The 49th Research Conference on Communications, Information and Internet Policy
September 22-24, 2021
Held Virtually
All times shown are Eastern Time

Hosted by American University Washington College of Law
Washington, DC

Wednesday, September 22, 2021

10:15 am  Welcome to a Virtual Conference, Nicol Turner Lee, Brookings Institution, TPRC Chair
10:30 am  Paper Sessions outlined in grid
11:30 am  Coffee Break and Networking
12:00 pm  Paper Sessions outlined in grid
1:00 pm  Coffee Break and Networking
1:30 pm  Plenary Session, Doreen Bogdan-Martin, ITU and Chike Aguh, U.S. Department of Labor
2:30 pm  Panel Discussion: Radio Frequency Spectrum Efficiency – New Developments and Trends
         Moderator: Dale Hatfield, University of Colorado Boulder
         Poster Session
3:30 pm  Town Hall Discussion - The information Society: Restoring the Future
4:30 pm  Closing followed by networking

Thursday, September 23, 2021

10:15 am  Welcome to a Virtual Conference, Nicol Turner Lee, Brookings Institution, TPRC Chair
10:30 am  Paper Sessions outlined in grid
11:30 am  Coffee Break and Networking
12:00 pm  Paper Sessions outlined in grid
1:00 pm  Coffee Break and Networking
1:30 pm  Plenary Session: Student Paper Award Presentations with introductory comments from Adranne Furniss, Benton Institute for Broadband & Society
   - Detecting effects of misinformation through emotion and trace behavior, Kristen Sussman, University of Texas at Austin
   - Title “Zero”: Ending the infinite loop of classifications for broadband via a technology agnostic definition, Matthew Chung, University of California Berkeley School of Law, Harrison Geron, University of California Berkeley School of Law, David Fang, University of California Berkeley School of Law and Walter Mostowy, University of California Berkeley School of Law
   - Wanted: Spectrum Bounty Hunters, Wilson Scarbeary, University of Colorado Law School
2:30 pm  Panel Discussion: Here Comes the Quantum ARPANET, Moderator: Jane Bambauer, University of Arizona Law
Friday, September 24, 2021

10:15 am  Welcome to a Virtual Conference, Nicol Turner Lee, Brookings Institution, TPRC Chair
10:30 am  Paper Sessions outlined in grid
11:30 am  Coffee Break and Networking
12:00 pm  Paper Sessions outlined in grid
1:00 pm   Coffee Break and Networking
1:30 pm   Fireside Chat: Acting Chairwoman Jessica Rosenworcel, FCC and Nicol Turner Lee, Brookings Institution
2:30 pm   Panel Discussion: The Technical and Policy Considerations of using Machine Learning tools in Content Moderation, Moderator, Dhanaraj Thakur, Center for Democracy & Technology
3:30 pm   Closing Plenary Panel: What COVID taught us about the future of technology and TPRC?
4:30 pm   Closing followed by networking

For complete details and descriptions, please see our website, www.tprcweb.com.

Conference Information
The 49th Annual Telecommunications Policy Research Conference will be held virtually this year due to travel restrictions caused by the global pandemic. Each registrant will be sent a link to our scheduling tool, SCHED, which will allow you access to each of the sessions. Sessions will be recorded and archived for future viewing. While we look forward to exchanging ideas online, we hope to see you in person in September 2022 to celebrate our 50th anniversary! Please contact Laura Verinder, laura.verinder@gmail.com with any questions.

Conference Registration
Online registration is available at https://www.tprcweb.com/.

Conference Fees

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<tr>
<th>Category</th>
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<td>Industry</td>
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Registration fees cover all conference sessions and access to recorded sessions.

