY (October 15, 2015); see <http://telecomworld.itu.int/daily-highlights-4/trusting-the-internet-of-things/>.

Déjà vu All Over Again: Questions and a Few Suggestions on How the FCC Can Lawfully Regulate Internet Access, A presentation at the 43rd Annual Telecommunications Policy Research Conference, George Mason University School of Law, Arlington, VA (September 25, 2015).

Ex Ante Versus Ex Post Approaches to Network Neutrality: A Comparative Assessment, a presentation at the 2015 Annual Scientific Seminar on the Economics, Law and Policy of Communications and Media: *Policy Challenges in Digital Markets* European University Institute, Centre for Media Pluralism and Media Freedom Florence, ITALY (March 27, 2015); earlier version presented at the Fifth Annual Internet Law Works-in-Progress Event, Santa Clara University School of Law (March 7, 2015).

Peggy Valcke, Sören Vandeweyer and Rob Frieden, *Over-The-Top Services: On Top of Regulatory Developments? Comparing EU and US Approaches to Ensuring Fair Competition, Consumer Protection and Net Neutrality in Relation to OTT Services* Ensuring Fair Competition, Consumer Protection and Net Neutrality in Relation to OTT Services, a presentation at Euro CPR 2015, organized by the Centre for European Policy Studies (CEPS), Brussels, BELGIUM (March 23, 2015).

Internet Protocol Television and the Challenge of “Mission Critical” Bits, A Presentation at the 36th Annual Conference of the Pacific Telecommunications Council, Honolulu, HI (Jan. 22, 2015).

Interconnection Issues Raised in the Network Neutrality Debate, a presentation at the 2015 Annual Meeting of The Association of American Law Schools, Washington, D.C. (January 5, 2015).

Introduction to the Law, Policy and Regulation of Telecommunications in the United States, and Introduction to the Network Neutrality Debate in the United States, presentation to Masters of Law students at the College of Law, Catholic University of Leuven, Belgium (November 3, 17, 2014).

Current Telecommunications Issues and Their Impact on Sports Broadcasting, A presentation at the Fall 2014 Symposium of The Mississippi Sports Law Review, University of Mississippi School of Law (October 17, 2014).

Something New to Say About Network Neutrality?, A presentation at Public Domain(s): Law, Generating Knowledge in the Information Economy, Michigan State University, College of Law, East Lansing, MI (October 2, 2014).

Interconnection and Compensation in the Internet Ecosystem: Assessing the Need for Legislation, A presentation to congressional staffers, sponsored by the Telecommunications Policy Research Conference, Washington, D.C. (September 11, 2014).

The Costs and Benefits of Regulatory Intervention in ISP Interconnection Disputes: Lessons from Broadcast Signal Retransmission Consent Negotiations, A presentation at Regulating the Evolving Broadband Ecosystem Sponsored by the FCC, American Enterprise Institute for Public Policy Research and the University of Nebraska College of Law, Washington, D.C. (September 11, 2014).

Network Neutrality: One Step Beyond, A Brown Bag Discussion at Information Influx International Conference, Institute for Information Law, University of Amsterdam, Faculty of Law, Amsterdam, THE NETHERLANDS (July 4, 2014).

Net Bias and the Treatment of "Mission-Critical" Bits, presented at the Fourth Internet Law Work-in-Progress Symposium, Sponsored by the Institute for Information Law and Policy at New York Law School and the High Tech Law Institute at Santa Clara University School of Law (March 8, 2014); 11th Annual Conference on Telecommunications & Information Technology, Louisville, KY (April 5, 2014); Third Florence Conference on the Regulation of Infrastructures: Taking stock of current challenges, European University Institute, Florence ITALY (June 13, 2014); 97th Annual Conference of the Association for Education in Journalism and Mass Communications, Montreal, Quebec CANADA (August 8, 2014); 42nd annual conference of the Telecommunications Policy Research Conference, George Mason University School of Law, Arlington, Virginia (September 13, 2014); 20th Biennial Conference of the International Telecommunications Society, Rio de Janeiro (Dec. 1, 2014).

