

# The 44<sup>th</sup> Research Conference on Communications, Information and Internet Policy September 30-October 1, 2016

Hosted by Antonin Scalia Law School, George Mason University  
Arlington, VA

## Thursday, September 29

### Pre-Conference Session

#### 12:00 Congressional Briefing and Lunch

2:15 pm **Graduate Student Consortium** (by invitation) US Telecommunication Association Conference Room

## Friday, September 30

#### 8:00 am Registration and Continental Breakfast

9:00 am **Paper Sessions** outlined in grid

#### 10:40 am Coffee Break

11:05 am **Paper Sessions** outlined in grid

#### 12:45 pm Lunch and Keynote Speaker:

- Commissioner **Michael O'Reilly**, FCC

2:15 pm **Panel Sessions** outlined in grid

#### 3:45 pm Coffee Break

4:15 pm **Moderated Paper Sessions** outlined in grid

#### 5:45 pm Reception and Poster Session

#### 7:00 pm Dinner and Keynote Speaker:

- **Valerie d'Costa**, World Bank

## Saturday, October 1

8:00 am **Registration and Continental Breakfast**

9:00 am **Paper Sessions** outlined in grid

#### 10:40 am Coffee Break

11:10 am **Paper Sessions** outlined in grid

#### 12:50 pm Lunch and Student Paper Awards

2:00 pm **Panel Sessions** outlined in grid

#### 3:30 pm Coffee Break

4:00 pm **Paper/Moderated Paper Sessions** outlined in grid

#### 5:45 pm Closing Reception

### Conference Information

The 44<sup>th</sup> Annual Telecommunications Policy Research Conference will be held at Antonin Scalia Law School, George Mason University in Arlington, VA. Situated in the Washington, DC area, the Law School offers an ideal atmosphere to explore policy issues within the shadow of the Capitol. *For detailed directions, visit [www.law.gmu.edu/geninfo/directions.html](http://www.law.gmu.edu/geninfo/directions.html).*

George Mason University Arlington campus is conveniently located two blocks from the Metro Orange Line Virginia Square/GMU station.

### Hotel Information

The L. William Seidman Center Hotel at 3451 N. Fairfax Ave., Arlington, VA is adjacent to the GMU Arlington campus. The hotel is an FDIC facility. Luxury accommodations including spacious rooms with kitchen facilities are available. Please note: the Seidman Center will not split hotel room charges among registrants. The person reserving the room is responsible for full payment.

**Hotel reservations should be made directly with the FDIC Seidman Center Hotel by calling 703 516-4630 and referring to the GMU TPRC.**

Alternate hotels are available in the Ballston area. For more information check our website, [www.tprc.org](http://www.tprc.org).

### Conference Registration

Online registration is available at [www.tprc.org](http://www.tprc.org). A downloadable hard copy of the registration form is also available.

### Conference Fees

	Before Aug. 31	After Aug. 31
Student	\$125	\$250
Authors/Co-Authors	\$235	\$385
Academic, Gov't, Nonprofit	\$445	\$595
Industry	\$645	\$795

Registration fees cover all conference sessions, conference materials, continental breakfasts, lunches, dinner and coffee breaks.

An additional \$100 will be charged for on-site registration.

### Continuing Legal Education (CLE) Credits

Each year, TPRC applies for CLE accreditation from Virginia, Pennsylvania and Illinois. Registered legal professionals can earn up to 13.5 hours of credits. CLE program is included in registration fees.



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### Watch our website

[www.tprc.org](http://www.tprc.org)

Updated Conference Information  
Build your own conference agenda!  
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## Session Descriptions Friday, September 30

