Contact Information

Penn State University 102 Carnegie Building University Park, PA 16802 (814) 863-7996; email: rmf5@psu.edu Web page: http://www.personal.psu.edu/rmf5/

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 and graduate studies. 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 IRIDIUMTM 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

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.

Publications

Books or Parts of Books

Rob Frieden, *Operations of Internet Platform Intermediaries*, in APPLIED ECONOMICS IN THE DIGITAL ERA: ESSAYS IN HONOR OF GARY MADDEN, James Alleman, Mohsen Hamoudia & Paul Rappoport (eds.) (New York: Palgrave Macmillan, in production).

Rob Frieden, An Introduction to Data Property Ownership Rights and Data Protection Responsibilities, in RESEARCH ON COMPREHENSIVE NETWORK GOVERNANCE IN THE ERA OF DIGITAL ECONOMY, Bin Zhang, ed. (Beijing: BUPT Press, 2019).

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).

Rob Frieden, *Next-Generation Television and the Migration from Channels to Platforms*, in POLICY AND MARKETING STRATEGIES FOR DIGITAL MEDIA, Yu-li Liu and Robert G. Picard, eds., 60-72 (New York: Routledge, 2014).

Rob Frieden, *The Debate Over Network Neutrality in the United States*, in NET NEUTRALITY IN EUROPE, Alain Strowel, ed., 24-45 (Brussels: Bruylant, 2013).

Rob Frieden, *Case Studies in Results-Driven Decision Making at the FCC*, in BEYOND BROADBAND ACCESS, DEVELOPING DATA-BASED INFORMATION POLICY STRATEGIES, Richard D. Taylor and Amit M. Schejter eds., 143-157 (New York: Fordham University Press, 2013).

Rob Frieden, *Government Oversight of Next Generation Wireless Networks*, in REGULATION AND THE PERFORMANCE OF COMMUNICATION AND INFORMATION NETWORKS, Gerald R. Faulhaber, Gary Madden and Jeffrey Petchey eds. 55-84 (Cheltenham, U.K.: Edward Elgar, 2012).

Rob Frieden, WINNING THE SILICON SWEEPSTAKES: CAN THE UNITED STATES COMPETE IN GLOBAL TELECOMMUNICATIONS?, (New Haven: Yale University Press 2010).

Rob Frieden, *The Way Forward for Wireless*, in ... AND COMMUNICATIONS FOR ALL—A POLICY AGENDA FOR A NEW ADMINISTRATION, Amit M. Schejter, ed., 153-166 (Lanham, MD: Lexington Books 2009).

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).

Rob Frieden, *Balancing Equity and Efficiency in Global Spectrum Management*, in GOVERNING GLOBAL ELECTRONIC NETWORKS—INTERNATIONAL PERSPECTIVES ON POLICY AND POWER, William J. Drake and Ernest J. Wilson III, eds., 127-148 (Cambridge, MA.: MIT Press 2008).

Rob Frieden, Institutional Framework and Competitiveness of the U.S. Telecommunications Market, in COMPETITIVENESS OF NEW INDUSTRIES--INSTITUTIONAL FRAMEWORK AND LEARNING IN INFORMATION TECHNOLOGY IN JAPAN, THE U.S AND GERMANY, Cornelia Storz and Andreas Moerke, eds., 103-123 (New York, N.Y.: Routledge 2007).

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

Rob Frieden, *Satellite Broadcasting*, in ENCYCLOPEDIA OF INTERNATIONAL MEDIA AND COMMUNICATIONS, Donald H. Johnston, ed., Vol. 4, 115-126 (San Diego, CA: Academic Press 2003).

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/.

Rob Frieden, MANAGING INTERNET-DRIVEN CHANGE IN INTERNATIONAL TELECOMMUNICATIONS, (Norwood, MA: Artech House, 2001).

Rob Frieden, *The Potential for Scrutiny of Internet Peering Policies in Multilateral Forums*, in Benjamin M. Compaine and Shane Greenstein, eds., COMMUNICATIONS POLICY IN TRANSITION: THE INTERNET AND BEYOND, 159-193(Cambridge, MA: MIT Press, 2001).