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Aalborg University

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Roxana Barrantes, Pontificia Universidad Catolica del Peru

Sally Broughton Micova, University of East Anglia

Aylin Caliskan, George Washington University

Edward Carlson, NTIA

Silvia Elaluf-Calderwood, Florida International University

Mohamed El-Moghazi, National Telecom Regulatory Authority of Egypt

Alex Engler, Brookings Institute

Hernan Galperin, University of Southern California

Marcela Gomez, University of Pittsburgh

Keyla Hernandez-Ulloa, FCC

Gus Hurwitz, University of Nebraska College of Law

Meg Leta Jones, Georgetown University

Christos Makridis, Arizona State University

James Miller, Amazon Web Services Japan

Fay Cobb Payton, North Carolina State University

Petrus Potgieter, University of South Africa

James Prieger, Pepperdine University

Jeffrey Prince, Indiana University

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Dhanaraj Thakur, Center for Democracy and Technology

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University of Maryland College of Information Studies iSchool
University of Texas – Technology and Information Policy Institute

For additional information on sponsorship opportunities, contact Syd Verinder at syd.verinder@gmail.com.
## Paper Sessions Wednesday, September 22

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<td>1. Broadband-Mobile</td>
<td>Next-G Wireless: Learning from 5G Techno-economics to Inform Next Generation Wireless Technologies</td>
<td>Peter Stenberg, George Mason University and William Lehr, Massachusetts Institute of Technology</td>
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<td>2. Law &amp; Economics-EU Regulation</td>
<td>Platforms Within the AVMSD Regulatory Architecture: a VSPs Governance Model</td>
<td>Jennifer Huddleston, American Action Forum</td>
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### Session 1. Broadband-Mobile

**Next-G Wireless: Learning from 5G Techno-economics to Inform Next Generation Wireless Technologies**

Edward Oughton, George Mason University and William Lehr, Massachusetts Institute of Technology

**Impact of mobile Internet use cases on socio-economic wellbeing of individuals in Bangladesh and Ghana**

Leon Owaka, University of Pennsylvania, Muge Haseki, University of Pennsylvania, Himani Mehta, University of Pennsylvania, and Christopher Yoo, University of Pennsylvania

**Cardinality bundling under oligopoly – a simulation model**

Petrus H. Potgieter, University of South Africa and Bronwyn Howell, Victoria University of Wellington

### Session 2. Law & Economics-EU Regulation

**Platforms Within the AVMSD Regulatory Architecture: a VSPs Governance Model**

Ivana Kostovska, Vrije Universiteit Brussel and Sally Broughton Micova, University of East Anglia

**The Effect of Hatespeech Regulation in German Twitter**

Raphaela Andres, ZEW - Leibniz Centre for European Economic Research and Olga Slivko, Rotterdam School of Management of Erasmus University

**EU competence creep in the field of national security: Implications for mass surveillance of online communication**

Sarah Eskens, Vrije Universiteit Amsterdam

### Session 3. Tech-Equity

**Digital Inclusion Alchemy by Internet Backpack: ICT Policy Implications of Edge Computing & Cyber-Physical Infrastructure for Education**

Lee McKnight, Syracuse University, Danielle Taana Smith, Syracuse University, Wednaud Ronelus, New York City Schools & Alchemists Club, Prasanta Ghosh, Syracuse University and Ryan Ondocin, Syracuse University

**Sharing Unfairly: Racial Bias on Airbnb and the Role of Comments**

Floor Fiers, Northwestern University, and Nathan Walter, Northwestern University

**Creating a Digital Bridge: Lessons and policy implications from a technology access and distribution program for low-income job seekers**

Stacey Wedlake, University of Washington, Kathleen Carson, Seattle Jobs Initiative and Yvette Iribe Ramirez, University of Washington

### Session 4. Privacy-Empirical Assessments

**Antitrust & Privacy: It’s Complicated**

James Cooper, George Mason, Antonin Scalia Law School and John Yun, George Mason, Antonin Scalia Law School

**Value of Personal Health/Medical Data and Potential of the Personal Health/Medical Data Market**

Atsushi Ozu, Ministry of Internal Affairs and Communications | Japan Center for Economic Research and Teppei Koguchi, Shizuoka University