Friday	Broadband 1	Security/Privacy 1 Moderator: David Thaw, University of Pittsburgh	Facebook/ Social Media 1 Moderator: David Redl, US. House Commerce Committee	Digital Inclusion 1	Economic Topics 1 Moderator: Luis Zambrano NTIA
9:00-10:40	<p><b>Infrastructure Competition and Strategic Choice in the Transition to Next Generation Networks</b>, Reza Rajabiun,* Catherine A. Middleton, <i>Ryerson University</i></p> <p><b>Long-Term U.S. Productivity Growth and Mobile Broadband: The Road Ahead</b>, Michael Mandel,* <i>Progressive Policy Institute</i></p> <p><b>International Roaming in the EU: Historic Overview, Challenges, Opportunities and Solutions</b>, Marlies Van der Wee, <i>Ghent University – iMinds</i>, Jonathan Spruytte*, <i>Ghent University – iMinds</i>, Mieke De Regt, <i>BIPT</i>, Sofie Verbrugge, <i>Ghent University – iMinds</i></p>	<p><b>Trust in Internet Privacy and Security and Online Activity</b>, Rafi M. Goldberg,* <i>National Telecommunications and Information Administration (NTIA)</i>, Giulia McHenry, <i>NTIA</i>, Luis E. Zambrano Ramos, <i>NTIA</i>, Celeste Chen, <i>Georgetown University</i></p> <p><b>Supporting a Cybersecurity Mindset: Getting Internet Users into the Cat and Mouse Game</b>, Ruth Shillair,* <i>Michigan State University</i>, William H. Dutton, <i>Michigan State University</i></p> <p><b>Analyzing Malware Remediation in the Expanding Home Network</b>, James H. Loving,* <i>MIT CSAIL</i></p>	<p><b>When Media Companies Insist They're Not Media Companies and Why It Matters for Communications Policy</b>, Philip M. Napoli,* <i>Duke University</i>, Robyn Caplan, <i>Rutgers University, New Brunswick/Piscataway</i></p> <p><b>The Platform Decides the Posting: Information Sharing Stratification in Social Media</b>, Jasmine E. McNealy,* <i>University of Florida</i>, Heather Shoenberger, <i>University of Oregon</i></p> <p><b>Grey Nuances in the Black and White Debate Over Subsidized Internet Access</b>, Rob Frieden,* <i>Pennsylvania State University</i></p>	<p><b>Digital Charlotte: A Case Study of the Relationship between Digital Inclusion and Economic Mobility</b>, Brandon A. Brooks,* <i>Queens University of Charlotte</i>, Alexis Carreiro, <i>Queens University of Charlotte</i>, Jayme Keefer</p> <p><b>The Perils and Possibilities of the Urban Library as Digital Inclusion Institution</b>, Sharon Strover,* <i>University of Texas at Austin</i>, Alexis Schrubbe, <i>University of Texas at Austin</i></p> <p><b>Does Broadband Bandwidth Variability Improve Quality of Life?: Lessons from Sweden</b>, Moinul Zaber,* <i>LIRNEasia</i>, Erik Bohlin, <i>Chalmers University of Technology</i></p>	<p><b>Promotional Effects and the Determination of Royalty Rates for Music</b>, Thomas Randolph Beard, <i>Auburn University</i>, George S. Ford,* <i>Phoenix Center for Advanced Legal &amp; Economic Public Policy Studies</i>, Michael L. Stern, <i>Auburn University</i></p> <p><b>Moving Music Licensing into the Digital Era: More Competition and Less Regulation</b>, Thomas M. Lenard, <i>Technology Policy Institute</i>, Lawrence J. White,* <i>New York University -</i></p> <p><b>Strategic Whitelisting by an Advertising Technology Provider: Market Outcomes and Welfare Implications</b>, Lukas Wiewiorra,* <i>Goethe University Frankfurt</i>, Jan Kramer, <i>University of Passau</i></p>
Friday	<p><b>Broadband 2</b> Moderator: Heather Hudson, University of Alaska</p>	<p><b>Security/Privacy 2</b> Moderator: James C. Cooper George Mason University</p>	<p><b>Facebook/ Social Media 2</b></p>	<p><b>Digital Inclusion 2</b> Moderator: Fernando Laguarda</p>	<p><b>Economic Topics 2</b> Moderator: Michelle Connolly, Duke University</p>
11:05-12:45	<p><b>The Faster the Better? The Economic Return on Internet Speed</b>, Yang Bai,* <i>Pennsylvania State University – (student paper award)</i></p>	<p><b>Understanding the Institutional Landscape of Cyber Security</b>, Cecilia Testart,* <i>Massachusetts Institute of Technology</i></p>	<p><b>Winners, Losers, and Facebook: The Role of Social Logins in the Online Advertising Ecosystem</b>, Jan Kraemer,* <i>University of Passau</i>, Daniel Schnurr, <i>Karlsruhe Institute of Technology</i>, Michael Wohlfarth, <i>University of Passau</i></p>	<p><b>Would You Like Your Internet With or Without Video?</b> William Lehr,* <i>MIT, CSAIL</i>, Douglas Sicker, <i>Carnegie Mellon University</i></p>	<p><b>All Communications Services Are Not Created Equal - Substitution of OTT Communications Services for ECS from a Consumer Perspective</b>, Rene Arnold,* <i>Wissenschaftliches Institut Infrastruktur und Kommunikationsdienste</i>, Anna Schneider, <i>Hochschule Fresenius - University of Applied Sciences</i>, Christian Hildebrandt, <i>WIK</i></p>