Robert M. Frieden, *Satellite Technology and Regulation*, in Kornel Terplan, ed., THE TELECOMMUNICATIONS HANDBOOK, 92-101 (Boca Raton, Florida: CRC Press, 2000).

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). Robert M. Frieden, *Winning and Losing the Telecommunications Sweepstakes of 1996*, in E. Bohlin and S. Levin, eds., TELECOMMUNICATIONS TRANSFORMATION: TECHNOLOGY, STRATEGY AND POLICY, 373-396 (Washington, D.C.: IOS Press, 1998).

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).

Robert M. Frieden, *The Global Information Infrastructure*, in A GUIDE TO NEW TELECOMMUNICATIONS TECHNOLOGIES, (Washington, D.C.: United States Information Agency, 1997).

Robert M. Frieden, *Can and Should the FCC Regulate Internet Telephony?*, in D. Waterman and G. Reston, eds., SELECTED PAPERS OF TPRC 1996, 183-204 (Mahwah, N.J.: L. Erlbaum, 1997).

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).

Robert M. Frieden, *Satellite Phones and Cross-Border Cellular Service: New Challenges for Incumbent Carriers*, in G. Staple, ed. TELEGEOGRAPHY 1993, (Washington, D.C.: International Inst. of Communications, 1993).

Works in Progress

WRC-19 and Spectrum Planning at the International Telecommunication Union. This paper assesses how the November, 2019 World Radio Conference handled U.S. spectrum allocation proposals.

Refereed and Law Review Articles

Rob Frieden, *Challenges to the Conventional Wisdom About Mergers and Consumer Welfare in a Converging Internet Marketplace*, 65 VILLANOVA LAW REVIEW (2020) (in production).

Rob Frieden, *There's Probably a Blackout in Your Television Future: Tracking New Carriage Negotiation Strategies Between Video Content Programmers and Distributors*, 43 THE COLUMBIA JOURNAL OF LAW AND THE ARTS, No. 4, 487-515 (2020).

Rob Frieden, *The evolving 5G case study in spectrum management and industrial policy*, 43 TELECOMMUNICATIONS POLICY, No. 6, 49-62 (July, 2019); available at:

https://www.sciencedirect.com/science/article/pii/S0308596119300783?via%3Dihub.

Rob Frieden, *Two-sided Internet Markets and the Need to Assess Both Upstream and Downstream Impacts*, 68 AMERICAN UNIVERSITY LAW REVIEW 713-760 (2019).

Rob Frieden, *How Internet Platforms Intermediaries Affect Competition and Consumers*, 20 NETWORK INDUSTRIES QUARTERLY, No. 3, 3-8 (June, 2018).

Rob Frieden, *The Internet of Platforms and Two-Sided Markets: Implications for Competition and Consumers*, 63 VILLANOVA LAW REVIEW 269-320 (2018).

Rob Frieden, *Freedom to Discriminate: Assessing the Lawfulness and Utility of Biased Broadband Networks*, 20 VANDERBILT JOURNAL OF ENTERTAINMENT AND TECHNOLOGY LAW, 655-708 (2018).

Rob Frieden, *The Mixed Blessing in Subsidized Internet Access*, 15 COLORADO TECHNOLOGY LAW JOURNAL 269-306 (2017).

Rob Frieden, *Grey nuances in the black and white debate over subsidized Internet access*, 41 TELECOMMUNICATIONS POLICY 1017-1026 (2017); <u>http://dx.doi.org/10.1016/j.telpol.2016.10.002</u>.

Rob Frieden, *Conflict in the Network of Networks: How Internet Service Providers Have Shifted from Partners to Adversaries*, 38 COMMUNICATIONS & ENTERTAINMENT LAW JOURNAL, No. 1, 63-90 (Winter, 2016). Rob Frieden, *Network Neutrality and Consumer Demand for "Better Than Best Efforts" Traffic Management*, 26 FORDHAM INTELLECTUAL PROPERTY, MEDIA & ENTERTAINMENT LAW JOURNAL, 71-102 (Fall, 2015); available at: <u>http://www.fordhamiplj.org/publications/network-neutrality-and-</u>consumer-demand-for-better-than-best-efforts-traffic-management/.