**Worse Than Human?**

Derek Bambauer, University of Arizona and Michael Risch, Villanova University

**What Works? Measuring the Efficacy of Cyber Policy Interventions with Quasi-Experiments**

Karl Grindal, Georgia Institute of Technology

### Session 5. Security-Data Breach

**Enterprise Risk Management: Understanding the Role of Cyber Risk**

Sasha Romanosky, RAND Corporation and Elizabeth Petrun-Sayers, RAND Corporation

**Do Data Breaches Damage Reputation? Evidence from 45 Companies Between 2002 and 2018**

Christos Makridis, Arizona State University

**Cardinality bundling under oligopoly – a simulation model**

Petrus H. Potgieter, University of South Africa and Bronwyn Howell, Victoria University of Wellington
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<td>Broadband-Rural: Deploying Fiber in Appalachia</td>
<td>Udayan Das, Loyola University Chicago and Keith Gabbard, People Rural Telephone Cooperative (PRTC)</td>
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<td>Disparate impacts of new technologies on women and minorities</td>
<td>Peter Wang, University of Florida and Mark Jamison, University of Florida</td>
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<td>Regulation of platform market access by the U.S. and China: Neo-</td>
<td>Milton Mueller, Georgia Institute of Technology, Karim Farhat, Georgia Institute of Technology</td>
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<td>mercantilism in digital services</td>
<td>K. Farhat, Georgia Institute of Technology</td>
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<td>7.</td>
<td>Law &amp; Economics-China: Regulation of platform market access by the</td>
<td>Milton Mueller, Georgia Institute of Technology, Karim Farhat, Georgia Institute of Technology</td>
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<td>Three delusions and a new path: the political economy of the Chinese</td>
<td>Blue Miaoran Dong, Carleton University</td>
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<td>Traceability system</td>
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<td>Privacy-Ethics: Social Media as Contractual Networks: A Bottom Up</td>
<td>Niva Elkin-Koren, Tel Aviv University, Giovanni De Grigorio, University of Oxford – Centre for Socio-Legal Studies, Maayan Perel, Netanya Academic College</td>
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<td>A Comparative analysis of Cyber Sovereignty Policies in China and the</td>
<td>Yik Chan Chin, Beijing National University and Ke Li, Beijing National University</td>
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<td>10.</td>
<td>Security-Geopolitics: Telecom’s Road to 2030: “What if We Were to Do</td>
<td>Richard Taylor, Penn State University</td>
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<td>Nothing?”</td>
<td>Patience Akpan-Obong, Arizona State University</td>
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<td>The Effects of Broadband Deployment in Rural Areas: Evaluating the</td>
<td>Luisa Nazareno, Georgia State University and Justina Jose, Georgia State University</td>
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<td>Connect America Fund Program</td>
<td>Luisa Nazareno, Georgia State University and Justina Jose, Georgia State University</td>
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<td>Telecom’s Road to 2030: “What if We Were to Do Nothing?”</td>
<td>Richard Taylor, Penn State University</td>
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<td>The view from above: Framing of digital privacy in post-Cambridge</td>
<td>Dmitry Epstein, The Hebrew University of Jerusalem and Rotem Medzini, The Hebrew University of Jerusalem</td>
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<td>Spatial Patterns of Purposeful Social Networking and Socioeconomic</td>
<td>Dmitry Epstein, The Hebrew University of Jerusalem and Rotem Medzini, The Hebrew University of Jerusalem</td>
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<td>A Systematic Approach to Reduce Digital Waste</td>
<td>Steven Weber, University of California Berkeley</td>
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Plenary Session

Wednesday, September 22, 1:30 pm ET

Moderator: Roslyn Layton, Aalborg University

Doreen Bogdan-Martin, Director of the Telecommunication Development Bureau of the International Telecommunication Union, the Secretariat of ITU-D

Ms. Bogdan-Martin is Director of the Telecommunication Development Bureau of the International Telecommunication Union, the Secretariat of ITU-D. She was elected at the 2018 ITU Plenipotentiary Conference in Dubai, and was named as the first woman in the 153-year history of the ITU to hold an elected office. Previously, Bogdan-Martin was Chief of Strategic Planning and Membership from 2008-2018. Bogdan-Martin also serves as the Executive Director of the Broadband Commission for Sustainable Development, Co-Founder of the EQUALS partnership to bridge the digital divide, Co-creator of the GIGA school connectivity program with UNICEF, and creator of the Generation Connect initiative. As Director, she has focused on delivering new partnerships, global initiatives on connectivity, innovation, digital transformation and youth engagement.