**Improving the Measurement and Analysis of Gigabit Broadband Network Performance**, Steven Bauer,\* *Massachusetts Institute of Technology (MIT)*, William Lehr, *MIT - CSAIL*

**Disclosing or Concealing? Developments of Norms and Policies for Governing Software Vulnerabilities and Their Implications for Cybersecurity**, Andreas Kuehn,\* *Syracuse University*

**The Biggest Lie on the Internet: Ignoring the Privacy Policies and Terms of Service Policies of Social Networking Services**, Jonathan A. Obar,\* *York University*, Anne Oeldorf-Hirsch, *University of Connecticut*

**Cultural Divides and Digital Inequalities: Attitudes Shaping Internet and Social Media Divides**, William H. Dutton,\* *Michigan State University*, Bianca Christin Reisdorf, *Michigan State University*

**Analysis of Innovation in FCC M&A Transactions from 1997 to 2015**, Ryland Sherman,\* *Indiana University Bloomington*

**Low Latency Internet and Economic Growth: A Simultaneous Approach**, Jochen Lüdering,\* *Justus-Liebig University Giessen - Center for International Development and Environmental Research*

**Ex-Post Mitigation Strategies for Theft of Non-Financial Data**, Josephine Wolff,\* *Rochester Institute of Technology*, William Lehr, *MIT, CSAIL*

**Quantified Self and Personal Health Privacy Policy Limitations**, Nancy Howell Brinson\*, *University of Texas at Austin*, Danielle N. Rutherford, *University of Texas at Austin*

**The Digital Divide is Closing, Even as New Fissures Surface**, Giulia McHenry,\* *National Telecommunications and Information Administration (NTIA)*, Maureen Lewis, *NTIA*, Rafi M. Goldberg, *NTIA*, Edward Carlson, *NTIA*, Justin Goss, *Georgetown University*, Celeste Chen, *Georgetown University*

**The Future of HBO NOW: Investigating the Effects of the Charter -Time Warner-Bright House Merger on Over-the-Top Services**, Richelle Marie Crotty,\* *University of Texas at Austin*

## Panels

Friday

2:15-3:45

**Achieving Meaningful Participation in the Digital Economy: A Canadian Case-Study**

**Zero-Rating and the Public Policy Debate**

**The TPRC Research Idea Gong Show**

Friday

**Broadband 3**  
Moderator:  
John Horrigan  
Pew Research Center

**Security/Privacy 3**

**Facebook/  
Social Media 3**  
Moderator:  
Tim Brennan, UMBC

**Internet Policy**  
Moderator:  
Scott Jordan, FCC

**Economic Topics 3**  
Moderator:  
Randolph May,  
The Free State Foundation

4:15-5:45

**Learning from the FCC's Lifeline Broadband Pilot Projects**, Scott Wallsten,\* *Technology Policy Institute*

**Trustless Trust**, Kevin D. Werbach,\* *University of Pennsylvania, The Wharton School, Legal Studies & Business Ethics Department*

**Free Basics: Zero-rating and Use Cases in mhealth, Entrepreneurship and ICT Development in Emerging Counties**, Roslyn Layton,\* *Aalborg University*, Silvia Monica Elaluf-Calderwood, *London School of Economics & Political Science*

**The Other Side of the Net: Policy and Measurement at the Interconnection Boundaries of Access Networks**, KC Claffy, *University of California, San Diego*, David D. Clark,\* *MIT CSAIL*, Steven Bauer, *MIT*, Amogh D. Dhamdhere, *CAIDA/UC*