Rob Frieden, *Ex Ante Versus Ex Post Approaches to Network Neutrality: A Comparative Assessment*, 30 BERKELEY TECHNOLOGY LAW JOURNAL, No. 2, 1562-1612 (2015); available at: http://btlj.org/data/articles2015/vol30/30_2/1561-1612_Frieden.pdf.

Rob Frieden, *Déjà vu All Over Again: Questions and a Few Suggestions on How the FCC Can Lawfully Regulate Internet Access*, 67 FEDERAL COMMUNICATIONS LAW JOURNAL, No. 3, 325-376 (2015).

Rob Frieden, *What's New in the Network Neutrality Debate*, 2015 MICHIGAN STATE LAW REVIEW 739-786; available at: http://digitalcommons.law.msu.edu/cgi/viewcontent.cgi?article=1123&co ntext=lr.

Rob Frieden, Internet Protocol Television and the Challenge of "Mission Critical" Bits, 33 CARDOZO ARTS & ENTERTAINMENT LAW JOURNAL, No. 1, 47-87 (2015); available at: http://www.cardozoaelj.com/wp-content/uploads/2014/01/Frieden-FINAL.pdf.

Rob Frieden, *The Costs and Benefits of Regulatory Intervention in Internet Disputes: Lessons from Broadcast Signal Retransmission Consent Negotiations*, 37 COMMUNICATIONS & ENTERTAINMENT LAW JOURNAL, No. 1, 1-36 (Winter, 2015).

Rob Frieden, *New models and conflicts in the interconnection and delivery of Internet-mediated content*, 38 TELECOMMUNICATIONS POLICY, No. 11, 970-978 (Dec. 2014).

Rob Frieden, *The Impact of Next Generation Television on Consumers and the First Amendment*, 24 FORDHAM INTELLECTUAL PROPERTY, MEDIA & ENTERTAINMENT LAW JOURNAL. No. 1, 61-95 (2014).

Rob Frieden, *The Rise of Quasi-Common Carriers and Conduit Convergence*, 9 I/S: A JOURNAL OF LAW AND POLICY FOR THE INFORMATION SOCIETY, No. 3, 471-496 (2014).

Rob Frieden, *Identifying Best Practices in Financing Next Generation Networks*, 29 THE INFORMATION SOCIETY: AN INTERNATIONAL JOURNAL, No.4, 234-247 (2013).

Rob Frieden, *The Mixed Blessing of a Deregulatory Endpoint for the Public Switched Telephone Network*, 37 TELECOMMUNICATIONS POLICY, No. 4-5, 400-412 (May, 2013).

Rob Frieden, *Do Conduit Neutrality Mandates Promote or Hinder Trust in Internet-mediated Transactions?*, 28 COMPUTER, LAW & SECURITY REVIEW, 560-567 (2012).

Rob Frieden, *Rationales For and Against Regulatory Involvement in Resolving Internet Interconnection Disputes*, 14 YALE JOURNAL OF LAW AND TECHNOLOGY 266-313 (2012).

Rob Frieden, *From Bad to Worse: Assessing the Long Term Consequences of Four Controversial FCC Decisions*, 77 BROOKLYN LAW REVIEW, No. 3 959-1013 (2012).

Rob Frieden, Assessing the Need for More Incentives to Stimulate Next Generation Network Investment, 7 I/S: A JOURNAL OF LAW AND POLICY FOR THE INFORMATION SOCIETY, No. 2, 207-256 (2012).

Rob Frieden, Legislative and Regulatory Strategies for Providing Consumer Safeguards in a Convergent Information and Communications Marketplace, 33 HASTINGS COMMUNICATIONS & ENTERTAINMENT LAW JOURNAL, No. 1, 207-248 (Winter, 2011).