Chike Aguh, ClnO, U.S. Department of Labor

On January 20, 2021, Chike Aguh (Chee-kay Ah-Goo) was sworn in as Chief Innovation Officer (ClnO) at the United States Department of Labor, appointed by President Joe Biden. Reporting to the Deputy Secretary and also serving as the Senior Advisor for Delivery, he leads efforts to use innovative technologies, partnerships and practices to accelerate the Department’s mission of delivering a future of work that includes and dignifies every American.

Panel Session

Wednesday, September 22, 2:30 pm ET

Radio Frequency Spectrum Efficiency – New Developments and Trends
Moderator: Dale Hatfield, University of Colorado Boulder

Panelist:
Mariam Sorond, Chief R&D Officer, CableLabs
Tom Sawanobori, CTO, CTIA
Frederick D. Moorefield, Jr., Deputy Chief Information Officer for Command, Control, and Communications, Office of the Secretary of Defense, Chief Information Officer
Charles Cooper, Office of Spectrum Management, NTIA
Giulia McHenry, FCC

Spectrum efficiency is an important pillar of spectrum management given the rapid growth in the needs for more spectrum. It is an ideal topic for expert discussion, and it is an excellent graduate school research topic. Spectrum efficiency can be quite controversial at times when major spectrum-using entities disagree on the definition, metrics, and service rules for spectrum usage. TPRC has convened a panel of spectrum management experts to cover current controversies or high-profile developments associated with improvements or new policies seeking to achieve more efficient use of increasingly scarce spectrum. Panelist will provide updates on these issues along with their view of current knowledge gaps where further research is needed to better understand how to address these challenges.

Poster Session
Wednesday, September 22, 2:30 pm ET

- **THE CASE OF 6G AND BEYOND**  
  Patrick Fiala, Bluecrest University, Ghana

- **Home is Where the High Speed Is: Household Determinants of Broadband Internet Subscription**  
  Michael Martin, United States Census Bureau

- **The Effect of Paid Peering Fees on Broadband Prices and Consumer Surplus**  
  Ali Nikkhah, University of California, Irvine and Scott Jordan, University of California, Irvine

- **A Study of Promoting Sustainable Mobile Broadband Adoption. - Focusing on Developing Countries for Achieving SDGs -**  
  Sobee Shinohara, KDDI Research

- **Simulating and Estimating Structural Spectrum Auction Parameters: An Application to the C-Band Auction**  
  Yong Paek, The Brattle Group and Ezra Frankel, The Brattle Group

TPRC Town Hall

Wednesday, September 22 3:30 pm - 4:30 pm ET

The Information Society: Restoring the Future

Facilitators:
- **Eli Noam**, Columbia University  
- **Johannes Bauer**, Quello Center, Michigan State University

Comments by:
- The Honorable **Ro Khanna**, U.S. Representative  
- **Sherry Turkle**, Massachusetts Institute of Technology  
- **Robin Mansell**, London School of Economics  
- **Pamela Samuelson**, University of California, Berkeley

Session Topics
- The Information Society: promise and reality
- Is the scholarship of the information sector inherently off-base, and why?
- Is the Information Society a happy society?
- What do we do next to advance a happier information society?
- How to deal with market power?
- How to deal with AI and algorithms?
- How to spend the billions of new infrastructure money?
**Paper Sessions Thursday, September 23**

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<td><strong>Moderator:</strong> Randy May, Free State Foundation</td>
<td><strong>Moderator:</strong> Tarleton Gillespie, Microsoft</td>
<td><strong>Moderator:</strong> Christos Makridis, Arizona State University</td>
<td><strong>Moderator:</strong> Grace Koh, Nokia</td>
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**10:30 am**

**Do ‘Dig Once’ and Permitting Policies Improve Fiber Availability?**
Christina Biedny, Oklahoma State University, Brian Whitacre, Oklahoma State University and Roberto Gallardo, Purdue University

**Universal Digital Ad Transparency**
Laura Edelson, New York University, Jason Chuang, Mozilla and Erika Franklin Fowler, Wesleyan University, Michael Franz, Bowdoin College, Travis N. Ridout, Washington State University