**The Evolution of 'Competition': Lessons for 21st Century Telecommunications Policy**, John W. Mayo,\* *Georgetown University*, Amanda B. Delp *Georgetown University*

**A Lifeline for Lifeline: Evaluating the Impacts of the 2012 Reforms**, Krishna Jayakar,\* *Pennsylvania State University*, Eun-A Park, *University of New Haven*

**E-Residency and Blockchain**, Clare Linda Sullivan,\* Eric Burger, *Georgetown University*

**Evaluating the Consequences of Zero-Rating: Guidance for Regulators and Adjudicators**, Bronwyn E. Howell,\* *Victoria University of Wellington*, Roslyn Layton, *Aalborg University*

**Revealing Utilization at Internet Interconnection Points**, Nick Feamster,\* *Princeton University*

**Wholesale Competition, Open Access Regulation and Tacit Collusion**, Niklas Hortsman,\* *Karlsruhe Institute of Technology*, Jan Kraemer, *University of Passau*, Daniel Shnurr,\* *Karlsruhe Institute of Technology*

## Poster Session (5:45 – 6:45 pm)

- **Macroeconomic Analysis of Routing Anomalies**, Pablo Moriano\*, Indiana University Bloomington - School of Informatics and Computing, Soumya Achar, Indiana University Bloomington, L. Jean Camp, Indiana University Bloomington - School of Informatics and Computing
- **Mapping Through the History of Legitimacy: Discourse on the Right to Privacy in US and EU Studies**, Soyoun Park\* University of Texas at Austin, Radio-Television-Film
- **Measuring the Perceived Impact of Internet on Individuals in Rural India**, Rekha Jain\*, IIMA-IDEA Telecom Centre of Excellence
- **Building Social Media Collections: Legal and Ethical Issues**, Seemantani Sharma\*, The George Washington University Law School
- **Empirical Study on How Social Media Promote Product Innovation**, Sobee Shinohara, KDDI Research Institute, Masatsugu Tsuji\*, University of Hyogo - Graduate School of Applied Informatics, Hiroki Idota, Kinki University
- **Why the Incentive Auction Is More Efficient than the Coasian Solution**, Charles Lee Jackson\*, JTC, LLC (Jackson Telecom Consulting)
- **Encryption<sup>Congress</sup> mod (Apple + CALEA)**, Justin (Gus) Hurwitz\*, University of Nebraska at Lincoln - College of Law
- **Ten Years of Japanese Net Neutrality Policy: A Review of the Past and Recommendations for the Future**, Toshiya Jitsuzumi\*, Faculty of Economics, Kyushu University
- **Redefining the Radio Spectrum Governance Process**, Peter Anker\*, Delft University of Technology
- **Information Infrastructure's Effects on Recovery in Displacement**, Ying Xu\*, Carleen Maitland, Pennsylvania State University
- **Wrong Connected: Analysis of Causes of Low Quality Broadband and Slow Rural FTTH Rollout in the Netherlands, Despite Massive Regional Aid Funds Made Available**, Hendrik Rood, Stratix BV

## Sessions Saturday, October 1

	Broadband 4 Moderator: Melika Carroll Office of Senator Schatz	Security/Privacy 4 Moderator: Sasha Romanosky, RAND	Spectrum 1 Moderator: David Goldman U.S. House Commerce	Innovation 1 Moderator: Jim McConaghey, NTIA (retired)	Economic Topics 4 Geoffrey Manne International Center for Law & Economics
9:00-10:40	<b>Mexico's Telecommunications Reform: Market Concentration, Prices, Investment and Consumer Welfare</b> , Cristina Casanueva-Reguart,* <i>Universidad Iberoamericana</i> , Luis Fernando Cantu-Diaz de Leon	<b>Categorizing, Analyzing, and Managing Third Party Trust</b> , Andy Saylor,* <i>University of Colorado at Boulder (student paper award)</i>	<b>Toward Automated Ex-Post Enforcement for Spectrum Sharing: A Case study of Two Architectures for Enforcement Systems</b> , Amer Malki,* <i>University of Pittsburgh</i> , Martin B. H. Weiss, <i>University of Pittsburgh</i>	<b>Does the Internet Improve Health Behaviors and Health Outcomes? Evidence from the National Health Interview Survey</b> , Jeffrey T. Macher, <i>Georgetown University</i> , John W. Mayo, <i>Georgetown University</i> -, Olga Ukhaneva,* <i>Georgetown University</i>	<b>Digital Platforms: A Practical Framework for Evaluating Policy Options</b> , Pieter Nooren,* <i>TNO Netherlands Organisation for Applied Scientific Research</i> , N.A.N.M. van Eijk, <i>University of Amsterdam</i> , Nicolai van Gorp, <i>e-Conomics</i>