Rob Frieden, *Assessing the Merits of Network Neutrality Obligations at Low, Medium and High Network Layers*, 115 PENN STATE LAW REVIEW, No. 1, 49-82 (Summer, 2010).

Rob Frieden, *Invoking and Avoiding the First Amendment: How Internet Service Providers Leverage Their Status as Both Content Creators and Neutral Conduits*, 12 UNIVERSITY OF PENNSYLVANIA JOURNAL OF CONSTITUTIONAL LAW, No. 5, 1279-1323 (June, 2010).

Rob Frieden, *Case Studies in Abandoned Empiricism and the Lack of Peer Review at the Federal Communications Commission*, 8 JOURNAL ON TELECOMMUNICATIONS & HIGH TECHNOLOGY LAW 277-312 (2010); available at: http://www.jthtl.org/content/articles/V8I2/JTHTLv8i2_Frieden.PDF.

Rob Frieden, Lock Down on the Third Screen: How Wireless Carriers Evade Regulation of Their Video Services, 24 BERKELEY TECHNOLOGY LAW JOURNAL, No. 2 819-849 (Spring, 2009).

Rob Frieden, *Lies, Damn Lies and Statistics: Developing a Clearer Assessment of Market Penetration and Broadband Competition in the United States*, 14 VIRGINIA JOURNAL OF LAW AND TECHNOLOGY 100- 125(Summer, 2009); available at: <u>http://www.vjolt.net/vol14/issue2/v14i2_100%20-</u>%20Frieden.pdf.

Rob Frieden, *Hold the Phone: Assessing the Rights of Wireless Handset Owners and Carriers*, 69 PITTSBURGH LAW REVIEW, No. 4, 675-725 (2008).

Rob Frieden, Neither Fish Nor Fowl: New Strategies for Selective Regulation of Information Services, 6 JOURNAL ON TELECOMMUNICATIONS AND HIGH TECHNOLOGY LAW, No. 2 373-423 (2008); available at: http://www.jthtl.org/content/articles/V6I2/JTHTLv6i2_Frieden.PDF.

Rob Frieden, Internet Packet Sniffing and Its Impact on the Network Neutrality Debate and the Balance of Power Between Intellectual Property Creators and Consumers, 18 FORDHAM INTELLECTUAL PROPERTY, MEDIA & ENTERTAINMENT LAW JOURNAL, No. 3. 633-675 (2008).

Rob Frieden, *A Primer on Network Neutrality*, 43 INTERECONOMICS REVIEW OF EUROPEAN ECONOMIC POLICY, No. 1, 4-15 (Jan./Feb. 2008).

Rob Frieden, *Keeping the Internet Neutral?: A Response to the Wu-Yoo Debate*, 59 FEDERAL COMMUNICATIONS LAW JOURNAL, No. 3, Forum (2007); available at:

http://www.law.indiana.edu/fclj/pubs/forum/Frieden_v59i3_forum.pdf.

Rob Frieden, Internet 3.0: Identifying Problems and Solutions to the Network Neutrality Debate, 1 INTERNATIONAL JOURNAL OF COMMUNICATIONS, 461-492 (2007); available at: http://ijoc.org/ojs/index.php/ijoc/article/view/160/86.

Rob Frieden, *Network Neutrality or Bias?--Handicapping the Odds for a Tiered and Branded Internet*, 29 HASTINGS COMMUNICATIONS AND ENTERTAINMENT LAW JOURNAL, No. 2, 171-216 (2007).

Rob Frieden, What Do Pizza Delivery and Information Services Have in Common? Lessons From Recent Judicial and Regulatory Struggles with Convergence, 32 RUTGERS COMPUTER AND TECHNOLOGY LAW JOURNAL, No. 2, 247-296 (2006). 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.

Robert M. Frieden, *That Pesky Last Mile: Call Termination Strategies for Mobile Satellite Systems*, 22 TELECOMMUNICATIONS POLICY, No. 2, 133-143. (1998).