A Primer on Local Number Portability, a presentation at the Ministerial Workshop on a Regional Approach to Number Portability, Organized by the Caribbean Telecommunications Union, Radisson Grenada Beach Resort (January 16, 2014) (presented via teleconference in light of teaching schedule).

New Models and Conflicts in the Interconnection and Delivery of Internet-mediated Content, presented at the 4th Workshop on Internet Economics (WIE 2013): Economic health of the Internet ecosystem, Organized by The Cooperative Association for Internet Data Analysis, University of California at San Diego, and MIT Computer Science and Artificial Intelligence Laboratory (December 12, 2013); also presented at the 36th Annual Conference of the Pacific Telecommunications Council, Honolulu, HI (Jan. 22, 2014).

Convergence of Regulation, World Telecom Forum 2013, organized by the International Telecommunication Union, Bangkok, Thailand (Nov. 19, 2013).

Regulation vs. Market-based Mechanisms for the Internet's Future, presented at the 6th Annual University of Nebraska College of Law Washington, D.C. Space & Cyber Law Conference Washington, D.C. (Nov. 5, 2013).

The Rise of Quasi-Common Carriers and Conduit Convergence, Presented at the 41th Research Conference on Communication, Information and Internet Policy, George Mason University School of Law, Arlington, Virginia (September 28, 2013), a Symposium Organized by I/S A Journal of Law and Policy for the Information Society The Ohio State University, Moritz College of Law Columbus, OH (March 22, 2013) and at Theory of Broadband: Regulation, Networks and Applications, Columbia Institute for Tele-Information, Columbia University, New York, N.Y. (May 30, 2013).

The Impact of Next Generation Television on Consumers and the First Amendment, presented at the 2013 Conference of the Association for Education in Journalism and Mass Communications, Washington, D.C. (August 10, 2013)(Third Prize in Academic Papers competition).

The Impact of Next Generation Television on Consumers and Freedom of Expression, a Presentation at the International Telecommunications Society, Sixth Africa-Asia-Australasia Regional Conference, Perth, Western Australia (August 7, 2013).

Terminating the PSTN: Identifying All of the Costs and Benefits, a Presentation to the International Institute of Communications - Australian Chapter Sydney, New South Wales, Australia (July 31, 2013).

Mapping the Broadband Ecosystem, A Presentation at: Faceoff: A Fact-Based Debate on U.S. Internet Policy and Access Networks, Organized by The Internet Ecosystem Economics Task Force Congressional Internet Caucus Advisory Committee, Washington, D.C. (June 7, 2013).

Terminating the PSTN: The Clear, Cloudy and Obscure Issues, A presentation to the FCC Technologies Transitions Policy Task Force, Washington, D.C. (March 15, 2013).

Best Practices in Financing Next Generation Networks, A presentation at the: 35th Annual Conference of the Pacific Telecommunications Council, Honolulu, HI (January 22, 2013).

Speaking Engagements or Other Activities in Which There Was Significant Use of Expertise

Interviewed on National Public Radio's *All Things Considered* piece on the elimination of conventional copper wire telephone service, Nov. 18, 2013; see <http://www.npr.org/blogs/alltechconsidered/2013/11/18/246001725/have-we-reached-the-end-of-the-landline>.

Interviewed on several American Public Media Marketplace programs regarding telecommunications and Internet issues, see: <http://www.marketplace.org/search/node/Rob%20Frieden>.

Testified before the United States Senate, Commerce Committee on wireless telecommunications issues, June 17, 2009; see http://commerce.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=03b81ffd-ba9f-42e6-8331-7c28f6d112b0.

Interviewed on Public Broadcasting System's *News Hour With Jim Lehrer* piece on the Global Crossing bankruptcy (February 13, 2002), available at http://www.pbs.org/newshour/bb/business/jan-june02/global_crossing_2-13.html.

Interviewed on National Public Radio's *Morning Edition* piece on trouble in the telecommunications marketplace (February 8, 2002), available at <http://search.npr.org/cf/cmn/cmnpd01fm.cfm?PrgDate=02/08/2002&PrgID=3>.

Testified before the Pennsylvania House of Representatives, Judiciary Committee on House Bill 10, The Child Internet Protection Act (June 7, 2001).