	<p><b>Competition and Media Performance: A Cross-National Analysis of Corporate Goals of Media Companies in 12 Countries</b>, Christian-Mathias Wellbrock,* <i>University of Hamburg</i>, Maria Arango-Kure, Christopher Buschow</p>	<p><b>Tracking Walls, Take-it-Or-Leave-it Choices, and Data Privacy Law</b>, Frederik J. Zuiderveen Borgesius,* <i>University of Amsterdam - IViR Institute for Information Law</i></p>	<p><b>LTE - U/LAA and Spectrum Sharing: Coexistence Principles in the Unlicensed Spectrum Bands</b>, Irena Stevens,* <i>University of Colorado at Boulder</i>, David Reed, <i>Colorado at Boulder</i>,</p>	<p><b>Why the Networks Can't Beat Netflix: Speculations on the US OTT Services Market</b>, Eun-A Park,* <i>University of New Haven</i></p>	<p><b>How "Free" Internet Services Challenge Traditional Antitrust Tools: Personal Data as a Price</b>, Magali Eben,* <i>University of Leeds School of Law</i></p>
-	<p><b>Advancement of Cloud Computing Use and its Impact on Macroeconomics in Japan—its Monopolistic/Oligopolistic Market Characteristics and Social Welfare</b>, Atsushi Ozu,* <i>Ministry of Internal Affairs and Communications</i>, Norihiro Kasuga, <i>Konan University</i>, Hiroyuki Morikawa, <i>University of Tokyo</i></p>	<p><b>Privacy, Notice and Design</b>, Ari Ezra Waldman,* <i>New York Law School</i></p>	<p><b>How Can Polycentric Governance of Spectrum Work?</b> Martin B. H. Weiss,* <i>University of Pittsburgh</i>, Prashabnt Krishnamurthy, <i>University of Pittsburgh</i>, Marcela M. Gomez, <i>University of Pittsburgh -</i></p>	<p><b>Watch or Do: Vicarious and Experiential Learning by Entrepreneurs in a Crowdfunding Market</b>, Jaclyn Selby,* <i>Tuck School of Business at Dartmouth</i>, Alva Taylor, <i>Tuck School of Business at Dartmouth</i></p>	<p><b>Examining the Jurisdictions of Internet Routes to Prevent Data Exfiltration</b>, Kevin Benton,* <i>Indiana University</i>, L. Jean Camp, <i>Indiana University Bloomington</i></p>
Saturday	<p><b>Policy Discussions</b> Moderator: Madura Wijwardena, Comcast</p>	<p><b>Security/Privacy 5</b> Moderator: Brenda Leong, Future of Privacy Forum</p>	<p><b>Spectrum 2</b> Moderator: Peter Tenhula NTIA</p>	<p><b>Innovation 2</b> Moderator: Winter Casey, NTIA</p>	<p><b>Economic Topics 5</b> Moderator: Coleman Bazelon, Brattle Group</p>
11:10-12:50pm	<p><b>Trends in Cable Network Economics: Implications for the Open Internet</b>, David P. Reed,* <i>University of Colorado at Boulder, Interdisciplinary Telecommunications Program</i></p>	<p><b>Implications of the Application of the 'Hot Pursuit' Principle in the Cyberspace: An Analysis of the Case 'Microsoft v. United States of America'</b>, Patricia Adriana Vargas Leon,* <i>Syracuse University</i></p>	<p><b>Spectrum Sharing as