**The Risks and Rewards in Weaponizing Spectrum Planning at the International Telecommunication Union**
Rob Frieden, Penn State University

**IMT-2020 Standardization: Lessons from 5G and Future Perspectives for 6G**
Mohamed El-Moghazi, NTRA and Jason Whalley, Northumbria University

**A program evaluation of state broadband grant programs**
William Rinehart, Center for Growth and Opportunity

**Too Hot to Handle?: Native Advertising and the Firestone Dilemma**
Eliezer Silberberg, University of Minnesota Law School

**Incentives and optimal time of investment in New Zealand’s building-blocks regulation of its FTTH open-access network**
Fernando Beltran, University of Auckland

**Novel-Infrastructure Bidders’ Impact on Cost-Based Subsidy Auctions: Evidence from RDOF Phase I**

**Effects of Market Structure on Broadband Quality in Local U.S. Residential Service Markets**
Kenneth Flamm, University of Texas at Austin and Pablo Vargas, University of Texas at Austin

**Rethinking Product Liability Rules for Online Marketplaces: A Comparative Perspective**
Christoph Busch, University of Osnabrueck

**Smart Contracts, Real-Virtual World Convergence and Policy Implications**
William Lehr, Massachusetts Institute of Technology

**Rivalrous Regulators: An Historical Analysis of the Dual Agency Approach to Spectrum Management**
Jeffery Westling, R Street
|---------------------------|------------------------------------------|------------------------------------------|------------------------|---------------------|
Plenary Session
Thursday, September 23, 1:30 pm ET

Comments from Adrianne Furness, Benton Institute for Broadband & Society

Student Paper Presentations and Awards

- Detecting effects of misinformation through emotion and trace behavior, Kristen Sussman, University of Texas at Austin
- Title "Zero": Ending the infinite loop of classifications for broadband via a technology agnostic definition, Matthew Chung, University of California Berkeley School of Law, Harrison Geron, University of California Berkeley School of Law, David Fang, University of California Berkeley School of Law and Walter Mostowy, University of California Berkeley School of Law
- Wanted: Spectrum Bounty Hunters, Wilson Scarbeary, University of Colorado Law School

Panel Session
Thursday, September 23, 2:30 pm ET

Here Comes the Quantum ARPANET
Moderator: Jane Bambauer, University of Arizona, Law
Saikat Guha, University of Arizona, Optical Sciences
Dirk Englund, MIT, Electrical Engineering & Computer Science
Ines Montano, Northern Arizona University, Applied Physics
Christopher Yoo, University of Pennsylvania, Law

Scientists around the world are quickly learning to leverage the power of quantum physics to supercharge digital technologies. Quantum Computing is the most well-known application, and its development is likely to enable many benefits (i.e. pattern recognition) as well as risks (i.e. breaking public encryption). But researchers are also making fast progress in the development of Quantum Networking. Quantum networks take advantage of the mysterious-but-predictable properties of superposition and entanglement by sending particles prepared as “qubits” in a quantum-entangled state through a specialized communications architecture. These quantum networks, and the quantum Internet that they will eventually form, are likely to bring another sea change to communications policy. They will enable quantum-based data encryption, they will facilitate networks of quantum sensors, and they will create the infrastructure for blind quantum computing and a robust Internet of Things.

This panel will convene academic researchers who are actively developing the components, protocols, and educated workforce for Quantum networking technologies. Panelists will explain how quantum communications differ from classical communications, describe the current state of development, and discuss the challenges to researchers, industry, and regulators as we create and prepare for these new, transformational technologies.

Poster Session
Thursday, September 23, 2:30 pm ET

- Deficiencies in the Disclosures of Privacy Policies and in User Choice
  Scott Jordan, University of California, Irvine, Siddharth Narasimhan, University of California, Irvine and Jina Hong, University of California, Irvine
• Intended and unintended impacts of machine learning for education
  Rediet Abebe, University of California, Berkeley, Tolani Britton, University of California, Berkeley, Lydia T. Liu, University of California, Berkeley and Serena Wang, University of California, Berkeley