Frequent source for dozens of newspaper, magazine and World Wide Web articles on telecommunications, including American Public Media Marketplace, Arstechnica, the Associated Press, Atlanta Constitution, Bloomberg News, BusinessWeek, CBS Market Watch, CNBC, Chicago Tribune, China Central Television, Christian Science Monitor, Communications Daily, Christian Science Monitor, Congressional Quarterly, Dow Jones News Retrieval Service, Forbes, Fort Lauderdale Sun-Sentinel, KYW Radio, Minnesota Public Radio, National Public Radio, Parade magazine, Philadelphia Inquirer, USA Today, Wharton Business on Sirius/XM, Wired, and the Wall Street Journal.

New Courses or Cooperative Extension Programs Developed

Maintain an active blog site Telefrieden, available at: <http://telefrieden.blogspot.com/>; This blog seeks to offer a provocative, unsponsored assessment of current legal, regulatory, marketplace and cultural issues affecting the information, communications and entertainment ("ICE") industries.

Developed and taught at the Dickinson School of Law courses on Internet law and policy and telecommunications law and regulation.

Developed new graduate and undergraduate courses in media and democracy, telecommunication policy analysis, telecommunications and information processing technologies, and international telecommunications and trade policy.

Honors or Awards for Scholarship of Professional Activity

Pacific Telecommunications Council, Meheroo Jussawalla Research Paper Prize (2017, 2008).

Penn State, College of Communications, Dean's Excellence Award for Research (2016, 2012, 2004, 2000)

Academic Fellow, Harvard Berkman Center for Internet and Society (2015-16).

2014 ITERA Distinguished Research Award, Information and Telecommunications Education and Research Association.

Top Three Faculty Paper, Association for Education in Journalism and Mass Communications, Law and Policy Division (2013, 2009).

Top Three Faculty Paper, International Communications Association, Communications Law and Policy Division (2011, 2007).

Fulbright Specialist Program Registrant (2008-2009)(see <http://www.cies.org/specialists/ProgramDescription.htm>).

Winner, 1999 Cable Book Award, National Cable Television Center.

Penn State, College of Communications, Alumni Society Excellence in Teaching Award (1995).

Who's Who in America (various years).

Who's Who in American Education (various years).

Who's Who in American Law (various years).

Who's Who in Communications and the Mass Media (various years).

Who's Who in the World (various years).

Membership and Active Participation in Professional and Learned Societies

Faculty Associate, Berkman Center for Internet and Society at Harvard University (2015-2016).

Fellow, Columbia Institute for Tele-Information, Columbia University, School of Business (2012-present).

Pacific Telecommunications Council, elected to the Advisory Council (2005-2009); Program Committee (numerous years).

Telecommunications Policy Research Conference, Program Committee for the 29th, 30th, 34th, 35th and 36th Annual Conferences.

Fellow, Center for Strategic and International Studies, International Communications Studies Program (1999-2001).

Editorial Board, *Info: the journal of policy regulation and strategy for telecommunications information and media* (1998-present).

Editorial Board, Telecommunications Policy (1997-present).

Associate, Program on Information Resources Policy, Harvard University (1992-2011).

American Bar Association; Vice Chair, Communications Committee of the International Law Section (1992-1994).

Member Virginia, Supreme Court and 4th Circuit Court of Appeals Bars.

Undergraduate

Advanced Telecommunications Topics: Case Studies in Information,
Communications and Entertainment

Analysis of Broadcast-Cable Policy

Digital Literacy (Freshman Seminar)

Emerging Telecommunications and Information Processing Technologies

International Telecommunications and Trade Policy

Internet Law and Policy

Introduction to Broadcast/Cable Management

Law of Mass Communications (Honors and regular)

Media and Democracy

Graduate

Case Studies in Information, Communications and Entertainment

Colloquium

Constitutional Problems of the News Media

International Telecommunications and Trade Policy

Internet Law and Policy
(cross-listed as a Penn State School of Law course)

Media and Democracy

Telecommunications Law and Regulation
(cross-listed as a Penn State School of Law course)