Options</b>, Liu Cui,* <i>West Chester University Computer Science Department</i>, Martin B. H. Weiss, <i>University of Pittsburgh -</i></p>	<p><b>Probabilistic Reasoning for Secondary Spectrum Sharing: A Mechanism for Increasing Spectrum Access Efficiency and Assessing Alternative Secondary Sharing Models</b>, Todd W. Martin*, <i>George Mason University</i>, Kuo-Chu Chang, <i>George Mason University - The Volgenau School of Information Technology and Engineering</i></p>	<p><b>Effects of Policy on Competitiveness in Telecom Equipment Markets: Insights from a Multi-Level Multi-Method Study</b>, Chintan Vaishnav,* <i>Massachusetts Institute of Technology</i>, Johannes M. Bauer, <i>Michigan State University</i></p>
	<p><b>Social Welfare and Policy Impact in Emerging ISP-Content Provider Relationships</b>, Debasis Mitra,* <i>Columbia University</i>, Qiong Wang, <i>University of Illinois at Urbana-Champaign</i>, Ao Hong, <i>Columbia University</i></p>	<p><b>Persona Non Data: How Courts and in the EU, UK and Canada are Addressing the Issue of Communications Surveillance vs. Privacy Rights</b>, Michael H. Ryan,* <i>Arnold &amp; Porter (UK) LLP</i></p>	<p><b>Much Ado: Assessing Wi-Fi/LTE Coexistence in Unlicensed Bands</b>, Jean Pierre de Vries, <i>University of Colorado at Boulder</i>, Petri Mähönen, <i>RWTH Aachen University</i>, Marina Petrova, <i>RWTH Aachen University</i>, Ljiljana Simic,* <i>RWTH Aachen University</i>, Andra Voici, <i>RWTH Aachen University</i></p>	<p><b>The Making of an 'Orphan': Cultural Heritage Digitisation in the EU</b>, Laura Zoboli,* <i>Bocconi University</i>, Maria Lilla Montagnani, <i>Bocconi University</i></p>	<p><b>Online Price Discrimination and EU Data Privacy Law</b>, Frederik J. Zuiderveen Borgesius*, <i>University of Amsterdam - IViR Institute for Information Law (IViR)</i>, Joost Poort, <i>University of Amsterdam - Institute for Information Law (IViR)</i></p>
-	<p><b>High-Speed Internet Access and Innovation: The Effects of Broadband on Patents within Korea and United States</b>, Soyoung Park,* <i>University of Texas at Austin</i></p>	<p><b>Noncommercial Broadcasting and the First Amendment</b>, Kenneth Katkin,* <i>Chase College of Law, Northern Kentucky University</i></p>	<p><b>Defining Harmful Interference Efficiently</b>, Charles Lee Jackson,* <i>JTC, LLC (Jackson Telecom Consulting)</i></p>	<p><b>Engineering Humans with Contracts</b>, Brett M. Frischmann,* <i>Yeshiva University - Benjamin N. Cardozo School of Law</i>, Evan Selinger, <i>Rochester Institute of Technology</i></p>	<p><b>Implications of Sponsored Data Program for Providers and Users of Nonsponsored Contents</b>, Qiong Wang,* <i>University of Illinois at Urbana-Champaign</i>, Jialin Song, <i>University of Illinois</i></p>