Robert M. Frieden, *The Telecommunications Act of 1996: Predicting the Winners and Losers*, 20 HASTINGS COMMUNICATIONS & ENTERTAINMENT LAW JOURNAL, No. 1, 11-57 (Fall, 1997).

Robert M. Frieden, *The Impact of Call-Back and Arbitrage on the Accounting Rate Regime*, 21 TELECOMMUNICATIONS POLICY, No. 9/10, 819-827 (1997).

Robert M. Frieden, *Widespread Deployment of Wireless Telephony: Business, Legal, Regulatory and Spectrum Challenges*, 21 TELECOMMUNICATIONS POLICY, No. 5, 451-459 (June, 1997).

Robert M. Frieden, *Dialing for Dollars: Will the FCC Regulate Internet Telephony*?, 23 RUTGERS COMPUTER AND TECHNOLOGY LAW JOURNAL, 47-79 (1997).

Robert M. Frieden, *Schizophrenia Among Carriers: How Common Carriers and Private Carriers Trade Places*, 3 MICHIGAN TELECOMMUNICATIONS AND TECHNOLOGY LAW REVIEW, (1997), available at http://www.mttlr.org/volthree/frieden.html.

Robert M. Frieden, *Privatization of Satellite Cooperatives: Smothering a Golden Goose?*, 36 VIRGINIA JOURNAL OF INTERNATIONAL LAW, No. 4 1001-1019 (Summer, 1996).

Robert M. Frieden, *Contamination of the Common Carrier Concept in Telecommunications*, 19 TELECOMMUNICATIONS POLICY, No. 9, 685-697 (December, 1995).

Robert M. Frieden, Universal Personal Communications in the New Telecommunications World Order--Access to Wireline Networks, 19 TELECOMMUNICATIONS POLICY, No. 1, 43-49 (January, 1995).

Robert M. Frieden, *Should Intelsat and Inmarsat Privatize?*, 18 TELECOMMUNICATIONS POLICY, No. 9, 679-686 (December, 1994).

Robert M. Frieden, *International Toll Revenue Division--Tackling the Inequities and Inefficiencies*, 17 TELECOMMUNICATIONS POLICY, No. 3, 221-233 (April, 1993).

Robert M. Frieden, *Strategies for Market Entry by Private International Satellite Systems*, 16 TELECOMMUNICATIONS POLICY, No. 4, 354-363 (May/June 1992).

Robert M. Frieden, *Open Network Policies for the United States and Europe: Visions and Realities*, 31 JURIMETRICS JOURNAL, 319-328 (Spring 1991).

Robert M. Frieden, *Accounting Rates: The Business of International Telecommunications and the Incentive to Cheat*, 43 FEDERAL COMMUNICATIONS LAW JOURNAL, No. 2, 111-139 (1991).

Robert M. Frieden, *The Third Computer Inquiry: A Deregulatory Dilemma*, 38 FEDERAL COMMUNICATIONS LAW JOURNAL, No. 3, 383-410 (1987).

Robert M. Frieden, *Getting Closer to the Source: New Policies for International Satellite Access*, 37 FEDERAL COMMUNICATIONS LAW JOURNAL, No. 2. 293-323 (1985).

Robert M. Frieden, *The International Application of the Second Computer Inquiry*, 5 MICHIGAN YEARBOOK OF INTERNATIONAL LEGAL STUDIES, 189-218 (1984).

Robert M. Frieden, International Telecommunications and the Federal Communications Commission, 21 COLUMBIA JOURNAL OF TRANSNATIONAL LAW, No. 3, 423-485 (1983).

Robert M. Frieden, *The Computer Inquiries: Mapping the Communications/Information Processing Terrain*, 33 FEDERAL COMMUNICATIONS LAW JOURNAL, No. 1, 55-115 (1981).

Refereed Proceedings and Referred Letters

Rob Frieden, *An Introduction to Data Property Ownership Rights and Data Protection Responsibilities*, monograph prepared for the Network Comprehensive Governance Capability Seminar, Beijing University of Posts and Telecommunications, School of Economics and Management (June 13, 2019).