• Impact of Interference from Millimeter-Wave Cellular Deployments on Weather Satellites
  Andreea Palade, RWTH Aachen University, Andra Voicu, RWTH Aachen University, Ljiljana Simić, RWTH Aachen University, and Petri Mähönen, RWTH Aachen University

• Ethical Artificial Intelligence in the context of the European Union: gamification of policy-making and simulating decision processes
  Davor Ljubenkov, imec-SMIT-VUB

• Safeguarding Public Values in Cooperation with Big Tech Companies: The Case of the Austrian Contact Tracing App Stopp Corona
  Valerie Steinkogler, EMJMD DCLead

• Simplifying License Information through the use of a Knowledge Graph
  Udayan Das, Loyola University Chicago, Vaishali Nagpure, Illinois Institute of Technology and Cindy Hood, Illinois Institute of Technology

Panel Session
Thursday, September 23, 2:30 pm ET

Global cyber governance issues in a multi-polar world
Moderator:
Milton Mueller, Georgia Institute of Technology and Director, Internet Governance Project
Panelists:
Tatiana Tropina, Assistant Professor in Cybersecurity Governance at the Institute of Security and Global Affairs at Leiden University
Konstantinos Komaitis, Senior Director, Policy Strategy and Development at the Internet Society.
Alex Engler, Rubenstein Fellow in Governance Studies at The Brookings Institution
Jackie Grace Schneider, Hoover Fellow at the Hoover Institution

This panel addresses some of the most pressing global ICT governance issues posed by the increasing importance of the internet, data and software applications. Topics covered include cybersecurity and privacy, including Europe’s new Network and Information Security proposal (NIS2), International Cooperation on AI regulation, threats of fragmentation of governance or technical compatibility, and the prospects of a so-called digital Cold War.
# Paper Sessions Friday, September 24