Saturday

## Panels

2:00 -3:30

**The Interaction between the International Spectrum Management Regime and National Spectrum Policies**

**Rural Broadband Policies in a Cross-National Comparison**

**Digital Inclusion in Urban America**

Saturday

**Broadband 5**  
Moderator:  
John Garrity,  
USAID

**Security/Privacy 6**  
Moderator:  
Eli Noam,  
Columbia University

**Internet of Things**  
Moderator:  
Antonio Garcia Zaballos,  
Inter American Development  
Bank

**Law and Economics**  
Moderator:  
Konstantinos Stylianou,  
University of Leeds

4:00-5:40

**On the Relationship Between QoS & QoE: Why Differential Traffic Management on the Internet Is Not a Zero-Sum Practice**, Thomas W. Struble,\* *TechFreedom*

**Factors Influencing Perceived Impact of Internet Use on Individuals in Rural India**, Rekha Jain,\* *IIMA-IDEA Telecom Centre of Excellence*

**The Impact of Mobile Phones on Social Capital in Developing Countries**, Alain Shema,\* *Syracuse University*, Martha Garcia-Murillo, *Syracuse University*

**Private Communication in Public Spaces: The Paradoxical Economics of Exceptional Access and E-Privacy**, Jonathan Cave,\* *University of Warwick*

**iPhones, Crime, and the Tension between Privacy and Security: Should the Communications Assistance for Law Enforcement Act be Amended?** Steven R. Morrison, *University of North Dakota* , Caren Myers Morrison,\* *Georgia State University*

**Internet of Things (IoT), Future Networks (FN) and the Economics of Virtual Networks**, Guenter Knieps,\* *University of Freiburg*

**Technology and Policy for the Internet of Things in Africa**, Martin Saint, *Carnegie Mellon University*, Aminata Garba,\* *Carnegie Mellon University, Rwanda*

**Where are ICT Companies from the US in the Third Industrial Revolution? A Patent Analysis of the Internet of Things**, Jason Whalley,\* Bert M. Sadowski, *Eindhoven University of Technology (TUE)*, Önder Nomaler, *TUE*

**Information Libertarianism**, Jane R. Bambauer,\* *University of Arizona* -Derek E. Bambauer, *University of Arizona* -

**The Technological Problem of Social Cost**, Justin (Gus) Hurwitz,\* *University of Nebraska at Lincoln* -

## Friday panels at 2:15 pm

### Achieving Meaningful Participation in the Digital Economy: A Canadian Case-Study

Social networks, entertainment, e-commerce, and e-government are some of the many activities that are greatly enhanced by a digitally connected society. Despite the enabling and life-improving impacts of online participation, low internet use remains a troublesome trend in communities where broadband is both available and affordable. Fresh research has uncovered that barriers to online adoption are more complex than previously understood. What are the hurdles inhibiting participation beyond the cost of access? How can we formulate policy that sparks adoption? With the aim of widening and deepening the TPRC community's knowledge of adoption trends, this panel will frame the challenge and ignite a data-driven, candid conversation using Canada as a case-study. This discussion will explore creative and effective public policy measures that can engage and educate on the benefits of a fuller digital experience.

Moderator: Ken Whyte, Rogers Communications

Panelists:

- Catherine Middleton, Ryerson University
- Anabel Quan Haase, University of Western Ontario
- Mike Colledge, IPSOS Canada

## Zero-Rating and the Public Policy Debate

The U.S. Federal Communications Commission's 2015 plan for implementing net neutrality did not ban zero-rated programs, but it did call for case-by-case evaluation of such programs. The FCC has since acknowledged that business models including zero-rating may provide benefits to consumers, such as increasing choice and lowering cost for consumers, but they have also urged caution. This panel will bring together voices from industry and civil society to debate the question of whether zero-rated programs can benefit consumers, the implications for public policy, and how these programs should be viewed by the FCC and other regulators around the world. Panel members will represent diverse perspectives to foster lively debate on the continuing public policy concerns surrounding zero-rating.

Moderator:

**Mike Godwin**, Senior Fellow, *R Street*

Panelists:

**Kevin Martin**, VP, Mobile and Global Access Policy, *Facebook*

**Dr. Nicol Turner-Lee**, VP and Chief Research and Policy Officer, *MMTC*

## The TPRC Research Idea Gong Show

TPRC's long history includes numerous examples of regulators actively informing our research community about their priority needs for future research, while also organizing efforts to support the research and foster the careers of promising graduate students and junior scholars. This session will provide a novel opportunity to advance both of these valuable conference goals in one energetic session. Presenters will have three minutes to describe their research idea, followed by a panel of seasoned experts (from the FTC, FCC, NTIA, industry, and academia) and the audience providing insightful and constructive suggestions. Audience members will be invited to email or live tweet their reactions and to talk to the presenters in person during the remainder of the conference. We hope this energetic session will foster useful cross-fertilizations and collaborations among scholars.

If you would like to present your nascent research idea, email <[laura.verinder@gmail.com](mailto:laura.verinder@gmail.com)> with the subject line "Gong Show." Please include your name, title and affiliation, the title of your project, your email address, and your twitter handle as you would like them to appear to the audience.