Robert M. Frieden, *Lessons From Broadband Development in Canada, Japan and Korea*, in PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL TWENTY-SEVENTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 2005); available at: http://www.ptc.org/PTC05/program/pdfs/8.pdf.

Robert M. Frieden, *Assessing the Regulatory Consequences When Content and Conduit Converge*, in PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL TWENTY-FIFTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 2003).

Robert M. Frieden, *Bellheads Rule: How the Netheads Lost Control of the Internet*, in PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL TWENTY-FOURTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 2002).

Robert M. Frieden, *The Potential Regulatory and Universal Service Consequences of Internet-Mediated Accounting Rate Arbitrage*, in Wedemeyer and R. Nickelson, eds. PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL TWENTY-FIRST ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 2000).

Robert M. Frieden, *Variations on a Theme: The Three Phases of Competition Policy*, in PROCEEDINGS AND WHO IS WHO TELECOM 99/INTER@CTIVE99, (Geneva: International Telecommunication Union, 1999).

Robert M. Frieden, *The Potential Regulatory and Universal Service Consequences of Internet Balkanization*, in Wedemeyer and R. Nickelson, eds. PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL TWENTY-FIRST ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1999).

Robert M. Frieden, *Call Origination and Termination Strategies for Mobile Satellite Systems*, in D. Wedemeyer and R. Nickelson, eds. PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL TWENTIETH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1998).

Robert M. Frieden, *New Opportunities and Challenges When Regulators Change Course*, in D. Wedemeyer and R. Nickelson, eds., PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL NINETEENTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1997).

Robert M. Frieden, *The Impact of Boomerang Boxes and Callback Services on the Accounting Rate Regime*, in D. Wedemeyer and R. Nickelson, eds., PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL EIGHTEENTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1996).

Robert M. Frieden, *Social, Logistical and Developmental Issues in the Global Information Infrastructure*, in SPEAKERS PAPERS, 7TH WORLD TELECOMMUNICATION FORUM, Strategies Summit, Vol. 1, Session 5, 14 (Geneva: International Telecommunication Union, 1995).

Robert M. Frieden, *The Privatization Sweepstakes for Intelsat and Inmarsat*, in D. Wedemeyer, ed., PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL SEVENTEENTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1995).

Robert M. Frieden, *Assessing the Scope of Global Personal Communication Services*, in J. Savage and D. Wedemeyer, eds., PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL SIXTEENTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1994).

Robert M. Frieden, *Legal and Regulatory Challenges to Universal Personal Communication Services Provided by Low Earth Orbiting Satellites*, in PROCEEDINGS OF THE ANNUAL CONFERENCE OF THE AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS, (Washington, D.C., 1994). Robert M. Frieden, WARC-92 and Low Earth Orbiting Satellites: A Case Study of the Process for Accommodating Spectrum Requirements of New Technologies, in J. Savage and D. Wedemeyer, eds., PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL FIFTEENTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1993).

Robert M. Frieden, *Strategies For Market Entry By International Separate Systems*, in M. Lofstrom and D. Wedemeyer, eds., PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL FOURTEENTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1992).

Robert M. Frieden, *A Primer on International Accounting Rates*, in M. Lofstrom and D. Wedemeyer, eds., PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL THIRTEENTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1992).

Robert M. Frieden, *User Benefits From Private International Carriers*, in D. Wedemeyer and M. Lofstrom, eds., PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL TWELTH ANNUAL CONFERENCE (Honolulu: Pacific Telecommunications Council, 1990).

Robert M. Frieden, *There's An ISDN in Your Telecommunications Future*, PROCEEDINGS OF THE PACIFIC TELECOMMUNICATIONS COUNCIL EIGHTH ANNUAL CONFERENCE, (Honolulu: Pacific Telecommunications Council, 1985).

Other Publications

Letter from America—Network Neutrality in the EU, Canada and the U.S., 50 INTERECONOMICS No.6, 363-364 (Nov./Dec. 2015).

Verizon could learn a thing or two from Comcast about how to make most of its new cash cow, THE CONVERSATION (May, 2015); available at: https://theconversation.com/profiles/rob-frieden-169813/articles.