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<td>Moderator: Lisa Folkes, FCC</td>
<td>Moderator: Jeff Prince, Indiana University</td>
<td>Moderator: Keyla Hernandez-Ulloa, FCC</td>
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<tr>
<th>Time</th>
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| 10:30am| Is Speed Enough? Examining the Definition of Broadband and Its Implications for Public Policy  
David Reed, University of Colorado Boulder |
|        | Toward Grading Cybersecurity & Resilience Posture for Cyber Physical Systems  
Rohit Singh, University of Colorado Boulder, Shaun T. Hutton, Baylor University, Michael J. Donahoo, Baylor University and Doug Sicker, University of Colorado Denver |
|        | Effects of Big Tech Acquisitions on Start-up Funding and Innovation  
Tiago Sousa Prado, Michigan State University |
|        | Characterizing User Comprehension in the STIR/SHAKEN Anti-Robocall Standard  
Imani Sherman, University of Florida, Daniel Delgado, University of Florida, Juan Gilbert, University of Florida, Jaime Ruiz, University of Florida and Patrick Traynor, University of Florida |
Alexandra Bruer, ITIF and Doug Brake, ITIF |
|        | Identifying Critical Infrastructure in a World with Supply Chain and Network Cybersecurity Risk  
Christos Makridis, Arizona State University and Deven Desai, Georgia Tech |
|        | Big Tech, Big Data, and Competition Policy: Favoring Dynamic Over Static Competition  
David Teece, University of California Berkeley and Nicolas Petit, European University Institute |
|        | A comparative study of local broadcasters’ Twitter utilization in different market conditions  
Sangyong Han, University of Pennsylvania Law School |
| 12:00pm| Social Media and Privacy Laws and Regulations in Mongolia. Undrah Baasanjav, Southern Illinois University Edwardsville |
|        | The Networked Politics of Incident Response: Practices and Pressure Points  
Louise Marie Hurel, London School of Economics and Political Science and Laurin Weissinger, Tufts University |
|        | Anticompetitive Effects in Platform (and Non-Platform) Markets  
Thomas Nachbar, University of Virginia School of Law |
|        | The Clickwrap as Platform Governance: Assessing the Frequency of Exploitative Interface Designs During Digital Service Sign-Up  
Jonathan Obar, York University and Lior Magalashvili, Ryerson University |
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<td>An analysis of State Level COVID-19 Related Legislation Related to Internet Governance, Access, and Infrastructure</td>
<td>Covenant Without the Sword: Market Incentives for Cybersecurity Investment Valihav Garg, Comcast Cable</td>
<td>Regulating Cryptocurrencies: mapping economic objectives and technological feasibilities Petrus H. Potgieter, University of South Africa and Bronwyn Howell, Victoria University of Wellington</td>
<td>Tech Trek: Gauging Residents’ Comfort Levels with Smart Technologies through a “Datawalk” Gwen Shaffer, California State University Long Beach</td>
<td>Aligning Legal Definitions of Personal Information with the Computer Science of Identifiability Scott Jordan, University of California, Irvine</td>
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<td>12:00pm</td>
<td>Community Media in a Pandemic: Facilitating Local Communication, Collective Resilience and Transitions to Virtual Public Life in the U.S. Patricia Auferheide, American University, Antoine Haywood, University of Pennsylvania and Mariana Sanchez Santos, American University</td>
<td>In Banks we Trust: Banks as Custodians of Personal Data in Open Banking Ecosystems Ine van Zeeland, imec-SMIT, Vrije Universiteit Brussel and Jo Pierson, imec-SMIT, Vrije Universiteit Brussel</td>
<td>Smart Cities and Ethical Policies: The Challenges of Public Cameras and AI Sharon Strover, University of Texas at Austin and Tiantcheng Cao, University of Texas at Austin, Maria Esteva, University of Texas at Austin, Soyoung Park, University of Texas at Austin</td>
<td>Explaining Public Attitudes about Facial Recognition Technology Paul Brewer, University of Delaware, James Bingaman, University of Delaware, Wyatt Dawson, University of Delaware, Ashley Paintsil, University of Delaware and David Wilson, University of Delaware</td>
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<td>Changes in Mobile Broadband Infrastructure in Rural Georgia During the Covid-19 Pandemic Ellen Zegura, Georgia Tech University, Luisa Nazarenko, Georgia State University and Cathy Liu, Georgia State University</td>
<td>Answering the Cyber Oversight Call Amy C. Gaudion Penn State Dickinson Law</td>
<td>Compulsory Trade Secret Licenses David Levine, Elon Law</td>
<td>Acceptance and Effective Use of Virtual Assistants Janice Hauge, University of North Texas and Erez Ogbo, North Carolina Central University</td>
<td>Smart Household Devices and the Negotiation of Public and Private Spaces Sara Gandrén, inTechrity Karlstad AB, Nicklas Berlid Lundblad, Stockholm University</td>
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<td>Cybersecurity in Working from Home: An Exploratory Study Mary Bispham, Kings College London, Sadie Creese, Oxford University, William Dutton, GCSCC, Patricia Esteve-Gonzalez, GCSCC and Goldsmith Michael, Oxford University</td>
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Plenary Session
Friday, September 24, 1:30 pm ET

Fireside Chat

Introduction by David Don, Senior Vice President, Public Policy, Comcast

Conversation with Acting Chairwoman Jessica Rosenworcel, FCC and Nicol Turner Lee, Brookings Institution, Senior Fellow, Governance Studies and Director, Center for Technology Innovation

Federal Communications Commission Acting Chairwoman Jessica Rosenworcel believes that the future belongs to the connected. She works to promote greater opportunity, accessibility, and affordability in our communications services in order to ensure that all Americans get a fair shot at 21st century success. She believes strong communications markets can foster economic growth and security, enhance digital age opportunity, and enrich our civic life.

From fighting to protect net neutrality to ensuring access to the internet for students caught in the Homework Gap, Jessica has been a consistent champion for connecting all. She is a leader in spectrum policy, developing new ways to support wireless services from Wi-Fi to video and the internet of things. She also is responsible for developing policies to help expand the reach of broadband to schools, libraries, hospitals, and households across the country.

Dr. Nicol Turner Lee is a senior fellow in Governance Studies, the director of the Center for Technology Innovation, and serves as Co-Editor-In-Chief of TechTank. Dr. Turner Lee researches public policy designed to enable equitable access to technology across the U.S. and to harness its power to create change in communities across the world. Her work also explores global and domestic broadband deployment and internet governance issues. She is an expert on the intersection of race, wealth, and technology within the context of civic engagement, criminal justice, and economic development.