**Panel judges:**

**Maureen Lewis**, Director, Minority Telecommunications Development, *NTIA*

**Paul Ohm**, Professor of Law, *Georgetown University Law Center*, former Senior Policy Advisor to the FTC

**Robert Pepper**, Fellow, *Aspen Institute*, former Chief of Policy Development at the FCC

## Saturday panels at 2:00 pm

### The Interaction Between the International Spectrum Management Regime and National Spectrum Policies

While alternative approaches have been suggested to reform national spectrum management policies, in most of the world - especially in the developing countries - radio spectrum is still managed along the lines of command-and-control due to different factors. The panel aims to investigate one potential factor that is largely overlooked in the debate, which is the interaction of national policies with the international spectrum management regime administered by the ITU-R and the influence of such interaction on national policy reform towards spectrum market, commons and easements. The main focus of the panel will be on the concepts of radiocommunication service allocation flexibility, technology selection neutrality, and opportunistic access in the TVWS. Panel members will provide links between revolutionary ideas on spectrum policy (many discussed in prior TPRC conferences) and the legacy



regulations recommended by the ITU-R and followed by most of the world. The panel's outcome will bring added value to the spectrum policy debate with regard to how the international spectrum regulations promote or discourage moving towards more revolutionary approaches in spectrum management.

**Moderator:**

**Mohamed El-Moghazi**, An international spectrum management expert who have been participating in the ITU-R meetings for more than 10 years with several publications on the international spectrum management regime.

**Panelists:**

- **Apurva N. Mody**, IEEE 802.22 and Whitespace Alliance.
- **Elsayed Azzouz**, NTRA of Egypt
- **Joaquin Restrepo**, ITU-R BR
- **José M Costa**, Ericsson
- **Mike Chartier**, Intel

## Rural Broadband Policies in a Cross-National Comparison

Across a number of highly technologized countries, such as the US, the UK, Canada and Australia, we witness ongoing, if not increasing, digital divides between citizens who live in urban areas and those who live in rural and remote areas. Persistent urban-rural broadband divides appear to be a universal phenomenon that has so far not been addressed successfully by any of the above mentioned countries. Comparing and contrasting the history and the current state of urban-rural digital broadband divides, as well as the according policies and the issues with these policies across a number of countries, this panel seeks to enable an informative discussion that provides a way forward and formulates policy recommendations that can help address urban-rural divides. Panel members will span a range of disciplines, including communication, management, social informatics, and sociology.

**Moderator:**

**Sharon Stover**, Philip G. Warner Regents Professor in Communication & Director of the Telecommunications and Information Policy Institute, University of Texas at Austin

**Panelists:**

- **Sora Park**, Associate Professor & Senior Research Fellow in Communication and Media Studies, University of Canberra
- **Anne-Marie Oostveen**, Research Fellow at the Oxford Internet Institute, University of Oxford
- **Catherine Middleton**, Professor at the Ted Rogers School of Management, Ryerson University
- **Bianca C. Reisdorf**, Assistant Professor & Assistant Director at the Quello Center, Michigan State University

## Digital Inclusion in Urban America

The work to revitalize American cities is intertwined with the push for digital cities. A number of infrastructure and user-oriented initiatives have developed across the U.S. to increase Internet access, Internet adoption, and digital literacy skills supporting digital inclusion. At the same time, researchers, policymakers, and practitioners alike are seeking better ways to measure the impact and outcomes of these digital inclusion initiatives. Building on the focus of the ICA2016 Blue Sky Workshop, this panel seeks to stimulate discussion on useful ways of measuring positive and negative outcomes of digital inclusion initiatives in urban America. By combining perspectives from both researchers and practitioners, this panel provides an opportunity for the TPRC community to critically discuss the challenges in measuring outcomes of digital initiatives to support inclusion and the vitality of digital cities.

**Moderator:**

**Dr. Brandon Brooks**, Assistant Professor of Digital Media Studies, James L. Knight School of Communication at Queens University of Charlotte

**Panelists:**

- **Dr. Alexis Carreiro**, Assistant Professor, James L. Knight School of Communication at Queens University of Charlotte
- **William H. Dutton**, Quello Professor of Media and Information Policy in the College of Communication Arts and Sciences at Michigan State University
- **Kate Cherry**, nonprofit planning and development professional