Helped edit and co-signed an Amicus Brief from Law Professors commenting on the merits of Verizon's appeal of the FCC's Open Access rules.

Threats and Opportunities From Next Generation Television, 40 intermedia, No. 1, 18-25 (March, 2012).

Revised materials on telecommunications topics for the *World Book* encyclopedia (2008).

Locking Down the Third Screen: How Wireless Firms Thwart Users' Access to Content, 36 intermedia, No. 2, 18-21 (Spring, 2008).

Wireless Carterfone--A Long Overdue Policy Promoting Consumer Choice and Competition, New America Foundation, Wireless Future Program, Working Paper No. 20 (Jan. 2008); available at: http://www.newamerica.net/events/2008/free_my_phone.

Internet 3.0: Assessing the Scope of a Non-Neutral and Tiered Web, presented at the 29th Annual Conference of the Pacific Telecommunications Council (Honolulu, HI 2007); available at: http://www.ptc07.org/program/papers/M11_RobertFrieden.pdf.

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).

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*, <u>http://www.ictregulationtoolkit.org/index;</u> and *Broadband Strategies Handbook*, <u>https://elibrary.worldbank.org/doi/book/10.1596/978-0-8213-8945-4</u>; created by InfoDev, a global partnership program of the World Bank (2011).

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

Prepared an analysis of California legislation mandating network neutrality for a major U.S. telecommunications carrier.

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)

Panelist, *Legal and Policy*, presented at the 42d annual conference of the Pacific Telecommunications Council, Honolulu, HI (Jan 20, 2020); Panelist, *Industrial Policy and Competition Driving 5G* (Jan. 21, 2019); *World Radiocommunication Conference (WRC-19): Implications for the 5G World* (Jan. 21, 2020).

WRC-19 and 5G Spectrum Planning, A presentation at the 47th Annual Research Conference on Communications, Information and Internet Policy American University, Washington, D.C. (September 20, 2019).

An Introduction to Data Property Rights, A presentation at the Beijing University of Posts and Telecommunications (June 13, 2019).

Platforms in the Courts of Public Opinion and Law, A presentation at the 69th annual conference of the International Communications Association, Washington, D.C. (May 25, 2019).

Two-sided Internet Markets in Courts of Law and Public Opinion, presented at 9th annual Internet Law Works in Progress conference, Santa Clara Law School (March 2, 2019).

Panelist, *Update on current Legal Issues*, presented at the 41st annual conference of the Pacific Telecommunications Council, Honolulu, HI (Jan 21, 2019); Panelist, The International Telecommunications Union: Three Sectors at a Crossroad (Jan. 22, 2019).

Two-sided Internet Markets and the Need to Assess Both Upstream and Downstream Impacts, a presentation at the 46th annual Telecommunications Policy Research Conference, Washington College of Law, American University, Washington, D.C. (September 21, 2018); also presented at the 41st annual conference of the Pacific Telecommunications Council, Honolulu, HI (Jan 20, 2019).

How Internet Platforms Intermediaries Affect Competition and Consumers, a presentation at the European Union Institute 7th Conference on the Regulation of Infrastructures. New network structures: decentralization, prosumers and the role of online platforms, Florence, ITALY (June 21, 2018)(publication forthcoming in NETWORK INDUSTRIES QUARTERLY; 22nd Biennial Conference of the International Telecommunications Society, Seoul SOUTH KOREA (June 25, 2018).

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); Internet Law Works-in-Progress, New York Law School, New York, N.Y. (March 24, 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).

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

Interviewed on American Public Media's *Marketplace* piece on network neutrality and broadband access in the United States, June 11, 2018; see *Why the end of net neutrality might look good ... at first*; https://www.marketplace.org/2018/06/11/tech/end-net-neutrality-could-giveconsumers-options-while-hurting-competition

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&He aring_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

Associate Editor, Telecommunications Policy (July, 2019-present).

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.

Courses Taught

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 Law School course)

Media and Democracy

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