Panel Session
Friday, September 24, 2:30 pm ET

The Technical and Policy Considerations of using Machine Learning tools in Content Moderation

Moderator: Dhanaraj Thakur, Research Director at the Center for Democracy & Technology

Panelists:
Anima Anandkumar, Professor, Dept. of Computing + Mathematical Sciences, Caltech; and Director of Machine Learning Research at NVIDIA
Casey Fiesler, Assistant Professor, College of Media, Communication and Information, UC Boulder
Caitlin Vogus, Deputy Director of the Free Expression Project at the Center for Democracy & Technology
The sheer scale of uploaded user generated multimedia content has increased dramatically in recent years, leading to an explosion in the research and use of automated techniques to analyze and moderate it. These include two main categories of these techniques: matching tools (e.g., cryptographic hashing and perceptual hashing), and prediction tools (e.g., computer vision and computer audition techniques).

This panel features experts from academia, civil society, and industry, who will discuss the capabilities and limitations of automated tools for analyzing online multimedia content. We will examine the human rights risks that need to be considered when using machine learning techniques in content moderation, and speakers will offer suggestions for safeguards that can help mitigate against these risks and limitations. This discussion can contribute to an increased and shared understanding of the role and impacts of ML tools used in content moderation systems for both large and small online platforms.

**Poster Sessions**
Friday, September 24, 2:30 pm

- **Productivity of the use of Information and Communication Technologies in middle and higher education: The case of Mexican states.**
  Diana L. Becerra-Peña, *University of Guadalajara*, Javier Gonzalo Rodríguez Ruiz, *University of Guadalajara* and Patricia Gutiérrez Moreno, *University of Guadalajara*

- **Taking the Plunge: Factors That Influence Rural Households When Choosing a Broadband Service**

- **Connecting Across the Digital Divides through Story Maps: Agriculture, Education, Domestic & International**

- **Communicating Impact: the Global Cybersecurity Capacity Centre**
  Carolin Weisser Harris, *Global Cyber Security Capacity Centre (GCSCC)*, Elizabeth Orembo, *Global Cyber Security Capacity Centre (GCSCC)* and William H. Dutton, *Global Cyber Security Capacity Centre (GCSCC)*

- **Constructive Outcomes of Internet Adoption in Older Adult Households**
  Michel Mersereau, *University of Toronto*

- **Impacts of Broadband Availability in Arkansas Public Schools During the Covid-19 Pandemic on Virtual Learning Decisions**
  Jacob Manlove, *Arkansas State University* and Alexis Schrubbe, *University of Texas at Austin*

- **The Internet at 50: The Best of Times, the Worst of Times?**
  Prabir Neogi, *Carleton University*, Arthur Cordell, *Carleton University* and Don Maclean

**Closing Panel Session**
Friday, September 24 3:30 pm ET

**What COVID taught us about the future of technology and TPRC?**

**Nicol Turner Lee**, TPRC Board Chair, and Senior Fellow, Governance Studies and Director, Center for Technology Innovation, Brookings Institution

**Caitlin Chin**, Research Associate and Past Winner of the TPRC Student Paper Competition

**Tom Hazlett**, Clemson University

**Roberto Gallardo**, Director, Purdue Center for Regional Development, Purdue University
Roslyn Layton, TPRC Program Committee Chair, Visiting Researcher, Aalborg University Center for Communication, Media, and Information Technologies
Dominique Harrison, Joint Center for Political and Economic Studies, Inc
Scott Wallsten, President, Technology Policy Institute

The past year has revealed why having updated and effective regulation, legislation, and collaborative partnerships are to managing through universal broadband access, fair and ethical artificial intelligence systems, and productive international governance policies. The global pandemic not only challenged traditional norms and assumptions about the tech ecosystem, but quickly emerged citizens and policymakers into spaces where the reliance on digital technologies were the lifeline for civic participation, commerce, and access to government services. The pandemic also revealed that emerging technologies had costs on privacy, existing industries and institutions, and human, as well as civil rights. In this closing plenary, please join an interdisciplinary, multi-generational panel on the future of technology and the role of organizations like TPRC in navigating the future.